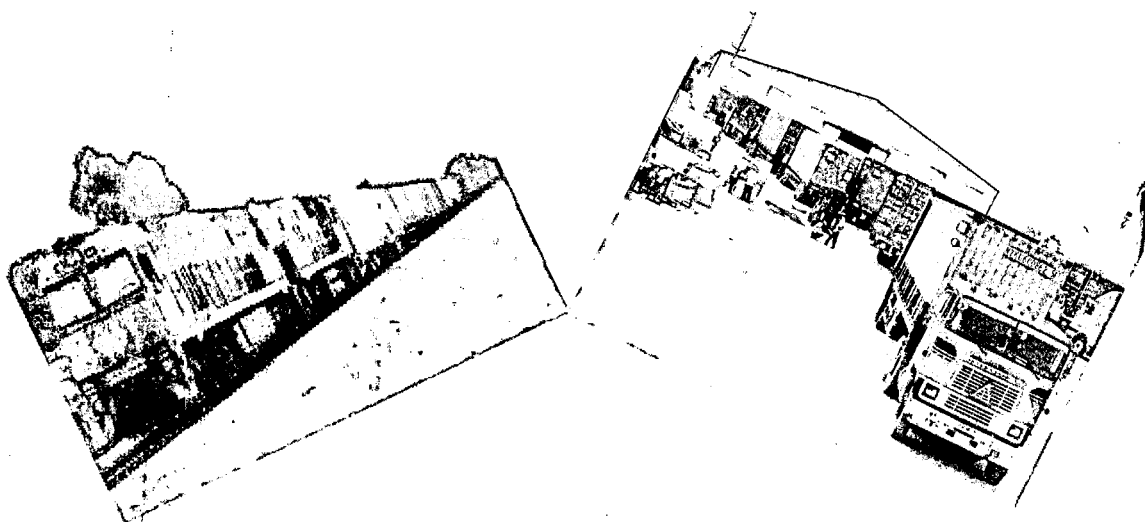


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Feasibility Study for Railway Siding for Farukhnagar Logistics Park



Final Draft Feasibility Report
August, 2010



**Feasibility Study for
Railway Siding for Farukhnagar Logistics Park**

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**Feasibility Study for
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**Chapter 1
Introduction**

Chapter 1

Introduction

1.1 BACKDROP

Reliance Haryana SEZ Limited (RHSL), a joint venture between Reliance Ventures Limited (a subsidiary of Reliance Industries Limited) and (HSIIDC) along with Infrastructure Leasing and Financial Services Limited (IL&FS) proposes to jointly develop an integrated economic enclave consisting of industrial parks, SEZs and supporting infrastructure such as logistics park and other amenities in the districts of Gurgaon and Jhajjar in Haryana.

The proposed site of the integrated economic enclave is served by Delhi-Jaipur National Highway No.8 and extends across the Kundli-Manesar-Palwal Western peripheral express way. Other roads that serve the area include the NH-71, SH 26 and SH No 15A respectively. The project is being established to meet the needs of both export oriented and domestic industries and would consist of industries in various sectors like IT, Auto, Electronics, Pharmaceuticals, Gems and Jewelry, Textile etc., and is expected to emerge as a major industrial hub of Haryana state.

In order to meet the logistics requirements of the above mentioned industries in the integrated economic enclave, as well as other industries located in and around Gurgaon, RHSL plans to set up a Multimodal Logistics Park (MMLP) with rail connectivity as a part of the Project. The proposed logistics park site is situated at a distance of about 2 kms to the north-west of Farukhnagar station, a terminal rail head on the 11.7 km long, single line, broad gauge non-electrified Garhi Harsaru-Farukhnagar branch line of Delhi Division in Northern Railway System. Therefore, for rail transportation of inbound & outbound traffic from the MMLP, the company intends to set up a railway siding taking off from Farukhnagar station, including a rail terminal at the site earmarked in the MMLP area. A key map showing the location of the proposed development is placed at **Annexure 1.1**.

1.2 RITES CREDENTIALS

RITES, a Government of India undertaking under the aegis of the Ministry of Railways is today a global name in the varied fields of engineering, transport and infrastructure Consultancy. RITES' expertise in conducting logistics studies extends over all modes of transport and over the years, it has emerged as the single window solution for all cases

of total transport system studies. The unique advantage of possessing an exclusive in-house multi-disciplinary mix of man-power gives it an edge over most other consulting agencies in the field.

In operation for over 34 (thirty-four) years RITES, apart from rendering technical and management support services to different Railway Systems from concept to commissioning, has undertaken a large number of containerization studies in India & abroad and has also played pioneering role in the development of multimodal transport infrastructure in India embracing ports, railways, highways, ICDs and CFSs. RITES has also been associated with feasibility studies ordered by the Railway Board, Ministry of Railways for Multimodal Logistic Parks (MMLPs) to be set up at Vapi, Durgapur, Nagpur and (Lodowal) Ludhiana and have successfully completed these studies. Further at the request of Gujarat Infrastructure Development Board (GIDB), Government of Gujarat, RITES have recently completed the feasibility studies for Multimodal Freight Logistic Parks with rail connectivity to be set up at Bavala, Gothangam, Bhildi, Kandla and Lekhigam (Dahej) in Gujarat. Similarly techno-economic pre-feasibility studies for five greenfield port sites in Gujarat have been recently completed by RITES.

Considering the RITES reputation in the transport sector, RHSL/IL&FS, awarded the study to them for designing their projects rail siding facility taking off from Farukhnagar station including the rail terminal in the proposed MMLP.

1.3 OBJECTIVES OF THE STUDY

The main aim of the study is to conceptualize the project from the point of view of rail transport and design an operationally and technically feasible “take off” arrangement for extension of railway siding from the designated station to the MMLP, including the in-park terminal, for efficient handling of the project traffic and accordingly, to prepare conceptual lay out plans of the suggested rail infrastructure for obtaining “in-principle” approval of the concept from Northern Railway.

1.4 SCOPE OF WORK

The scope of work for the feasibility study has been envisaged as under:

- To collect the yard plans of Farukhnagar and Garhi Harsaru stations from Northern Railway for designing the take off arrangements from operationally feasible locations.
- Study the capacity constraints of the above station yard layouts with reference to the volume of traffic in terms of rakes to be handled at the junction station and to propose additional facilities, if required.
- To carry out reconnaissance engineering survey of the area falling (i) between Farukhnagar & the proposed Logistic Park site and (ii) between an operationally

suitable location in Patli-Garhi Harsasu section to either Sultanpur or some other feasible site in Garhi Harsasu-Farukhnagar for designing the optimal rail alignment and marking the same on the topo-sheet of the area to be collected from survey of India.

- To carryout survey of the land plot earmarked for development of rail terminal in the MMLP for designing rail terminal for handling north and south bound traffic.
- The provision of rail terminal facilities will be based on the volume of inbound and outbound traffic volume in terms of rakes to be furnished by the developer of the terminal based on volume projections and discussions with shipping lines and Private Container Train Operator (PCT).
- To prepare conceptual layout plans of the proposed rail hardware for inclusion in the feasibility report.
- Track structure to be designed for running of 25t axle load trains.
- To identify the location of bridges, culverts, ROBs, RUBs, level crossing gates falling in the proposed alignments viz. (i) between Farukhnagar-MMLP and (ii) Patli-MMLP.
- To workout the requirement of land for the proposed siding corridor.
- To suggest system of signaling interlocking and telecommunication for operation of the above sidings.
- Defining the system of working trains between the serving stations and the proposed MMLP terminal.
- Working out the manpower requirement for operation of the siding.
- **To examine and identify the nearest Western Dedicated Freight Corridor load transfer station for transfer of loads of the proposed MMLP.**
- To prepare Abstract Cost Estimate of the alternative alignment surveyed.
- To secure “in-principle approval” of the concept plan from Northern Railway as specified in the extant rules.

1.5 APPROACH & METHODOLOGY

On award of the study, a multidisciplinary team comprising members drawn from the associated disciplines namely Civil, Signaling Engineering and Traffic Transportation was constituted under overall charge of General Manager (T&E) for carrying out the study in a coordinated and time bound manner.

Thereafter, a project kick off meeting was held in the office of IL & FS on 16-02-2010 to decide upon the course of action to be adopted for timely completion of the study.

Garhi Harsaru–Farukhnagar branch line is designed only for directional movement of traffic between Delhi and Farukhnagar and therefore, the stream of traffic from/to Rewari to the proposed MMLP would involve reversal of locomotive and brake van both

ways. In this context RHSL/IL &FS desired that before proceeding with the study RITES explore all alternative operationally feasible proposals for smooth passage of the project traffic through Garhi Harsaru.

Accordingly, the RITES team carried out a preliminary survey of Garhi Harsaru and studied the capacity constraints of the station. Based on the data/information collected three alternative proposals were developed and discussed with RHSL/IL&FS officials on 26-02-2010 wherein it was desired that an Inception Report in this regard be prepared and submitted for evaluation by the company.

Based on the out come of the discussions, an inception report was prepared and submitted on 13-2-2010 for consideration of RHSL/IL&FS. The report was subsequently discussed on 16-03-2010 and modified as per project requirement. The modified copy of the report was re-submitted on 17-03-2010 for consideration of the company.

As the study involved a physical survey of the area between Farukhnagar station and the MMLP land plot, including the in-park area, for designing the siding alignment and the rail terminal, IL &FS was requested to erect landmarks at the area where the rail terminal is to be set up. This requirement was complied in the middle of April, 2010.

Thereafter, the RITES survey team carried out a field survey of Farukhnagar station, siding alignment and MMLP land plot with help of Total Station instrument for picking up site details. The team also conducted an instrumental survey of Garhi Harsaru at Rewari end for designing a 'Y' link for connecting the main line with the branch line. Besides, the team also collected data required for preparation of the project report from Farukhnagar and Garhi Harsaru stations.

Based on the field survey and the inputs provided by RHSL/IL&FS during the course of study, the Final Draft Feasibility Report has been prepared and submitted for the consideration of RHSL/IL&FS.

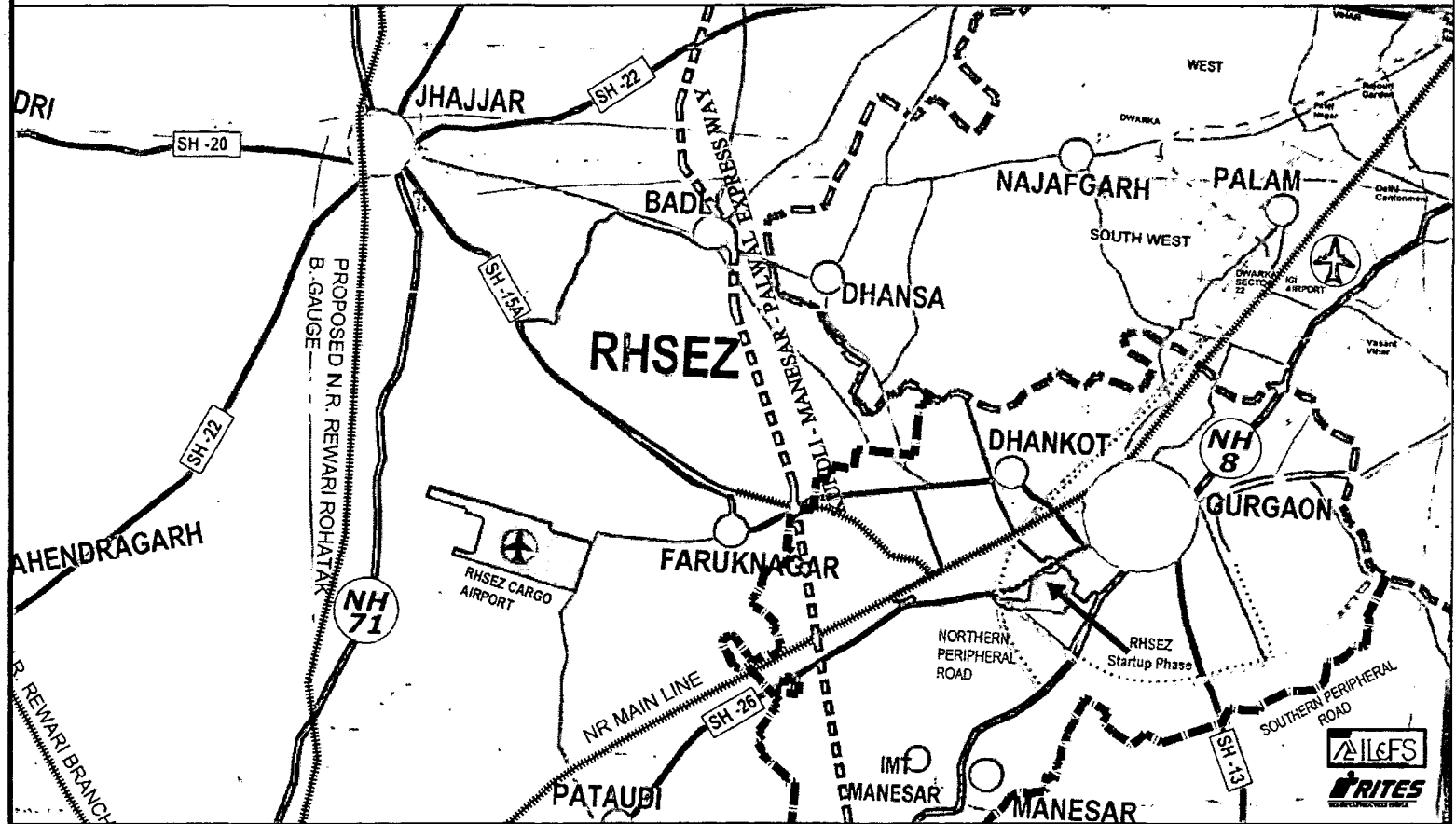
1.6 REPORT FORMAT

The report including this introductory chapter contains following six more Chapters:

- Chapter-2** discusses *Project Traffic Estimate*.
- Chapter-3** relates to *Capacity Constraints of Existing Rail Network Serving the MMLP/ Integrated economic enclave*.
- Chapter-4** is devoted to *Rail Hardware Proposals, System Provisions and Method of Operation*.
- Chapter-5** brings out *Railways Policy on Private Sidings*.
- Chapter-6** discusses *Civil Engineering* parameters.
- Chapter-7** is devoted to *Cost Estimates*.

KEY MAP SHOWING LOCATION OF RHSEZ

ANNEXURE-1.1





**Feasibility Study for
Railway Siding for Farukhnagar Logistics Park**

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**Chapter 2
Project Traffic Estimate**

Chapter 2

Project Traffic Estimate

2.1 BACKGROUND

The Multimodal Logistics Park with rail connectivity in Jhajjar is being set up to cater to the logistics needs of the various industries falling in the influence zone of the Integrated economic enclave and those situated in Gurgaon, a major industrial and business hub of Haryana state. It is therefore, envisaged that the proposed MMLP will handle only containerized traffic, both EXIM and Domestic.

2.2 TRAFFIC VOLUME

The company has drawn up the projections of the traffic considering mainly the growth in export/import of containerized/containersable commodities likely to be handled at the MMLP while taking into account the impact of the existing container depots set up by M/S Gateway Distripark at Garhi Harsaru and Adani Logistics Park at Patli in the close proximity of the proposed RHSL MMLP. The traffic forecast of containers in terms of TEUs from 2012 to 2020 at the MMLP is tabulated below:

Table 2.1: Project Traffic – (TEUS)

S.N	Details	2012	2013	2014	2015	2020
EXIM TEUs						
1	Import i.e Inbound	10605	22763	31466	38024	67840
2	Export i.e Outbound	7070	15175	20977	25349	45226
	(A) Total	17675	37938	52443	63373	113066
DOMESTIC						
1	Inbound	3530	4456	5513	7024	25021
2	Outbound	3530	4456	5513	7024	25021
	(B) Total	7060	8912	11026	14048	50042
	Grand Total (A+B)	24735	46850	63469	77421	163108

Source: IL&FS

2.3 TRAFFIC VOLUME IN TERMS OF RAKES

For estimating rail related facilities required for handling the anticipated traffic volume at the serving station and MMPL terminal it is necessary to convert the aforesaid traffic into rakes. However, for doing so, the choice of wagon for carrying the containers needs to be decided first.

2.3.1 Selection of Wagon for Transportation of Containers

2.3.1.1 The Railways after weighing advantages and disadvantages of transportation of containers in different type of stock have standardized movement of containers in high speed container flats (BLC).

2.3.1.2 Broad characteristics of the BLC high speed wagon, more commonly used on Indian Railways for transportation of containers are presented in the table below. These wagons are also suitable for transportation of double stack containers.

Table 2.2: Characteristics of 'BLC Wagon'

S.N	Description of Features	BLC Wagon
1	Axle Load	20.32 T
2	Tare Weight	
	A Car	19.10 T
	B Car	18.00 T
3	Pay Load	61 T
4	Operating Speed (Maximum)	100 Kmph
5	Wheel Diameter	840 mm (New)
6	Centre length over head block	
	A Car	13615 mm
	B Car	12212 mm
7	Train Size	45 cars
8	Maximum length of train without Loco & break Van	638 m
9	TEUs per rakes Single Stack No.	90
10	TEUs per rakes Double Stack No.	180
11	Deck height from Rail Level	1.009 m

BLC wagons for transportation of containers has an edge over all other wagons for the following reasons:

- i) The rake consists of 45 wagons in the form of 9 units. Each unit consists of 5 wagons, two 'A' cars at the end and by 3 cars in the middle. The outer ends of the 'A' cars are filled with centre buffer couplers (CBC) and both ends of the 'B' cars and in the ends of 'A' cars are filled with slackless drawbar.
- ii) The wagons are equipped with automatic twist locks and anti-pilferage device.
- iii) Low beds through reduced wheel diameter.
- iv) Retrofitted with air brakes.

In view, of the above transportation of containers for the proposed MMLP has been assumed in these state of the art BLC types of wagons.

2.3.2 Traffic in terms of container Trains

It is evident from the table 2.1 above that though substantial growth in the containerized traffic is anticipated in both the EXIM & domestic traffic; there is unbalancing of EXIM traffic, the inbound being on the higher side. However, the domestic inbound & outbound container traffic is balanced. For realistic estimation of traffic facilities, higher side of the traffic stream has been considered because in case of imbalance in traffic empties have to be balanced in the return direction.

For transforming this traffic into trains per day, the movement is assumed in 330 working days per year with 90 TEUs per rake of 45 flat cars. With this parameter the numbers of trains worked out are indicated in the table below:

Table 2.3: No. of trains per day each way

Years	TEUs per annum			TEUs per Day	TEUs per Train Load	Trains per Day
	EXIM Inbound	Domestic	Total			
2012	10605	3530	14135	43	90	0.5
2013	22763	4456	27219	83	90	0.9
2014	31466	5513	36979	112	90	1.2
2015	38024	7024	45048	137	90	1.5
2020	67840	25021	92861	281	90	3.1

During the course of discussions RHSL/LL&FS advised that about 90% of the above traffic will move south west through Garhi Harsaru Junction station involving movement over the Farukhnagar-Garhi Harsaru-Rewari route while the balance 10% will move to the north. The Consultants have therefore taken into consideration this pattern while planning rail hardware, which will be discussed in the Chapter 4.



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**Chapter 3
Capacity Constraints of Existing Rail Network
Serving the RHSL MMLP**

Chapter 3

Capacity Constraints of Existing Rail Network Serving the RHSL MMLP

3.1 The proposed logistics park is being set up near Farukhnagar Railway Station. Therefore this chapter describes briefly the existing rail network and its capacity constraints.

3.2 EXISTING RAIL NETWORK

The RHSL MMLP will be served by the following rail sections:

- i) Garhi Harsaru-Farukhnagar Branch Line
- ii) Delhi-Garhi Harsaru-Rewari Main Line

The rail network map is at **Annexure 3.1**.

3.2.1 Garhi Harsaru-Farukhnagar Branch Line

3.2.1.1 This erstwhile 11.27 km long meter gauge branch line has since been converted into broad gauge under unigauge scheme and is likely to be commissioned for operation of traffic shortly. At present no trains run on this section. It takes off from line no-1 of Garhi Harsaru junction station at Rewari end and terminates at Farukhnagar in dead end. As Farukhnagar is not open to booking of freight traffic, therefore, only passenger traffic was being dealt with at this station.

3.2.1.2 At present, as per time table in force from 01.11.2009, no schedule for introduction of passenger services has been drawn. Prior to conversion, 3 pairs of MG passenger trains used to run on the section:

- One pair Between Delhi Sarai Rohilla and Farukhnagar.
- Two pairs Between Garhi Harsaru and Farukhnagar.
- The timings are indicated below:

Table-3.1: Time Table

Train No.	Farukhnagar		Garhi Harsaru		Delhi Sarai Rohilla	
	Arrival	Departure	Arrival	Departure	Arrival	Departure
1 DF	-	7:00	7:35	7:38	8:45	-
1 GF	-	12:50	13:25	-	-	-
3 GF	-	15:00	15:35	-	-	-
2 DF	-	10:30	11:48	11:52	12:25	-
2GF	-	-	-	13:50	14:25	-
4 GF	-	-	-	18:35	19:10	-

Source: Public Time table Sept 2004, DF: Denotes Delhi Farukhnagar, GF: Denotes Gharhi Harsaru-Farukhnagar

The trains between Farukhnagar and Garhi Harsaru used to be received on the dock platform line at Garhi Harsaru and after reversal of locomotive were dispatched to Farukhnagar. There 3 pairs of trains were run with 1 rake only as can be seen from **Annexure 3.2**.

3.1.2.3 For the purpose of this study, it is assumed that Railway on opening of the section will maintain the above schedule for running passenger services on the section.

3.1.2.4 In between Garhi Harsaru and Farukhnagar, Sultanpur Kaliawas, a passenger halt station is situated at 8.05 km from Garhi Harsaru.

3.1.2.5 Operational/Infrastructural Constraints of Garhi Harsaru-Farukhnagar Branch Line Section.

- i) It is 'non controlled' section. "One Train only" system of train operation is in Vogue. Under the system, once a train has been dispatched from Garhi Harsaru, no other train can enter the section unless the earlier train returns to Garhi Harsaru, the base station.
- ii) In view of the above, Farukhnagar Station is not manned by a station master. For booking passenger traffic, a booking clerk has been posted at the station.
- iii) Station yard comprises two non signalled running lines. The points are key locked and keys of these points remain with station master Garhi Harsaru. A schematic Diagram of the station is placed at **Annexure 3.3**.
- iv) For starting a train from Garhi Harsaru "Wooden Staff" as an authority to proceed is issued to the driver of the trains. The key of siding of Farukhnagar is also handed to the driver of the train for affecting reversal of locomotive at the terminal.
- v) A level crossing gate that connects Wazirpur with Mubarakpur cuts across the yard lines of Farukhnagar station at Garhi Harsaru end.

3.2.2 Delhi-Garhi Harsaru-Rewari Main Line

It is 82.45 km long double line section. The section comprises 13 block stations and 4 passenger trains halt. "Absolute Block System" of train operation is in vogue.

All the block stations are interlocked to standard III equipped with multiple aspect colour light signaling system and motor machine operated points.

It is a controlled section, the passenger and freight trains running in the section are operated with diesel traction. The charted line capacity of the section, with maintenance blocks, has been estimated at 53 trains each way per day. Against this, 33 trains

including 24 passenger, and 9 goods were run each way daily during 2009-10, thereby leading to a line capacity utilization of 62%, indicating that the section has sufficient capacity to cater to the anticipated project traffic.

3.2.2.1 System of Working

Delhi-Garhi Harsaru-Rewari Route

Trains on the Delhi-Garhi Harsaru–Rewari route are worked under the “Absolute Block System” of train operation.

Garhi Harsaru–Farukh Nagar Branch Line

On the Garhi Harsaru-Farukh Nagar section, the “One Train Only System” of train operation is in vogue. Under this system, no other train can be dispatched from Garhi Harsaru unless the previous train dispatched to Farukh Nagar has returned.

3.2.2.2 Maximum Moving Dimensions

The maximum moving dimensions of the route are presented in the table below:

Table 3.2: Maximum Typical Moving Dimensions (MMD) of the Route

Item	Infringement (In metre)
Length and breadth	No infringement
Permissible maximum moving dimension on existing route (height at centre)	4.475
Required MMD for double stack trains (diesel route)	7.3
MMD proposed for DFC (under wire) with well wagons	6.67

3.2.3 Garhi Harsaru Junction Station

As the project traffic will join the main line route at Garhi Harsaru, railway station the existing facilities and the capacity constraints of this station have also been examined and are briefly discussed in the following paragraphs.

3.2.3.1 Description of the Station

Garhi Harsaru is a ‘B’ class station situated on the Delhi-Rewari double line broad gauge non electrified route at km 40.850 (distance from Delhi). The station is interlocked to standard III with multiple aspect colour light signaling, so that the points and signals are operated from an electrical panel in the Station Master’s office. The entire yard is track circuited between the home and the last stop signals in both the directions. The adjacent block stations, namely, Patli in the up direction and Gurgaon in the down direction, are situated at a distance of 8.36 km and 9.74 km away respectively from Garhi Harsaru. At the Rewari end of the station yard, the 11.27 km long Garhi Harsaru–Farukh Nagar broad gauge branch line takes off from line No.1.

3.2.3.2 Station Yard Garhi Harsaru Junction

The station yard consists of 6 running and 1 non running lines as under:

Table 3.3: Garhi Harsaru Station Yard Layout

Line No.	Description Running Lines	CSR (M)	Remarks
1	Common loop line	784	Platform line
2	Down main line	859	
3	Up main line	1022	Island platform between line 3&4
4	Up loop line	740	
5	Common goods loop line	777	Used by Gateway Distripark for loading unloading of container traffic.
6	Dock Line	219	For Farukhnagar shuttle service
Non-Running Lines			
	Engine reversal line	219	By the side of dock line for use as engine reversal.

A schematic Diagram of Garhi Harsaru Yard layout is placed at Annexure-3.4.

3.2.3.3 Capacity Constraints of the Garhi Harsaru Yard

1. The layout of the yard is designed for movement of trains between Delhi and Farukhnagar through line no 1 only.
2. The station yard is hemmed in with heavily built up area. Therefore, it cannot be expanded in width. Line no 1 (the common loop line) is the only platform line available for the use of down stopping passenger and mail express trains from the Rewari end. At present 9 passenger and 3 mail express trains use this platform. In addition, on commissioning of Garhi Harsaru-Farukhnagar section, the passenger services to be introduced in this section will also use this platform in both directions.
3. The downstream of traffic destined to Farukhnagar can only be received and dispatched from line 1 after reversal of locomotive and brake van. This will result in occupation of the line for a long duration.
4. At the Delhi end of the yard, interlocked level crossings gate no 32 cuts across all the running lines. This prohibits blocking of running lines for long.
5. Due to the peculiar design of Garhi Harsaru-Farukhnagar alignment, providing a 2nd entry from the up lines at Rewari end is not feasible from the engineering feasibility aspect.

3.2.3.4 Traffic Facilities-Yard Remodeling of Garhi Harsaru

M/s Gateway Distripark has set up a Container Depot on railway land by the side of common goods loop line no 5, this line being used exclusively for handling container carrying trains. On an average about 40 rakes are dealt with per month. Therefore, this line is not available for passage of other through goods trains.

Due to rapid industrial development along the Delhi-Rewari section, the railways traffic is increasing at a very fast rate. Therefore, the Railway anticipates capacity constraints in this area.

In order to overcome the capacity problem, M/s Gateway Distripark was requested by the Railways to set up its own ICD outside railway land. They have done this by setting up a new container depot with a rail terminal along the up main line at the Rewari end of Garhi Harsaru station. Connectivity to the ICD has been extended only from line no 5. The layout of the ICD yard has also been shown in **Annexure-3.4**. It is likely to be commissioned shortly.

However, commissioning of the new ICD will not afford much relief to Garhi Harsaru station, as line no 5 will have to be kept clear for frequent movement of rakes between the station yard and the ICD terminal, unless an additional running line is developed by the side of line no 5.

3.3 RAIL PROJECTS UNDER CONSTRUCTION

3.3.1 Rewari-Jhajjar-Rohtak Section

A 81.26 km long new broad gauge rail link connecting Rewari with Rohtak is under construction and the work on the project is progressing swiftly.

The important towns to be served by new route are Rewari, Bikaner, Pahlawas, Machhrauli, Dadanpur, Jhajjar, Dighal and Rohtak. On completion of the project, some of the freight traffic now moving on Rewari-Delhi-Rohtak route may divert to this section.

Moreover, a 89 km long new broad gauge rail link between Jind and Sonapat via Gohana is also under construction.

3.3.2 Western Dedicated Freight Corridor Route

This will be along the Jawahar Lal Nehru Port-Vasai-Surat-Ahmedabad-Mehesana-Palanpur-Marwar-Ajmer-Phulera-Rewari railway route.

At a point short of Rewari, the Western DFC will deflect to the east for reaching Dadri to merge with Eastern Dedicated Freight Corridor. For providing connectivity to Tughlakabad yard, Pirthala station to the west of NH-2, near existing Asaoti station has proposed where adequate junction arrangement have been suggested for the movement of container trains toward EDFC and WDFC.

For transfer of trains from the Western DFC to the feeder sections, namely, (i) Rewari-Delhi (ii) Rewari-Hisar and (iii) Rewari-Rohatak, there is a plan to set up Rewari DFC yard, short of Rewari junction, which will be connected suitably to these sections.

Maps showing the above rail sections and the proposed DFC arrangement at Rewari DFC Yard are as in **Annexure 3.5 & 3.6** respectively.

KEY MAP SHOWING EXISTING RAIL NETWORK SERVING RHSEZ

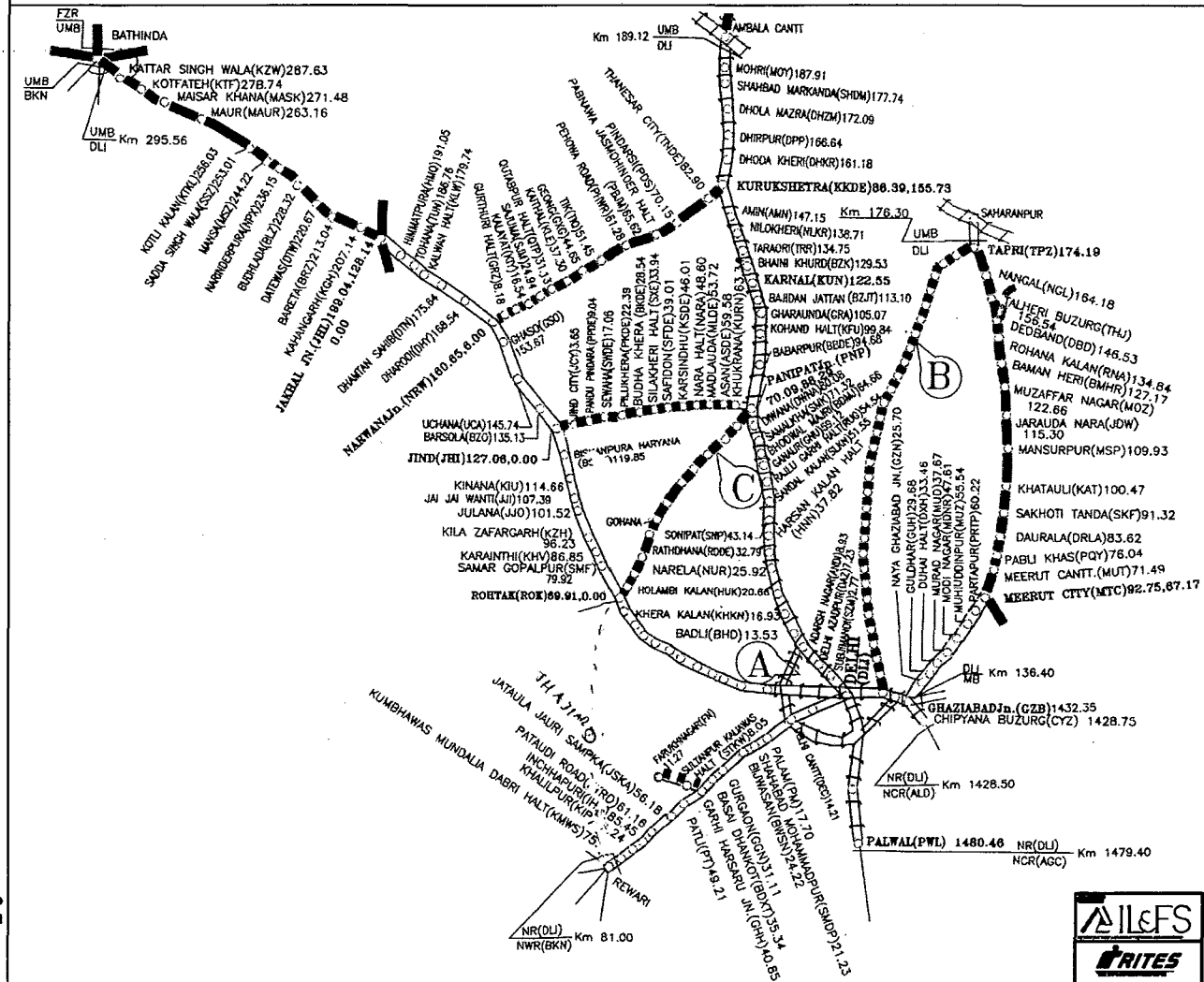
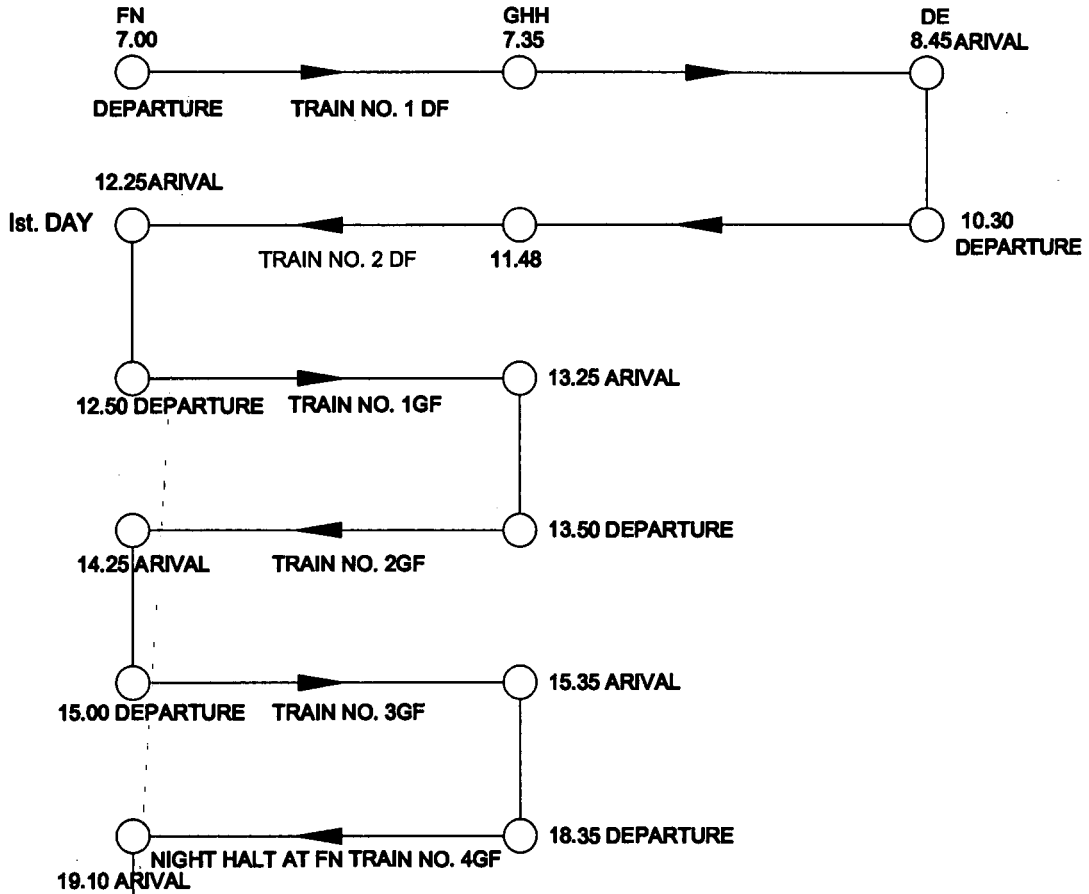


CHART SHOWING PASSENGER TRAINS TIME SCHEDULE IN FARUKH NAGAR- GARHI HARSARU - DELHI M.G. SECTION



NEXT DAY TO PICK UP THE ABOVE SCHEDULE

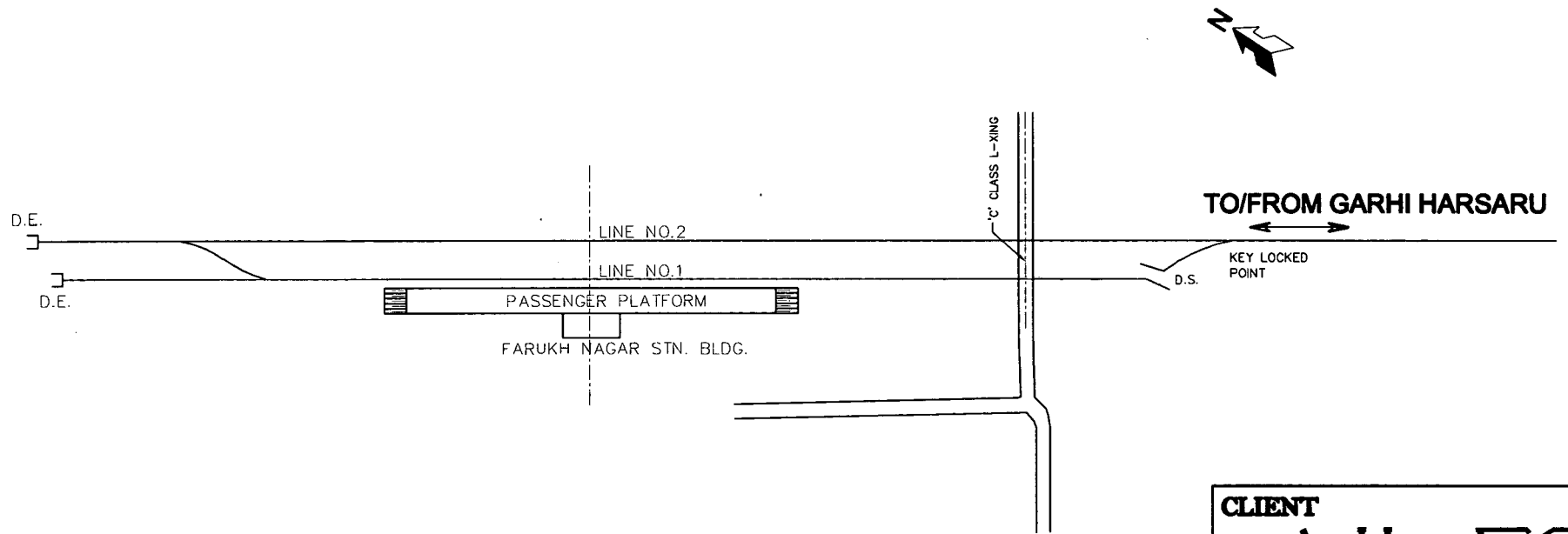
(SOURCE:- PUBLIC TIME TABLE- SEPT.-2004)

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SCHEMATIC DIAGRAM OF FARUKH NAGAR STATION



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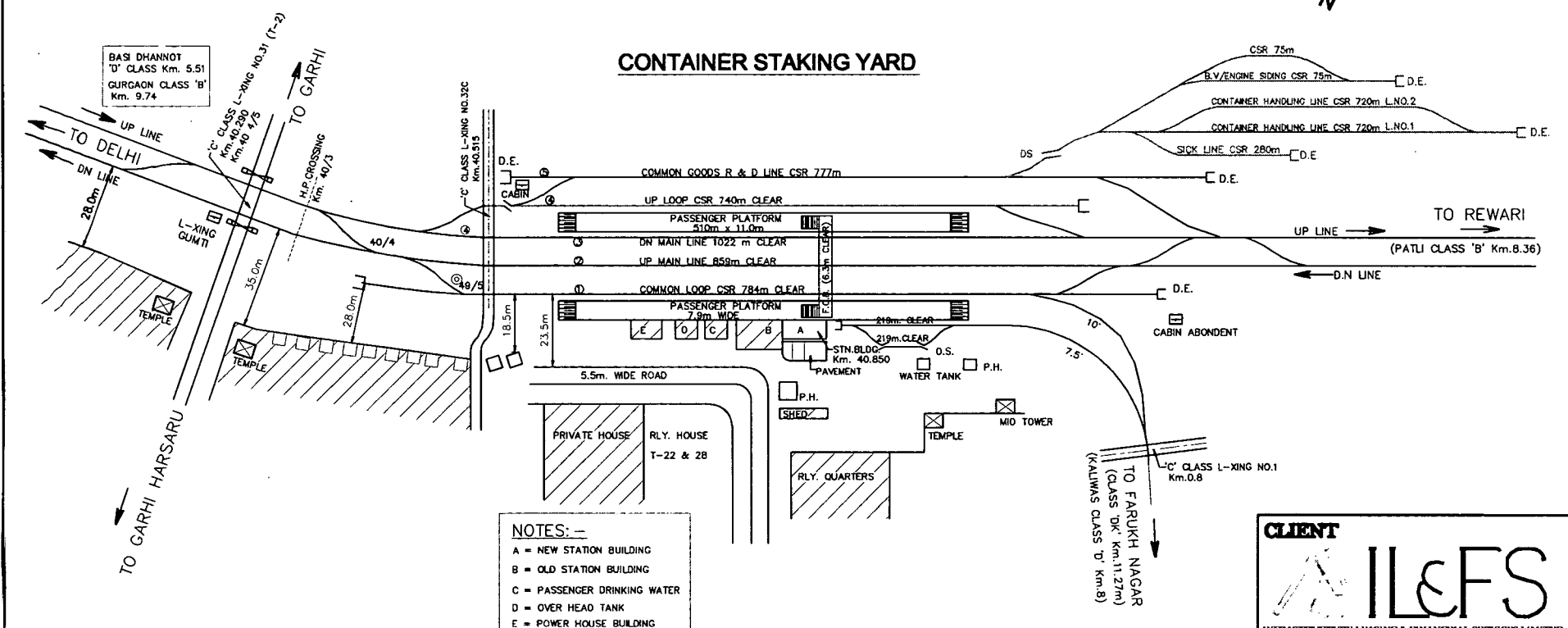
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SCHEMATIC DIAGRAM OF GARHI HARSARU STATION (Std-III)

ANNEXURE-3.4



CONTAINER STAGING YARD



NOTES: -
 A = NEW STATION BUILDING
 B = OLD STATION BUILDING
 C = PASSENGER DRINKING WATER
 D = OVER HEAD TANK
 E = POWER HOUSE BUILDING

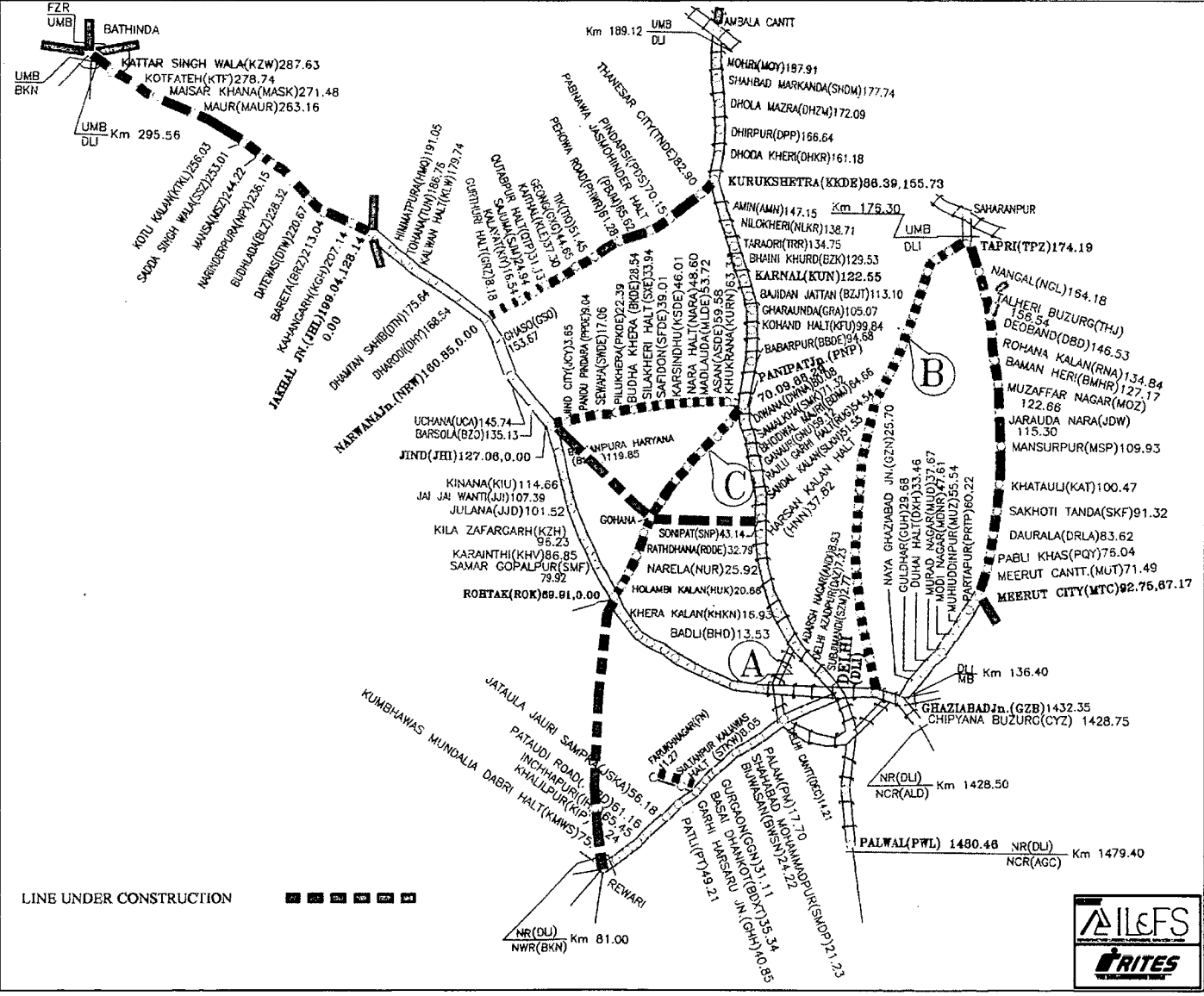
LEGENDS: -
 EXISTING LINE SHOWN THUS.
 UNDER CONSTRUCTION WORK SHOWN THUS.

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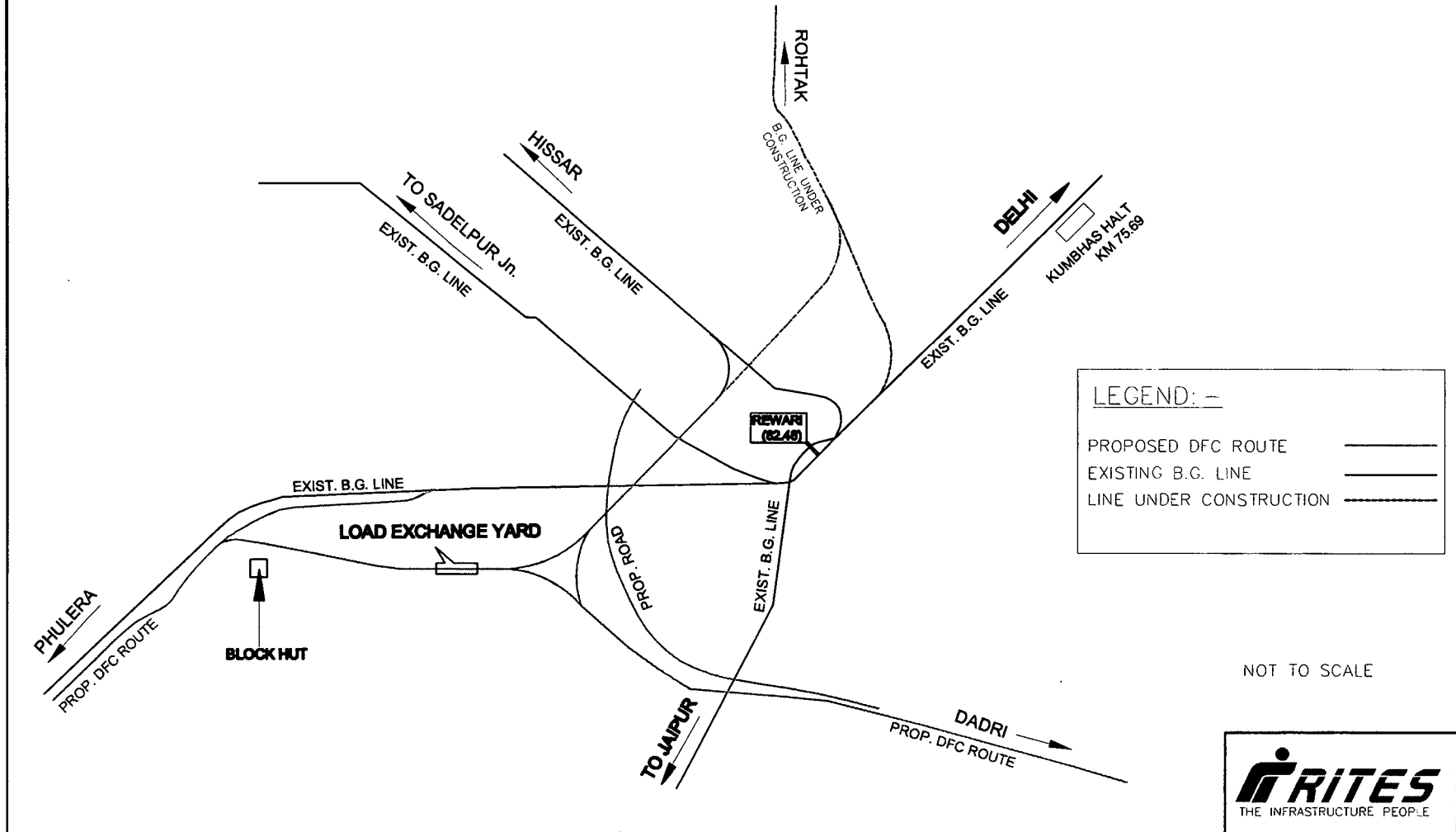
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KEY MAP SHOWING NEW RAIL LINE UNDER CONSTRUCTION



**SCHEMATIC DIAGRAM SHOWING JUNCTION ARRANGEMENTS
OF WESTERN DFC ROUTE NEAR REWARI JUNCTION**

ANNEXURE 3.6





**Feasibility Study for
Railway Siding for Farukhnagar Logistics Park**

Final Draft Feasibility Report

**Chapter 4
Rail Hardware Proposals, System Provisions and
Method of Operation**

Chapter 4

Rail Hardware Proposals, System Provisions and Method of Operation

4.1 BACKDROP

4.1.1 While the background of the project, traffic volume, alternative routes, capacity constraints of the existing rail network have been discussed in the earlier chapters, this chapter describes rail infrastructure required for establishing railway siding and the related facilities, including the system provisions etc for the proposed container terminal.

4.2 THE SERVING STATION

4.2.1 Farukhnagar, being the closest rail terminal, has been considered for extension of railway siding facility to the proposed MMLP. At present Farukhnagar is a 2 line station. Initially it will be required to deal with 3 pairs of passenger carrying trains and one container train daily, which will progressively increase to 3 container trains each way per day by 2020. As per the anticipated time table, the last train arriving at Farukhnagar will have night halt at the station for picking up the next day 7:00 schedule. Thus during night only one running line will be available for traffic use. In view of this, for handling the anticipated freight trains the following facilities are proposed at the station:

- ✓ 1. One additional running line at Farukhnagar.
- ✓ 2. Conversion of the station into 'B' class including upgradation of signaling and interlocking system.

A conceptual layout plan of Farukhnagar station, with proposed facilities is placed at **Annexure 4.1**.

4.3 RAILWAY SIDING ALIGNMENT FOR MMLP

4.3.1 The railway siding for MMLP takes off from the main line of Farukhnagar station at its termination end where derailing switch has been proposed for isolation purpose. After takeoff, it takes a right hand turn and travels to the north upto km 2/035. At this chainage the alignment takes a left hand turn and moves towards west and remains in this direction till it enter the MMLP land plot at km 2/695.

4.3.2 The length of the alignment has been estimated as 1.71 km. Layout of the siding alignment is reflected in **drawing no. RITES/T&E/IL&FS/Farukhnagar/Siding/Plan-1**.

4.4 CONTAINER RAIL TERMINAL

4.4.1 The proposed terminal is being currently set up for exclusively handling container traffic by the developer. Keeping in view, the anticipated phase wise level of traffic in view the rail terminal will comprise the following facilities:

1. Two full length container loading /unloading lines equipped with paved platforms.
2. Two full length engine reversal cum wagon over flow holding lines.
3. A siding for holding brake van and for arranging reversal of brake van has also been proposed.

A conceptual yard layout plan of the rail terminal inside MMLP is kept at **Annexure 4.2.**

4.5 MODIFICATION TO GARHI HARSARU STATION LAYOUT

4.5.1 Capacity constraints of Garhi Harsaru have been discussed in the preceding chapter wherein it has been mentioned that finding passage for movement of container trains to the proposed container terminal through Garhi Harsaru is a serious operational constraint. In order to find a workable solution, following three alternative proposals were developed and the merits & demerits of each proposal were examined for selecting the optimal proposal.

4.5.2 Proposal-1 (Extension of Dock Lines)

Under this proposal, the dock lines of Garhi Harsaru have been extended at the Delhi end for obtaining a clear standing room of 720m (**Annexure 4.3**). For receiving and dispatching trains from the Rewari end, a cross over between line no 1 and the dock lines has also been proposed. A small brake van siding has also been planned for reversal of brake-vans.

The merits and de-merits of the alternative are discussed below:

Merits

- i) This arrangement will facilitate the direct reception and dispatch of Farukhagar bound trains from the Rewari end of Garhi-Harsaru yard.

De-merits

- i) It involves reversal of locomotive and brake-van in both directions at Garhi Harsaru.
- ii) Unproductive detention to rolling stock, including the locomotive, to the extent of about 2 hours to each rake for reversal operation.
- iii) This increase in turn-around will result in requirement of additional rolling stock.

- iv) Further, in this arrangement, level crossing gate no 32 will remain blocked for a long period, inviting local public resentment and protests.
- v) It will also require additional man-power at Garhi-Harsaru for performing the necessary shunting.
- vi) The proposal involves dismantling of the entire station building complex and other related facilities and their relocation at an appropriate location.
- vii) It will also necessitate major modification in the signaling system at its Rewari end.

4.5.3 Proposal-II (Construction of a New Loop Line)

In this arrangement, it is proposed to construct a loop line and a brake-van siding along the Farukhnagar line just beyond Garhi-Harsaru yard. The proposed layout is placed at **Annexure-4.4**. Its merits and demerits are described below:

Merits

- i) This arrangement will facilitate the direct reception and dispatch of Farukhnagar bound trains from the Rewari end of Garhi-Harsaru yard on line no-1.

De-merits

- i) On arrival of a train on line no 1, it will need immediate pushing back of the load at its Farukhnagar end in the proposed loop line where reversal of locomotive and brake-van will be done for further dispatch to Farukhnagar.
- ii) In the opposite direction, trains will be received directly in the proposed loop where the brake-van and the locomotive will be reversed. Thereafter, depending upon the availability of line no 1, the load will be backed into Garhi Harsaru station yard for further dispatch towards Rewari.
- iii) In this operation, the unproductive detention to rolling stock will increase to about 3 hours per train.
- iv) As in the case of Alternative-1, in this proposal also, detention to rolling stock is inbuilt so that the turn-around of the rakes level will increase, resulting in requirement of additional rolling stock.
- v) There will be increased requirement of man-power.
- vi) Level crossing gate no 1, located at distance of about a km at the Farukhnagar end of Garhi Harsaru yard will remain blocked for a long period leading to public protests.
- vii) It will involve major modification to the signaling system at the Rewari/ Farukhnagar end of the station yard.

4.5.4 Proposal-III (The 'Y' Link)

With a view to plan for smooth and seamless operation of container trains between Rewari and Farukhnagar another alternative relating to provision of a 'Y' link connecting the main and branch line at the Rewari end without touching the Garhi Harsaru station yard was examined (**Annexure 4.5**). The Consultants surveyed the area and found that provision of this link is feasible, as sufficient open space exists where the alignment of the 'Y' link would be laid.

Merits & de-merits of the proposal are discussed hereunder:

Merits

- i) In this proposal the traffic will bypass Garhi Harsaru yard leading to fast and seamless movements to and fro Farukhnagar.
- ii) Reversal of locomotives and brakevan will be avoided.
- iii) No unproductive detention to rolling stock, therefore, no increase in turn-around of rolling stock.
- iv) No additional requirement of man-power.

Demerits

- i) The traffic, in the up direction towards Rewari will use surface crossing and will cut across down main line for switching over to up main line for further movement to Rewari.

4.5.5 On critical examination of merits and demerits the plans developed under proposals I&II were not found operationally and technically feasible.

Proposal III, the provision of 'Y' link thus offers the best option and will facilitate fast and seamless passage of the project traffic by effectively by passing Garhi Harsaru station yard with its serious, operational constraints in handling project traffic. The Consultants therefore, recommend the implementation of the Alternative-III discussed above.

4.5.6 'Y' Link

In the recommended plan, the 'Y' connection takes off from down main at km 42 at Rewari end of Garhi Harsaru Yard. After takeoff the alignment continues to move in left direction till it meets Garhi Harsaru-Farukhnagar branch line at km 1.

Isolation by way of long dead end spurs has been proposed at either end of 'Y' link.

For direct dispatch of up trains to Rewari a cross over connecting down & up main line has also been proposed in continuation of the take off point.

Detailed alignment of the 'Y' link is appearing in **drawing No RITES/T&E/IL&FS/Garhi Harsaru/'Y' Line/Plan-1.**

4.6 SIGNALLING & INTERLOCKING

4.6.1 'Y' Link

The proposed 'Y' link will form the part of Garhi Harsaru station. Therefore the existing system of signaling and interlocking available at Garhi Harsaru will be extended to the new link on both the ends i.e. Rewari end and Farukhnagar end. Construction of the 'Y' link will also necessitate modification in the existing signaling system relating to shifting of signals at Rewari end, track circuiting, electrical panel etc. the cost of the signaling works have broadly been estimated at Rs.2.0 crores.

4.6.2 Farukhnagar Station

To facilitate smooth movement of container traffic, existing system of train operation i.e. "One Train Only" will be replaced by "Absolute Block System".

The Farukhnagar station will be converted into block station. The points will be interlocked to standard III with motor operated points & multiple aspect colour light signaling system. For centralized operation of points an electrical panel will be set up in the station master office. For working trains in the section, "Single Line Tokenless" Instruments will be installed at Farukhnagar & Garhi Harsaru. The cost of Signalling interlocking has been estimated at about Rs.3.0 crores.

4.6.3 Container Rail Terminal

For ease of operation of the proposed rail terminal will be kept as non-interlocked. The points will be operated with the help of spring loaded levers locally. Therefore no signaling & interlocking cost is involved.

4.7 TELECOMMUNICATION

For smooth and efficient operation of freight trains in Garhi Harsaru- Farukhnagar section the following telecommunication facilities are proposed.

1. Extension of section control in this branch line.
2. Station to station communication will, however, be through the telephones attached to the block instruments where no additional cost element is involved.
3. Provision of a land line connection between MMLP terminal and Farukhnagar station.

4. Three walkie talkie sets to be used by the Driver, shunting staff and the station master, while working in MMLP terminal.

A lump sum cost of Rs.10.0 lakhs has been provided for the above proposed telecom system.

4.8 SYSTEM OF WORKING TRAINS BETWEEN FARUKHNAGAR STATION AND MMLP RAIL TERMINAL

The proposed system of working is described below:

4.8.1 All movements to & from the terminal will be treated as shunt movements.

4.8.2 The developer will nominate a person who will be responsible for arranging reception and dispatch of container trains in the terminal.

4.8.3 Station Master on duty at Farukh Nagar, on getting the information from control about the anticipated movement of container train will immediately inform to Rail Terminal In charge about the proposed movement. Thereafter, the In-charge of the terminal will ensure to clear the reception line on which the intended train is to be received. He will also ensure that no road movements take place in that area.

4.8.4 On arrival of a train at Farukh Nagar, Station Master will seek permission from the terminal Incharge, who in-turn, after satisfying that the line is clear from all obstructions, will nominate the line for the intended train duly supported by an identification number.

4.8.5 Thereafter, station master will arrange setting of route for the departure of the train. He will also depute 2 points men on the locomotive for piloting the train. In addition the driver will also be given a written, authority to leave the station with the train.

4.8.6 In the MMLP rail terminal, the points men will work under the guidance of guard of the train. The shunting staff will arrange proper positioning of the rake and will carry out shunting operations related to reversal of brake van & locomotive.

4.8.7 In the reverse direction, whenever the train is required to be dispatched, the Terminal Incharge will seek permission from station master Farukh Nagar. The station master after satisfying himself will grant permission duly supported by a private number. Thereafter the terminal incharge will authorize the driver to leave the terminal with the train.

4.8.8 The driver of the train, while approaching the station will continuously blow whistles for attracting the attention of the station master.

4.8.9 The station master will arrange reception of the train on the nominated line after setting the route and taking off relevant shunt signal.

4.9 CREW REST ROOM

Under engine on load scheme, the loco and the guard remain wedded to the train. Under the scheme, the crew of the train will be required to work back the same rake. Therefore, the staff working the train will remain in the terminal for about 4-5 hours. In view of this it is considered necessary to provide a 4 bed dormitory restroom by the side of rail terminal where the crew will be able to take rest.

4.10 CARRIAGE & WAGON FACILITIES

It is assumed that container terminal will utilize intensively examined rakes for transportation of container. Therefore, no C&W facilities will be required in the proposed container terminal.

4.11 MANPOWER REQUIREMENT

The following compliment of operating and commercial staff has been assessed for operation of the siding.

4.11.1 Operating staff for Farukhnagar Station

Table 4.2: Complement of Staff

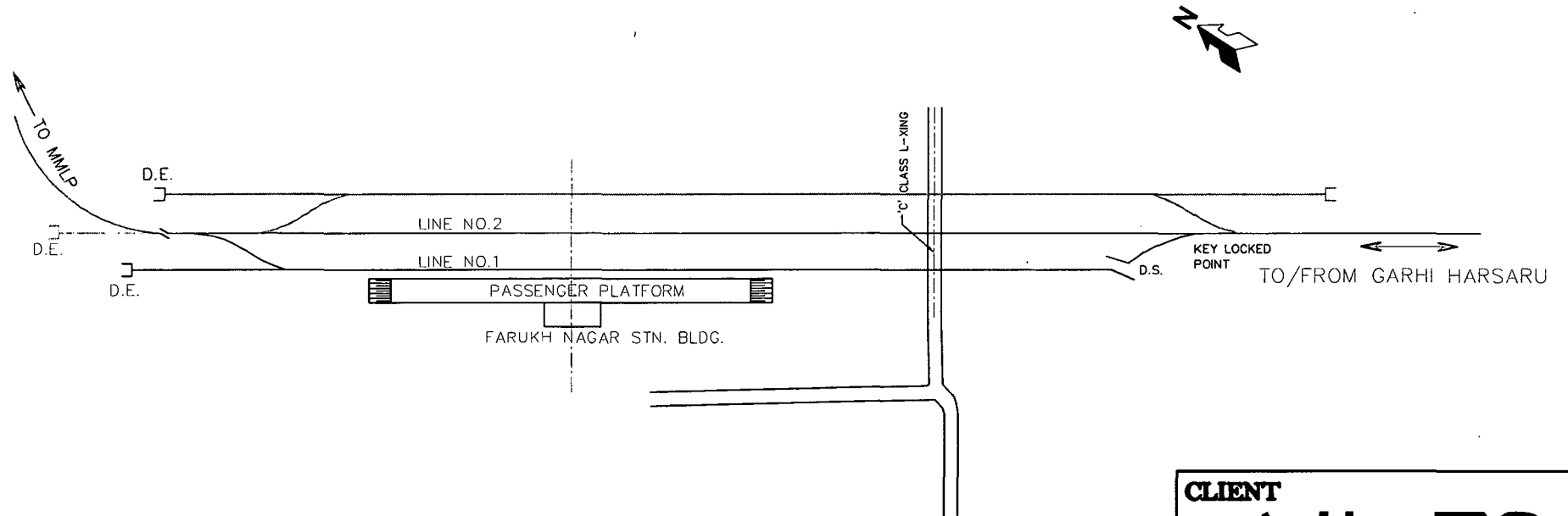
S.N	Designation	Post	Remark
1	Station Master	1	To work in 12 hour shift in rotation
2	Assistant Station Master	1	
3	Pointsman	4	2 points men to work in each 12 hours shift
4	Rest giver Assistant Station Master	0.5	For giving rest to the proposed staff at Farukhnagar.
5	Rest giver points man	1	

4.11.2 Commercial Staff


For collection of railway dues and preparation of railway documents including maintenances of record, one head goods clerk and one Sr. goods clerk will be required to work in the rail terminal.

Developer of the terminal will provide a furnished office for the use of commercial staff duly equipped with Terminal Management System. The residential accommodation for above assessed staff will also be made available by the Terminal Developer at a suitable place easily accessible to the terminal.


CONCEPTUAL LAY OUT PLAN OF FARUKH NAGAR STATION WITH PROPOSED FACILITIES



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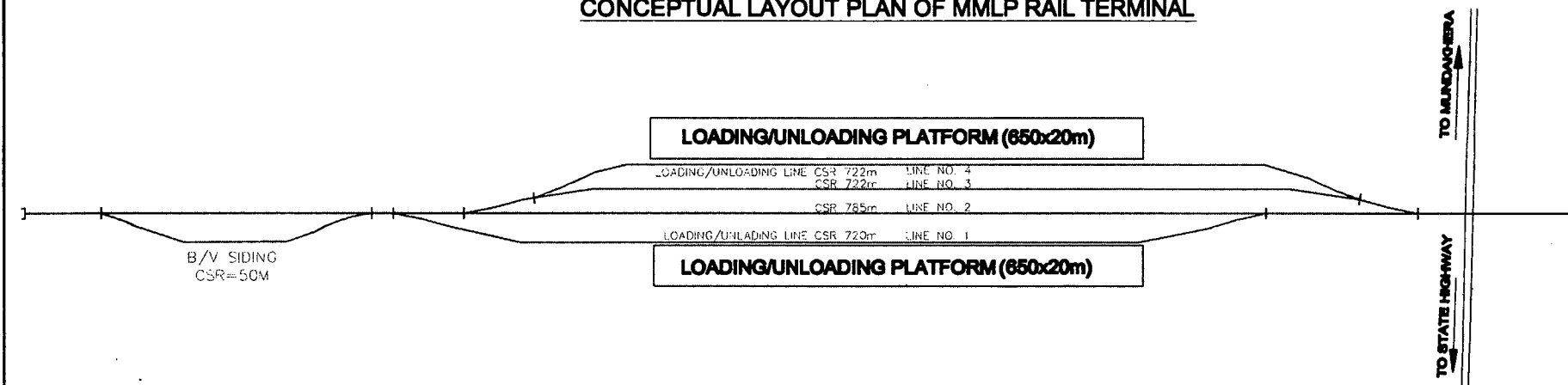


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CONCEPTUAL LAYOUT PLAN OF MMLP RAIL TERMINAL



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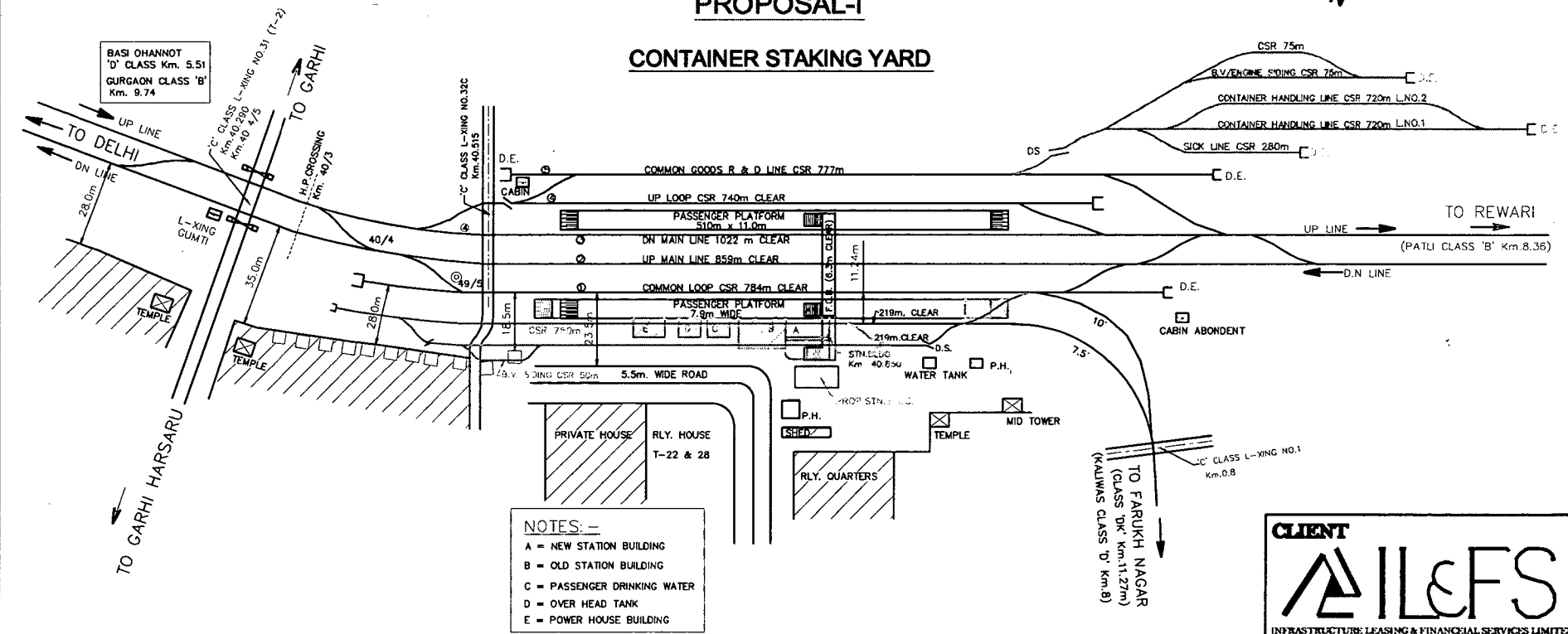
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SCHEMATIC DIAGRAM OF GARHI HARSARU STATION (Std-III) PROPOSAL-I

CONTAINER STAKING YARD



- NOTES :-**
- A = NEW STATION BUILDING
 - B = OLD STATION BUILDING
 - C = PASSENGER DRINKING WATER
 - D = OVER HEAD TANK
 - E = POWER HOUSE BUILDING

- LEGENDS :-**
- EXISTING LINE SHOWN THUS.
 - PROPOSED WORK SHOWN THUS.
 - PROPOSED DISMANTLING WORK SHOWN THUS.
 - UNDER CONSTRUCTION WORK SHOWN THUS.

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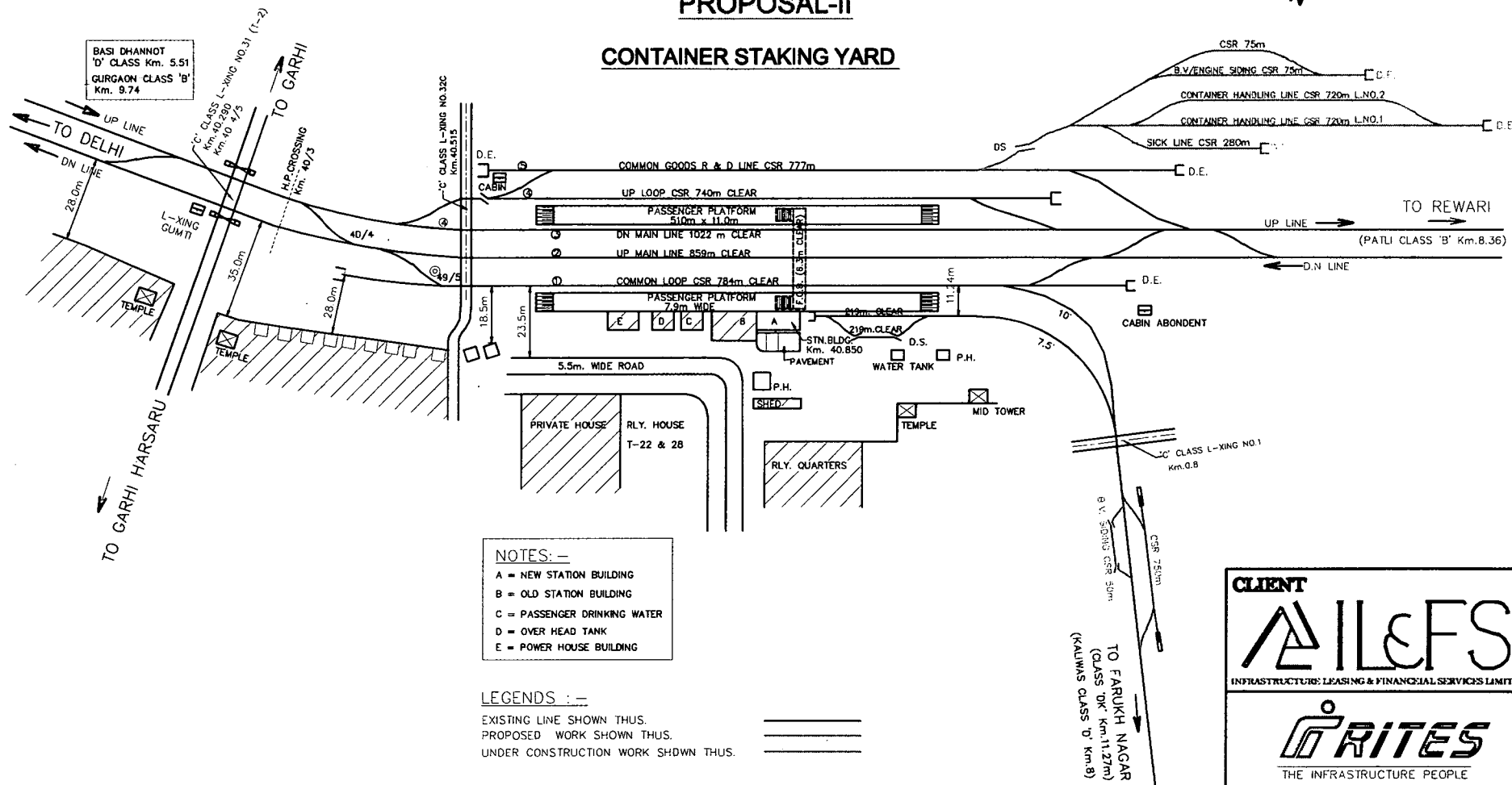
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SCHEMATIC DIAGRAM OF GARHI HARSARU STATION (Std-III) PROPOSAL-II

ANNEXURE-4.4

CONTAINER STAKING YARD



NOTES: -
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 B = OLD STATION BUILDING
 C = PASSENGER DRINKING WATER
 D = OVER HEAD TANK
 E = POWER HOUSE BUILDING

LEGENDS: -
 EXISTING LINE SHOWN THUS.
 PROPOSED WORK SHOWN THUS.
 UNDER CONSTRUCTION WORK SHOWN THUS.

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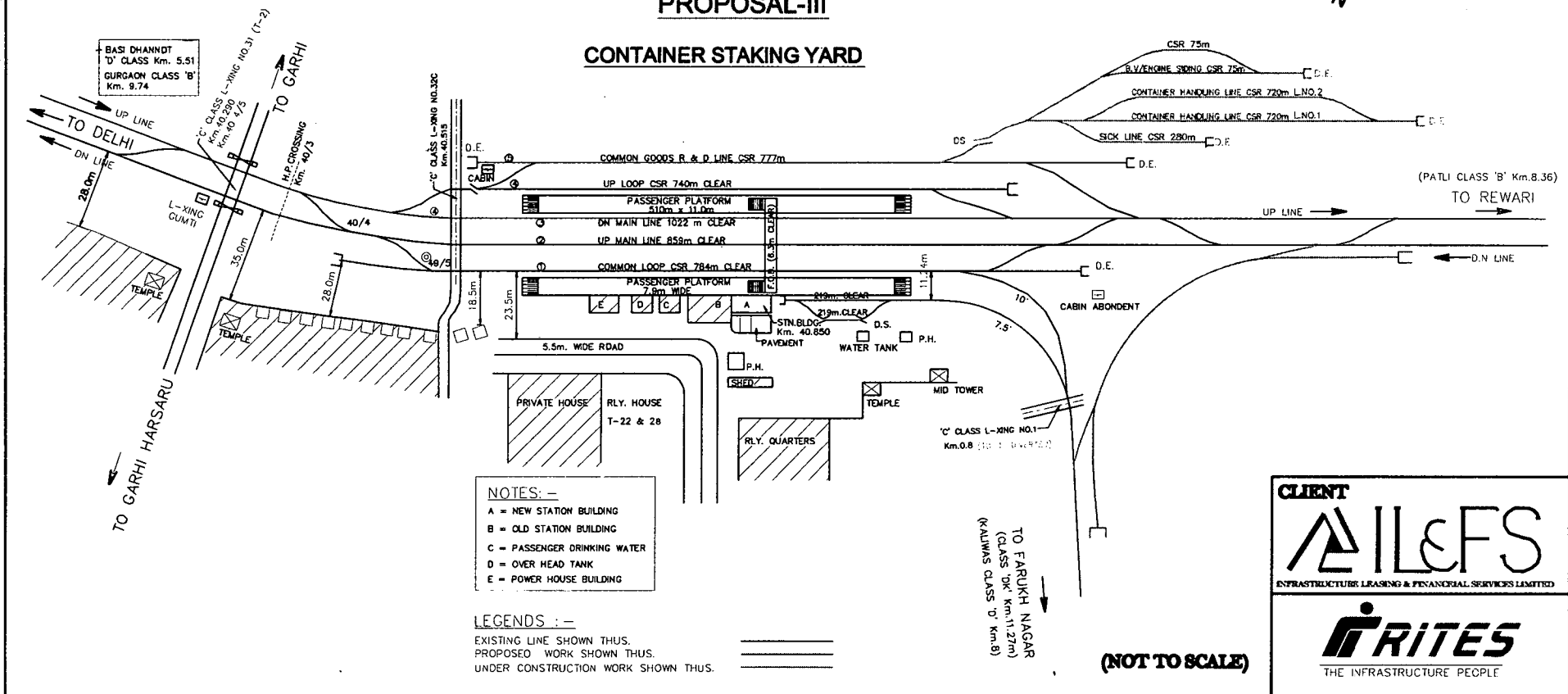
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SCHEMATIC DIAGRAM OF GARHI HARSARU STATION (Std-III) PROPOSAL-III



CONTAINER STAGING YARD



NOTES: -
 A = NEW STATION BUILDING
 B = OLD STATION BUILDING
 C = PASSENGER DRINKING WATER
 D = OVER HEAD TANK
 E = POWER HOUSE BUILDING

LEGENDS: -
 EXISTING LINE SHOWN THUS.
 PROPOSED WORK SHOWN THUS.
 UNDER CONSTRUCTION WORK SHOWN THUS.

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**Feasibility Study for
Railway Siding for Farukhnagar Logistics Park**

Final Draft Feasibility Report

**Chapter 5
Policy on Sidings and Regulatory Frame Work on IR**

Chapter 5

Policy on Sidings and Regulatory Frame Work on IR

5.1 BACKGROUND

The story of railway sidings is the story of freight traffic on Indian Railways because railway sidings play a pivotal role in the matter of freight handling to the extent of 90% of the total freight traffic of Indian Railways. Some of the railway sidings account for earnings of more than 100 crore of rupees per annum to the Indian Railways which goes to prove that the importance of railway sidings for the Indian Railways cannot be over-emphasized.

Freight traffic is normally dealt with at railway goods sheds or stations, where the requisite facilities for handling traffic such as sheds, covered platforms, storage godowns etc. have been provided. Industrial units and other major customers of railways may, however, like to have the facility of booking their outward traffic or receiving their inward traffic at their own premises with a view to avoiding movement of goods by road between the factory premises and the railway goods shed and saving heavy expenditure and double handing involved in such transportation by road. To enable the industrial establishments the factory or mill premises are connected with the railway yard by a railway line and such a rail connection is called a railway siding.

The concept of 'sidings' arose in Indian railways for the first time during the first World War when it became necessary to provide separate 'side lines' taking off from the main lines to deal with military traffic. The provision of sidings assumed further importance during the days of competition between private railway companies running the railways in British India. In order to attract traffic, each railway company offered its customers various incentives including the use of sidings.

5.2 TYPES OF SIDINGS

Over the years the railways developed five types of sidings for the use of prospective dispatchers/receivers of goods by rail. These were:

- Private sidings
- Assisted sidings
- Public or Railway sidings
- Military Sidings
- Departmental sidings.

Private Sidings are provided at the request of the party. The entire cost of sub-grade and super-grade work involved in the construction of the siding is borne by the party. Detailed Liberalized Siding Rules are described in the Railway Board Circular dated 31.3.2005 placed at **Annexure 5.1**. The salient features of the siding rules are as follows:

- i) The private railway siding shall normally take off from the existing serving stations. In case when it is operationally not feasible to provide a connection from the existing station or a siding owner requests for a mid-section connection, the entire cost of the new crossing station including staff quarters, loop lines, signaling, electrification, recurring cost towards maintenance and staff deployment for a period of 10 years will be borne by the siding owner (**Annexure 5.2**).
- ii) When the survey work is carried out by the empanelled Consultants, conceptual plan be approved by the concerned Railway within 2 months after submission of the report while the detailed plan should be approved in 4 month after their submission.
- iii) The entire cost of construction of the siding including electrification if required from the take off point to the plant including the rail terminal shall be borne by the siding owner.
- iv) The capital cost of all the traffic facilities such as 'Y' connection, additional lines at the serving station, crossing station, patch doubling of the section etc. shall be borne by the Railway. The distance for charge for each 'Y' connection will be inflated by 5 km.
- v) The maintenance of the siding shall be got done by the siding owner at his own cost, however, Railway will not charge inspection charges. The maintenance of over head electrification equipments will be carried out by the Railway on payment of charges as fixed the concerned Railway.
- vi) Cost of railway staff in private siding other than engine on load, barring the cost of one commercial staff per shift, Railway will bear the cost of all other railway staff (**Annexure 5.3**).
- vii) The container terminal will not be governed Engine-on-Load Scheme.

Assisted Sidings are being provided by railways for which capital assistance is extended by railways on certain conditions. The siding owner bears the capital cost of all sub-grade work, including formation, drainage, substructure of bridges etc, while railways bear the cost of all super-grade work.

Public Sidings or Railway sidings were provided by the railway at its own cost. These sidings could be used by any party. For placement and/or removal of wagons, siding charges were levied on "per wagon" basis in certain cases. Siding charges will normally include the element of maintenance charges also.

Military Sidings are provided to serve a military establishment, centre or a factory. These sidings are worked in terms of the memorandum signed by the concerned representative of Defence department and Divisional Railway Manager concerned.

Departmental Sidings are constructed by the railways for the exclusive use of railway department's viz. workshops, stores depots, wheel and axle plant, locomotive and coach factories, etc. Siding charges for departmental sidings are collected at the rates fixed by the Railway Board.

5.3 ADVANTAGES OF SIDINGS

With the growth of industry and agriculture and the setting up of big power houses, steel plants, cement factories, oil refineries etc. the demand for movement of large volume of raw material and finished goods by rail has increased in the country.

Large scale production entails movement of large volumes of raw materials and finished products from one place to another. It is neither economical nor convenient to transport the goods from the factory premises to the rail head for booking and loading or to take delivery of the inward goods at the rail head and transport the same by road to the factory. When the traffic is in train loads it is also more viable for the railways to deliver and lift the goods at the factory premises rather than handling them at the rail head. It is also safer to load and unload goods in the factory premises under the supervision of the owner. Direct booking of traffic from or to sidings also results in sizeable savings in transit time between the originating and destination stations. Keeping these three factors in view viz. convenience, economy and safety, both the factory owners and the railways have found it necessary to provide the facility of booking and receipt of goods at the factory premises. This has given rise to the increasing provision of separate railway sidings for various type of industries and plants etc. within their own premises.

5.4 REVIVAL OF ASSISTED SIDINGS

The policy of construction of sidings came in for review from time to time in view of lack of support from the railway freight service users. With increasing costs of construction it became more and more difficult to invest in sidings without this policy in force. With progressive liberalization of economic policies in the last two decades and growing competition from other modes of transport, it was only a matter of time before IR realized the need to liberalize the terms of construction for sidings. The breakthrough came in the Railway Budget 2005, when the Minister for Railways announced a liberalized policy by reviving the concept of assisted sidings, albeit with a different set of conditions than those existing prior to their abolition in 1986.

5.5 FEATURES OF PRESENT ASSISTED SIDINGS POLICY

Under this scheme, Indian Railways share the cost of the railway siding if the industry makes a long-term commitment of traffic for 10 years or more, commensurate with the investment of Railways as follows: (Para 6 of **Annexure 5.1**).

- Siding owners are required to bear the cost of land, earthwork, sub-structure of the track, ballast and the cost of buildings outside the premises of the siding owner.
- The cost of the removable super structure outside the premises of the siding owner, including track, sleepers, fastenings, girders of bridges, points & crossings, fencing, signaling and interlocking, machinery and overhead electric equipment shall be borne by the railways.
- Entire cost of the siding including for the super structure within the siding owner's premises shall be borne by the siding owner.
- In all other cases where commitment of traffic for 10 years or more is not forthcoming, the siding owner shall bear the full capital cost of the siding from the take off point at the serving station including OHE.

5.6 LATEST INSTRUCTIONS OF RAILWAY BOARD ON ASSISTED SIDING

In March 2006, Railway Board vide Freight Marketing Circular No 10 of 2006 issued vide no. 99/TC/FM/26/1 dated 13.3.2006 (**Annexure 5.4**) clarified certain issues arising out of these instructions and laid down the methodology of construction of new assisted sidings under the liberalized scheme and also the manner of outlay and expenditure by the siding owners.

Some of the main high lights of these instructions are given below:

1. The private entrepreneur will undertake construction of the siding entirely at his cost.
2. In repayment of investment made on behalf of railways, railways will give the siding owner a fixed freight discount at 10 %.
3. The approximate duration for which a freight discount of 10 % is required to be given will be worked out by railways based on the projected outward traffic volumes, OD flows, and commodity-wise freight charges per rake.
4. The duration during which this discount is to be given will depend on the time period of repayment of the expenditure incurred by the siding owner on behalf of railways.
5. The freight discount shall be admissible for a maximum period of 10 years only, irrespective of whether the investment made on behalf of railways are recovered or otherwise.

6. The duration of freight discount will be for less than 10 years in case the expenditure incurred is recovered in less time.
7. The freight discount will be admissible in addition to all other rebates that the siding owner may become eligible for such as, lean season policy, empty flow direction, incremental loading etc.
8. Discount will be automatically discontinued and normal freight charged once the siding owner has been repaid the entire amount spent, or 10 years whichever is earlier.

5.7 RECENT INITIATIVES IN REGULATORY FRAME WORK

A number of initiatives have been taken by IR in recent years to encourage participation of rail users and logistics operators in development of rail infrastructure and operations in the country. It is proposed to briefly discuss here the aspects of regulatory frame work applicable to the project under study.

5.7.1 Private Freight Terminal (PFT)

Ministry of Railways (Railway Board) have recently formulated a policy on Private Freight Terminal (PFT) for rapid development of freight handling capacities at terminals with participation of private sector, and to divert high rated finished traffic predominantly moving by road to rail by offering integrated, efficient and cost effective logistics and warehousing solutions to users.

PFTs are to be set up on private land and are permitted to book and handle all traffic excluding outward coal, coke and iron ore traffic. Railway land required for rail connectivity will be offered as per the extant rules.

The existing terminals set up exclusively for container traffic can also be converted into PFTs. Existing private sidings can also be permitted to convert to PFTs.

The facilities proposed in the terminal shall be in accordance with Engine on Load (EOL) concept and the terminal shall work round the clock. The crew and guard rest room are also to be provided by Terminal Management Company (TMC).

The applicants of the Greenfield projects are required to deposit a fee of Rs.1.0 crore at the time of making an application to the Railway. In addition, a security deposit of Rs.1.0 crore is also collected by the Railway at the time of granting approval to the PFT to ensure timely completion of the project. On successful completion of the project in the stipulated timeframe, 99% of the security deposit is refunded to the TMC.

Revenue generated by PFTs will be shared between the TMC and Railway equally. Sharing of revenue between TMC & Railway will start after full five years of commissioning of the Greenfield PFT and two years after commissioning in case of Brownfield PFTs, excluding the financial year of commissioning.

For better appreciation of the PFT scheme a copy of the Circular No.14 of 2010 is placed at **Annexure 5.5**.

As per the existing instructions of Ministry of Railways, Private Freight Terminal Scheme is not meant for operation of container trains, which are to be governed by the Indian Railways (permission for operation to move container train on Indian Railways) Rules 2006. Provisions of these rules are being discussed in the following sections.

5.7.2 Private Container Train Operations

The Railway Board, Ministry of Railways, permits any person individual or a joint venture or a company, registered under Companies Act 1956 to obtain permission to operate container trains on IR network with their own rolling stock (container flats), including brakevans, for transportation of container traffic and shall have suitable access to their own rail linked Inland Container Depot with adequate handling facilities or to share facilities available with other operators after approval from Ministry of Railways. The Private Container Train Operators (PCO) are required to pay prescribed non refundable registration fee for the routes on which it is intended to operate such trains for a period of 20 years extendable for further period of 10 years. A copy of the Gazette Notification by Ministry of Railways vide GSR.593 (E) dated 26.9.2006, titled the **Indian Railways (permission for operators to move container trains on Indian Railways) Rules, 2006** outlining details of the scheme is at **Annexure 5.6**.

To regulate the entry of rail container operators on IR network, various routes on IR have been grouped into four categories as under:

- i) **Category I** – includes all existing or future Inland Container Depots serving J.N.Port or Mumbai Port in National Capital Region like Tughlakabad, Dadri, Gurgaon and shall also include all destinations reached via National Capital Region like Dhandari Kalan, Moradabad along with all domestic traffic.
- ii) **Category II** – includes all existing or future Inland Container Depots serving J.N.Port or Mumbai Port at locations other than those covered in Category-I along with all domestic traffic except on traffic routes mentioned in Category-I.
- iii) **Category III** – includes all existing or future Inland Container Depots serving the ports of Pipavav, Mundra, Chennai, Ennore, Vizag and Kochi and their hinterlands along with all domestic traffic except on traffic routes mentioned in Category-I.

- iv) **Category IV** – includes the ports like Kandla, New Mangalore, Tuticorin, Haldia, Kolkata, Paradip and Mormugao and their hinterland along with all domestic traffic except on traffic routes mentioned in Category-I.

The Consultants have examined the applicability of the above Rules to the project under study. Two options are open to the developer under this scheme:

- a) The developer of the terminal may apply for registration under these Rules for operating container trains from and to the terminal under any category discussed above. Every applicant is required to deposit a non-refundable fee of Rs. 50.0 crores for all categories of routes including Category-I and Rs.10.0 crores for each individual category of routes except Category-I.
- b) Another option is available to the developer to operate the terminal without paying registration fee upfront otherwise required to be paid by a PCO. This can be done by entering into MOUs with one or more already licensed PCOs to operate container trains from the planned terminal on the lines permitted by IR at Loni and Asaoti terminals in Delhi Division of Northern Railway in whose jurisdiction the project under study would also be located.

Although Loni terminal, started initially as a private siding of CWC in 1986, it was converted into Container Terminal to handle container trains of CWC, after it registered with IR as a PCO. Later on permission was granted by IR for use of terminal by other PCOs after they signed MOUs with CWC and obtained approval of IR. Another container terminal at Asaoti station of Northern Railway is understood to be operational where the terminal handles container trains of a number of other PCOs with approval from Railway Board. The developer (RHSL/ILFS) of the subject terminal under study at Farukhnagar MMLP can avail of the Indian Railways (provision for operators to move container trains on Indian Railways) Rules, 2006 and permit use of the terminal infrastructure by the PCOs already registered with IR after signing MOUs with them and obtaining requisite permission from IR.

5.7.3 In view of the foregoing, the Consultants feel that the present regulatory framework on IR permits a Private Container Terminal to be developed and operated within the provisions of Indian Railways' (permission for operators to move container trains on Indian Railways) Rules 2006, which can be availed of by the developer (RHSL/IL&FS) after registering as Private Container Train Operator or signing a MOU with one or more existing PCOs and obtaining requisite approval of Ministry of Railways, Railway Board, New Delhi.

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

रेल भवन, नई दिल्ली - 110 001, तिथि

Rail Bhavan, New Delhi - 110 001, dated 31.03.2005

No. 99/TC(FM)/26/1

The General Manager,

- | | |
|--|---|
| 1. Central Railway, Mumbai. | 9. North Western Railway, Jaipur. |
| 2. Eastern Railway, Kolkata. | 10. Southern Railway, Chennai. |
| 3. East Central Railway, Hajipur. | 11. South Central Railway, Secunderabad. |
| 4. East Coast Railway, Bhubaneswar. | 12. South Eastern Railway, Kolkata. |
| 5. Northern Railway, New Delhi. | 13. South East Central Railway, Bilaspur. |
| 6. North Central Railway, Allahabad. | 14. South Western Railway, Hubli. |
| 7. North Eastern Railway, Gorakhpur. | 15. Western Railway, Mumbai. |
| 8. Northeast Frontier Railway, Maligaon. | 16. West Central Railway, Jabalpur. |

Sub. : Liberalization of Siding Rules.

The various rules/procedures relating to setting up and functioning of sidings were last revised by Board vide letter No.99/TC(FM)/26/1 dated 29.9.2000. Pursuant to Hon'ble Minister for Railways' Budget pronouncement 2005-06, it has been decided to further liberalize the siding rules. In this context, in supercession of Board's letter of even no. dated 29.9.2000, revised guidelines with modifications in some of the existing provisions are given below :

- 2.1 Nodal Agency : In order to provide a 'Single Window' service to customers, Board has decided that Chief Traffic Planning Manager (CTPM) at the zonal level should be nominated as the Nodal Officer for all siding matters throughout the construction stage and signing of the agreement. As soon as the siding is notified for commissioning, CCM(FM) will take over as the nodal officer. In the absence of post of CTPM and CCM(FM), Dy. COM(Plg.) and Dy. CCM(FM) will be nominated as the nodal officer.

In Board's office, EDCE(G) will be the nodal officer during construction stage. Executive Director (Freight Marketing) would be the

nodal officer both prior to construction and also after the siding is notified for commercial operation.

2.2 Time Frame : Complaints have been received from users that the whole process of survey, approval of plan and final inspection etc. takes a lot of time. It has been decided that Railways should observe a time frame for processing proposals as follows:

- (i) Six months to one year depending on the size of the project, where survey is done by the Railway and work is executed under Railway's supervision.
- (ii) When survey is done by empanelled consultants and work is supervised by them, conceptual Plan should be approved within two months and final approval within four months of submission of detailed project report.

2.3 Reduction in Overhead Charges : there have been representations from users that various fees and charges payable by a party wanting to set up a siding are quite high and may be reduced. Based on a critical review of these charges by ED's Committee, following charges has been agreed to:

	Execution Agency	Item	Existing charges
1.	Railway	Gen. Charges	10%
	Party	Gen. Charges	5%
2.	Railway	Deptt. Charges	5%
	Party	Deptt. Charges	2.5%
3.	Railway	Contingency	1%
	Party	Contingency	1%
4.	Railway	Supervision of OHE and S&T	5%

3. Capital Cost :

3.1 The siding owner shall bear the capital cost of the siding from the take-off point at the serving station including OHE.

3.2 The capital cost of all traffic facilities such as 'Y' connection, additional lines at the serving station, crossing stations, patch doubling of the section etc. shall be fully borne by the railways. The distance for charging of tariff, for each 'Y' connection shall, however be inflated/increased by 5 (five) kilometers. However, the capital cost for augmenting the facilities, within the premises of siding owner shall be borne by the siding owner.

3.3 Cost of Gauge Conversion : Siding owners have been representing that gauge conversion is railways operational requirement and, therefore, its cost should be borne by the Railways. The matter has been considered and it has been decided that this cost should be shared with the party in terms of paras 1822-1826 of the Engineering Code, provided the investment made by the Railways is financially viable with a minimum ROR of 14% vis-à-vis traffic offered by the siding in the last 24 months. Where it is not financially justified, the siding owners will bear the full cost or the siding will be closed.

4. Guidelines for cost sharing for new as well as old sidings: Some other decisions taken by the Board are indicated below separately for new as well as existing sidings:-

4.1 Electrification cost :

New Sidings:	Existing Sidings:
For a new siding in the electrified territory or the territory approved for electrification, the capital cost of OHE should be borne by the siding owner. This will also apply to the Military sidings.	It has also been decided to electrify diesel sidings located on electrified sections at Railways' cost, where heavy detentions occur and a prescribed number of rakes are handled per month. Detailed guidelines in this regard are being formulated and will be issued separately.

4.2 Maintenance cost (Civil Engg.) :

New sidings	Existing Sidings
Maintenance shall be got done by the party at his own cost. However, it has been decided that railways would not charge "Inspection charges"	The existing practice of siding owners getting the maintenance done at their own cost shall continue. However, it has been decided that railways would not charge "Inspection charges". Wherever track maintenance is being done by railways at the cost of siding owner, the party will continue to bear this cost.

4.3 Maintenance of OHE(Both new & existing siding) :

It has been decided that OHE maintenance cost for existing as well as new sidings will be borne by the Railways. Necessary amendment in the existing instructions as well as correction to para 1826-E will be issued separately.

4.4 C&W Examination :

New Sidings	Existing Sidings
<p>Normally no C&W facility should be developed inside the plant/yard. However, in exceptional cases, if on operational ground it becomes necessary to develop the facility inside the siding then capital cost on one time basis may be borne by the party. Running repairs and staff cost in all cases should, however, be borne by the Railway.</p> <p>Only in case of POL and other hazardous materials, some facilities exclusive to those commodities such as permanent catwalks, steam cleaning and flame proof lighting may be developed at party's cost in the Railway yard.</p>	<p>As per existing instructions regular facilities for C&W examination should be planned only if the level of loading/ unloading is expected to be 2 or more rakes per day. The apportionment of the cost should be done as per Board's letter No. 84/WI/SP/24 dated 28.1.85 except for sidings dealing in POL and other hazardous goods. In case of sidings other than POL, C&W cost is to be borne by the Railways as per above-mentioned letter. (Copy enclosed)</p>

4.5 Cost of Railway Staff :

In all private sidings other than Engine on Load only, barring the cost of one commercial staff per shift, Railways will bear the cost of all other Railway staff. The cost of all staff at engine on Load (EOL) sidings will be borne by the Railways.

5. Engine on load (EOL) Policy :

Instructions regarding EOL system have been issued vide Board's letter No. TC-I/94/ 214/9/Vol.-II. Dated 18.3.2005.

6. Revival of Assisted Sidings :

- (A) It has been decided to revive the concept of Assisted Sidings. Under this concept Railways shall share the cost of a new railway siding if the industry comes up with a long-term commitment of traffic for 10 years or more, commensurate with the investment of Railways. Detailed instructions in this regard are being issued separately.

- (i) Under this arrangement, Siding owners will be required to bear the cost of the land, earthwork, sub structure of the track, ballast, buildings outside the premises of the siding owner.
- (ii) The cost of the removable super structure including track, sleepers, fastenings girders of bridges, points & crossings, fencing, signaling and interlocking appliances, machineries of any kind and the overhead electric equipment shall be borne by the railways, outside the premises of the siding owner.
- (iii) Entire cost of the siding within the applicant's (siding owner) premises shall be borne by the siding owner.
- (B) However, in all other cases (where commitment of traffic for 10 years or more is not forthcoming), the siding owner shall bear the capital cost of the siding from the take off point at the serving station including OHE, in terms of para 3.1 and 4.1 (New Sidings).
7. The Standard Siding Agreement is being modified accordingly and will be issued separately.
8. These instructions issue with the concurrence of, Mechanical, Civil Engineering, Electrical and Finance Directorates of this Ministry.

Please acknowledge receipt.

(Ms. S. R. Sett)
Joint Director/Freight Mktg.

New Delhi, dated 31.3.2005

No. 2005/TC(FM)/26/1

Copy forwarded to :

1. DAI (Railways) with 36 spares.
2. FA&CAOs, All Indian Railways.

(Dhruv Singh)
for Financial Commissioner/Railways

New Delhi, dated 31.3.2005

No. 2002/TC(FM)/26/1

Copy forwarded for information and necessary action to :

7. Chief Commercial Managers, All Indian Railways.
8. Chief Commercial Managers(FM), All Indian Railways.
9. The Managing Director, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400014.
10. The Chief Commercial Manager, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No. 6, Sector 11, CBD Belapur, Navi Mumbai-400014.
11. The General Manager, Centre for Railway Information System (CRIS), Chanakyapuri, Near National Rail Museum, New Delhi.
12. AM(Traffic), AM(C), AM(CE), AM(Elec.), AM(Mech), Adv. (F), Adv. (Vig), EDPM, EDPG, EDTC(R), EDV(T), EDF(C&RM), EDCE(G), EDME/Fgt., ED/RE, DF(C)/ Railway Board for kind information.

(Ms. S. R. Sett)
Joint Director/Freight Mktg.

FREIGHT MARKETING CIRCULAR NO. 1 OF 2009

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

No. 99/TC(FM)/26/1

New Delhi, dated 14.01.2009

The General Managers,
All Indian Railways.

**Sub: Liberalization of Siding Rules - Amendment.
Ref: Board's letters No. 99/TC(FM)/26/1 dated 31.03.2005.**

Please refer to para 3 of the Board's letter No. 99/TC(FM)/26/1 dated 31.03.2005 regarding capital cost of private sidings and related facilities.

It has been decided by the Board that if a new crossing station has to be constructed for providing connectivity to a siding, the cost of the same shall be fully borne by the siding owner. Accordingly, it has been decided to insert a new subpara as 3.3 under para 3 of Board's letter No. 99/TC(FM)/26/1 dated 31.03.2005.

- “3.3 Sidings should normally take off from the existing serving stations. However, in case when it is operationally not feasible to provide a connection from an existing serving station or a siding owner requests for a connection from a location between two existing stations at his own cost then a proposal for provision of a new block station may be considered provided;**
- i) All aspects including the operational feasibility of constructing a new crossing station with desired number of loops and impact of splitting of block section on train operations has been examined to the satisfaction of the zonal railways.**
 - ii) The entire capital cost of the new crossing station including staff quarters, loop lines, signaling, electrification and other infrastructure shall be borne by the siding owner.**
 - iii) The siding owner will also pay a lump sum amount which would be equal to recurring cost towards maintenance and staff deployment**

for a period of 10 years on the basis of initial deployment of staff at the station. Such payment shall be made before the commissioning of siding.

- iv) The siding taking off from such a crossing station shall be constructed as private sidings only.

As a consequence of the above, the existing sub para 3.3 may be renumbered as sub para 3.4.

These instructions issue with the approval of the Board (MT, ME, FC and CRB).

These instructions will come into force with immediate effect.

Please acknowledge receipt.

(Sanjay Goel)
Director Freight Marketing

No. 99/TC(FM)/26/1
14.01.2009

New Delhi, dated

Copy forwarded to:

1. DAI (Railways) with 36 spares.
2. FA& CAOs , All Indian Railways.

for Financial Commissioner/Railways

No. 99/TC(FM)/26/1
14.01.2009

New Delhi, dated

Copy forwarded for information and necessary action to:

1. The Chief Operations Manager, All Indian Railways.
2. The Chief Commercial Manager, All Indian Railways.
3. The Chief Transport Planning Manager, All Indian Railways.
4. The Chief Freight Traffic Manager, All Indian Railways.
5. The Chief Commercial Manager (FM), All Indian Railway.
6. The Managing Director/ Chief Commercial Manager, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400014.
7. The General Manager, CRIS, Chanakyapuri, Near National Rail Museum, NewDelhi.
8. AM(T), AM(C), Adv.(F), Adv. (Vig.), Adv.(Rates), EDCE(G), EDPG, EDV(T), EDF(C), DF(C) / Railway Board for kind information.

(Sanjay Goel)
Director Freight Marketing

FREIGHT MARKETING CIRCULAR NO. 15 of 2008

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

No. 2007/TC(FM)/18/14

रेल भवन, नई दिल्ली - 110 001, तिथि
Rail Bhavan, New Delhi - 110 001, dated **03.11.2008**

The General Managers,

- | | |
|---------------------------------------|---------------------------------------|
| 1. Central Railway, Mumbai (CSTM). | 2. Eastern Railway, Kolkata. |
| 3. East Central Railway, Hazipur. | 4. East Coast Railway, Bhubaneswar |
| 5. Northern Railway, New Delhi. | 6. North Central Rly., Allahabad. |
| 7. North Eastern Railway, Gorakhpur. | 8. Northeast Frontier Rly., Maligaon, |
| 9. North Western Railway, Jaipur. | 10. Southern Railway, Chennai. |
| 11. South Central Rly., Secunderabad. | 12. South Eastern Railway, Kolkata. |
| 13. South East Central Rly, Bilaspur. | 14. South Western Railway/Hubli. |
| 15. Western Railway, Mumbai, | 16. West Central Rly., Jabalpur. |

Sub: Liberalization of Siding Rules 2005- clarification regarding cost of railway staff deployed at assisted siding.

One of the zonal railways have sought clarification regarding bearing the cost of railway staff in case of assisted sidings.

Para 4.5 of Board's letter No. 99/TCFM)/26/1 dated 31.03.2005 - Liberalization of Siding Rules stipulates " In all private sidings other than Engine on Load only, barring the cost of one commercial staff per shift, Railways will bear the cost of all other Railway staff. The cost of all staff at Engine on Load (EOL) sidings will be borne by the Railways."

It is clarified that the provisions regarding bearing of the cost of railway staff posted at sidings as per para 4.5 of Board's letter No. 99/TC(FM)/26/1 dated 31.03.2005 is equally applicable to both private sidings as well as assisted sidings.

This issues with the concurrence of Finance and Civil Engineering Directorates of Ministry of Railways.

Please acknowledge receipt.

(Sanjay Goel)
Director Freight Marketing

No. 2007/TC(FM)/18/14

New Delhi, dated **03.11.2008**

Copy forwarded to:

1. DAI (Railways) with 36 spares.
2. FA& CAOs , All Indian Railways.

for Financial Commissioner/Railways

FREIGHT MARKETING CIRCULAR NO. 10 OF 2006

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

No. 99/TC(FM)/26/1
13.03.2006

रेल भवन, नई दिल्ली – 110 001, तिथि
Rail Bhavan, New Delhi – 110 001, dated

The General Manager,

- | | |
|--|---|
| 1. Central Railway, Mumbai. | 9. North Western Railway, Jaipur. |
| 2. Eastern Railway, Kolkata. | 10. Southern Railway, Chennai. |
| 3. East Central Railway, Hajipur. | 11. South Central Railway, Secunderabad. |
| 4. East Coast Railway, Bhubaneswar. | 12. South Eastern Railway, Kolkata. |
| 5. Northern Railway, New Delhi. | 13. South East Central Railway, Bilaspur. |
| 6. North Central Railway, Allahabad. | 14. South Western Railway, Hubli. |
| 7. North Eastern Railway, Gorakhpur. | 15. Western Railway, Mumbai. |
| 8. Northeast Frontier Railway, Maligaon. | 16. West Central Railway, Jabalpur. |

Sub: Liberalization of Siding Rules.

Ref: Board's letter No. 99C/TC(FM)/26/1 dated 31.03.2005.

Attention is invited to para 6 of the above circular letter regarding revival of the concept of assisted sidings. Zonal Railways, private industries and RITES have sought further clarification as regard to long term commitment of traffic and procedure for railway funding for construction of assisted sidings. The detailed guidelines in this connection have been formulated which are enclosed herewith. These will be subject to overall principles of cost sharing as mentioned in para 6 (A) & (B) of the circular referred to above.

Terminal Incentive cum Engine on Load Scheme (TIELS) which has been notified recently is meant for existing sidings only and provisions of TIELS will not be applicable to beneficiaries of new private siding owners who avail of cost sharing as stipulated in the enclosed guidelines.

Follow up action and feed back may please be sent to Board's office.

This issues with the concurrence of Finance Directorate of Ministry of Railways.

Please acknowledge receipt.

D.A. as above.

(Miss. S.R. Sett)
Joint Director freight Marketing

...2/-

**No. 99/TC(FM)/26/1
13.03.2006**

New Delhi, dated

Copy forwarded to:

1. DAI (Railways) with 36 spares.
2. FA& CAOs , All Indian Railways.

for Financial Commissioner/Railways

**No. 99/TC(FM)/26/1
.03.2006**

New Delhi, dated 13

Copy forwarded for information and necessary action to:

1. The Chief Operations Manager, All Indian Railways.
2. The Chief Commercial Manager, All Indian Railways.
3. The Chief Transport Planning Manager, All Indian Railways.
4. The Chief Freight Traffic Manager, All Indian Railways.
5. The Chief Commercial Manager (FM), All Indian Railway.
6. The Managing Director/ Chief Commercial Manager, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400014.
7. The General Manager, CRIS, Chanakyapuri, Near National Rail Museum, New Delhi.
8. AM(T), AM(C), Adv.(F), Adv. (Vig.), EDPM, EDPG, EDTC(R), EDV(T), EDF(C&RM), DF(C)/ Railway Board for kind information.

**(Miss. S.R. Sett)
Joint Director freight Marketing**

Revised Liberalized Siding Policy is as under :

1. The capital cost of all traffic facility works such as 'Y' connection, yard remodeling, additional lines at the serving station, crossing stations, patch doubling of the section etc. shall be fully borne by the railway.
2. Regarding expenditure to be incurred on account of construction of the new siding, the private entrepreneur shall get detailed estimate of his siding vetted by the division concerned. The detailed estimate will include a break up of his share as also railway's share of the total expenditure. The detailed estimate of railway's share will be according to the standardized cost of superstructure per km. of track as issued by Civil Engineering department. Separate cost will be laid down for steel girders and PSC girders in case of bridges.
3. No supervision, inspection or establishment charges will be payable by the siding owner for the above work, since in that case the expenditure incurred for these aspects would have to be paid back to him by railways.
4. The detailed estimate will be approved by the DRM keeping the GM duly informed. Thereafter, the private entrepreneur will undertake construction of the siding entirely at his cost.
5. After completion of the siding, the actual expenditure incurred by the siding owner on behalf of railways will be verified by the division. This verification will be based on the certified audited accounts of the siding owner. Railways will bear the actual cost incurred on the constructions if it is found to be less than the estimated cost otherwise the estimated cost will be borne by railways.
6. Meanwhile, division will analyze the projected outward traffic volumes estimated to emanate annually from the siding after commissioning. This analysis will be based on the traffic volumes projected by the siding owner in his application for Rail Transport Clearance (RTC) clearance submitted to Planning Directorate of Railway Board.
7. Based on the projected outward traffic volumes, OD flows, and commodity-wise freight charges per rake, division will work out the approximate duration for which a freight discount of 10% is required to be given.
8. The freight discount will remain fixed at 10%.
9. The duration during which this discount is to be given will depend on the time period of repayment of the expenditure incurred by the siding owner on behalf of railways. However, such discount shall be admissible for a maximum period of 10 years only, irrespective of whether the investment made on behalf of railways are recovered or not. The duration of freight discount will

be for less than 10 years in case the expenditure incurred is recovered in less time.

10. The above freight discount is actually a repayment of investment made on behalf of railways, and is not really a freight rebate in the strictest sense of the term. As such this freight discount will be admissible in addition to all other rebates that the siding owner may become eligible for such as lean season policy, empty flow direction, incremental loading etc.
11. Once the approximate duration of discount for a new siding has been worked out and approved by the division, this discount will be admissible on outward traffic booked from the siding.
12. All outward traffic loaded from the siding will be 'paid' traffic.
13. For outward traffic originating from new sidings this discount will be given up front in freight charges at the time of booking.

The Goods Clerk will maintain a separate register containing details of all outward traffic moved along with discount given, and the balance amount of repayment due to the siding owner. TIA and sectional CMI will conduct post checks regarding this account keeping on a quarterly basis.

14. Discount will be automatically discontinued and normal freight charged once the siding owner has been repaid the entire amount spent, or 10 years whichever is earlier.
15. Liberalized Siding Policy will be applicable for :
 - (i) New siding of a new plant being set up.
 - (ii) New siding of an existing plant that was earlier getting their inward & outward traffic dealt with at a near by railway goods shed. However, since the traffic being offered is not altogether new the discount will be given only for incremental outward traffic that is handled at the new siding over and above what was earlier being dealt with at railway's goods shed during the previous year. The incremental traffic mentioned above will be calculated in terms of money value of freight paid during the previous year after indexing for increase in freight charges, if any.

This discount will be given up front in freight charges at the time of booking. The goods clerk will maintain details of all such outward traffic along with discount given in a separate register as mentioned in Para 13 above.

16. Liberalized Siding Policy will be applicable to all sidings which are commissioned after 1.4.2005. This should apply to both categories falling under 15 (i) and (ii) above.
17. Siding owner will provide all facilities for provision of FOIS terminal in the siding.

18. Apart from the above aspect of sharing of cost for such sidings, all other rules pertaining to private sidings will apply with respect to maintenance charges, engine hire charges, demurrage rules etc.
19. Division will sign an Agreement with the siding owners stipulating details of removable super structure whose expenditure has been charged to railway and which railways will remove and take away in case of closure of siding for any reason whatsoever.

The Agreement will also stipulate commodity-wise projected level of outward traffic, duration of freight discount etc. The format of the Agreement will be circulated by Railway Board.



FREIGHT MARKETING CIRCULAR NO. 14 OF 2010

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

No. 2008/TC(FM)/14/2

New Delhi Dt. 31.05.2010

General Managers,
All Indian Railways.

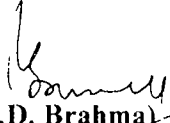
SUB : PRIVATE FREIGHT TERMINAL (PFT).

Ministry of Railways has formulated policy on "PRIVATE FREIGHT TERMINAL (PFT)". The details of the scheme are enclosed herewith. This scheme will come into force with immediate effect.

This issues with the concurrence of Finance Directorate of Ministry of Railways.

The receipt of this letter may please be acknowledged.

DA : As above.


(G.D. Brahma)
Exe. Director Freight Marketing

No. 2008/TC(FM)/14/2

New Delhi Dt. 31.05.2010

Copy to :

1. FA&CAO. All Indian Railways.
2. DAI (Railways) with 36 spares.


for Financial Commissioner/Railways.

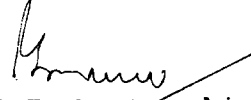
No. 2008/TC(FM)/14/2

New Delhi Dt. 31.05.2010

Copy forwarded for information and necessary action to:

1. Chief Operations Managers, All Indian Railways
2. Chief Commercial Managers, All Indian Railways
3. Chief Mechanical Engineers, All Indian Railways
4. Director General, RDSO, Manak Nagar, Lucknow.
5. Director General, Railway Staff College, Vadodara.

6. Director, Indian Railways Institute of Transport Management (IRITM), Manak Nagar, Lucknow.
7. Managing Director, Konkan Railway Corporation, Belapur Bhavan, Plot No. 6, Sector-11, CBD Bclapur, Navi Mumbai – 400014.
8. Managing Director, DFCCIL, Pragiti Maidan, New Delhi.



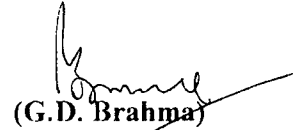
(G.D. Brahma)
Exe. Director Freight Marketing

No. 2008/TC(FM)/14/2

New Delhi Dt. 31.05.2010

Copy for information to:

1. CRB, FC, MT, ME, MM, MS, ML and Secretary Railway Board, New Delhi.
2. AM(T), AM(C), Adv.(Rates), Adv.(F), Adv.(Inf.), Adv.(Vig.), EDTT(M), EDTT(S), EDTT(F), ED(PLG.), EDT(PPP), EDF(C), EDV(T), DTT(Cord.), OSD(CRB), OSD(MT) and JDTC(R)/Railway Board.



(G.D. Brahma)
Exe. Director Freight Marketing

DEVELOPMENT OF PRIVATE FREIGHT TERMINAL (PFT)

1.0 OBJECTIVE

- 1.1 The objective of the policy is to -
- i) Enable rapid development of net work of freight handling terminals with the participation of Private Sector.
 - ii) Enhance the presence and share of railways in the overall transport chain.
 - iii) Divert high rated finished traffic so far predominantly moving by road to rail and attain increased rail freight volumes by offering integrated, efficient and cost effective logistics and warehousing solutions to users.
- 1.2 This policy seeks to supplement the in-house programme of MOR by opening the area of terminal development with participation of major logistics service providers to create world-class logistics facilities.

2.0 DEFINITIONS

In this policy, unless the context otherwise requires -

- 2.1 "Act" means the Railways Act 1989.
- 2.2 "Brownfield" means a terminal commissioned by the conversion of an existing siding/terminal etc. on private land, to PFT.
- 2.3 "Commercial and Operating rules" means the prevailing rules and their amendments issued from time to time as per the Commercial and Operating Manual, Tariffs, Schedule, Code and Instruction issued by Railways or Railway Board.
- 2.4 "Greenfield" means a new PFT commissioned on private land, under the provisions of this policy.
- 2.5 "IR" means Indian Railways.
- 2.6 "MOR" means Railway Board, Ministry of Railways.
- 2.7 "Logistics Service Provider" means a company engaged in business of providing any one or more services, which include rail/road/sea/air transportation, air cargo, cargo consolidation, ware housing, Inland Container



depot, cold chain services, port terminal services. Third Party logistics or Fourth party logistics.

2.8 "PFT" means Private Freight Terminal developed by private party on private land, to handle freight traffic moved by train in accordance to this policy.

2.9 "TMC" means Terminal Management Company, who is the owner of PFT.

3.0 THE SCOPE

3.1 Unless otherwise specified by IR from time to time by suitable notification or any other means of communication, a PFT under this policy would be permitted to book and handle all traffic excluding outward coal, coke and iron ore traffic.

3.2 PFTs shall be set up only on private land. However, for rail connectivity railway land can be offered as per extant rule.

3.3 Unless otherwise specified by IR from time to time by suitable notification or any other means of communication, all types of wagons permitted to run on IR network shall have access to the PFTs.

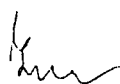
3.4 The policy will be applicable on Indian Railways excluding Railway infrastructure created/to be created on non Indian Railway line like Port Railway Lines, DFC etc.

3.5 Depending upon demand and business plan. PFTs would provide various logistics related services like warehousing facilities, value addition services like palletization, labeling , processing of goods with adequate inter modal facility and convenience centre etc.

3.6 Setting up of a terminal exclusively for container traffic by Private Container Train Operators (PCO) will be governed by the Concession Agreement signed between PCO and Railways. However, if container terminal is converted to a PFT it will be governed by this policy.

3.7 Private sidings/terminals set up on private land on IR network can also apply for becoming a Brownfield PFT and shall be governed under this policy.

3.8 Private sidings/terminals set up on private land on IR network and where third party cargo has already been permitted (on co-user basis or otherwise), shall



also have to apply for becoming a Brownfield PFT and shall be governed under this policy.

4.0 FACILITIES TO BE DEVELOPED

The facilities required to be developed at the PFTs shall include the followings -

- 4.1 The PFT developed by TMC shall function round the clock on all days including Sundays.
- 4.2 The facilities to be developed for handling traffic shall be in accordance with EOL concept adhering to the free time prescribed for EOL.
- 4.3 Depending upon cargo proposed for handling, adequate rail infrastructure capable for handling full rake in one hook with direct reception & dispatch facilities and equipped with appropriate handling arrangements, warehousing, stacking area circulating area have to be provided.
- 4.4 The minimum facility required to be developed in a PFT will be broadly based on the following norms -
 - (a) For handling minimum 2 rakes per day, PFT should have one handling (loading/unloading) line, one engine escape line and one brake van reversal line.
 - (b) The number of handling (loading/unloading) lines shall increase in proportion to the number of rakes proposed to be handled in a PFT for eg. if four rakes are to be handled per day there should be 2 handling (loading/unloading) lines along with one engine escape line and one brake van reversal line.
- 4.5 Depending upon the traffic proposed, appropriate handling equipment shall be provided.
- 4.6 The terminal will be equipped with appropriate infrastructure and handling equipment to handle inter-modal transfers such as external and internal roads, parking space, circulating area, public convenience center etc.
- 4.7 Rest room, for crew and guard will have to be provided by the TMC at PFT at its own cost.

- 4.8 TMC will also permit the train crew to avail the facilities of staff canteen in their premises if available, on payment of charges as prescribed for their own staff.
- 4.9 TMC shall also provide an in-motion weigh bridge as per extant rules at the entry point of the PFT in such a manner so that all incoming and outgoing rakes can be weighed.
- 4.10 FOIS and TMS with limited access as prescribed by IR shall be installed at the PFT and all costs related to FOIS/TMS will be borne by the TMC in accordance with the rules applicable for a private siding.
- 4.11 All freight/haulage charge will be paid by the consignor/consignee to railways at the time of preparation of RR through E-Payment system. Under charges, if any, shall also be borne by the consignor/consignee.

5.0 APPLICATION FEE

- 5.1 In case of 'Greenfield' projects the applicant will have to deposit Rs. 1 crore as application fee at the time of making an application to Railway for PFT.
- 5.2 In case the approval is not given for whatsoever reason, 99% of the same will be refunded after completion of screening of applications; and within one month of refusal.
- 5.3 In case approval is granted, the application fee will be retained by the Railways.

6.0 SECURITY DEPOSIT

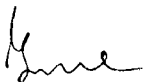
- 6.1 In order to ensure timely completion of the PFT within the stipulated time frame, a security deposit of Rs. 1 crore will be collected at the time of granting of approval to the PFT.
- 6.2 On successful completion of the PFT, within the stipulated time frame, 99% of this Security Deposit would be refunded back. Otherwise the entire amount would be forfeited along with cancellation of the approval given, if not extended in accordance with para 8.15 of this policy.



7.0 REVENUE SHARING

There will be revenue sharing between the TMC and railways for all commodities as follows -

- 7.1. For 'Greenfield Projects', revenue sharing will start after 5 full years of commissioning of the PFT (excluding the financial year of commissioning).
- 7.2. For 'Brownfield Projects', revenue sharing will start after two full years of commissioning of the PFT (excluding the financial year of commissioning).
- 7.3. After notification of the PFT scheme, revenue sharing up to the 5th years (from the year of issuance of the scheme) will be at 50% of the then prevailing rate of terminal charge leviable at railway goods sheds or Rs. 10/- per ton whichever is higher.
- 7.4. From the 6th year onwards, revenue sharing will be annually increased by indexing it to 90% in the WPI increase which is the inflation figure in %age as published by Government of India. The revised rate of revenue sharing will be notified annually by Railway Board. For example, if the inflation for the year 2008 – 09 has been 8%, then the rate of revenue sharing for the year 2010 – 11 will be increased by 7.2% over the rate prevailing in the year 2009 – 2010. However, in case there is a decrease in WPI, the prevailing rate of revenue sharing will continue.
- 7.5. The extent of revenue sharing as stipulated above shall be the same for all PFTs irrespective of when the TMC came in or when the siding/terminal was converted to a PFT. For example a TMC who starts business in the 1st year after issue of scheme and another TMC who starts business in the 10th year after issue of the scheme, shall have the same revenue sharing from the year when it is due for them.
- 7.6. In case existing siding is converted to PFT, revenue sharing will be done on traffic which pertains to customer other than the siding owner. If a container terminal is converted to PFT, revenue sharing will be for other than container traffic.



8.0 CONCESSION AGREEMENT


- 8.1 The period of Concession Agreement for operation of such PFT will be 20 years, further extendable by one period of 10 years by mutual consent of IR & TMC. Further extension, if any, can be granted subject to review by IR on the basis of the extant policy at the time of such extension.
- 8.2 After all approvals, a concession agreement shall be signed between the Terminal Management Company and CCM of the zonal railway before the commencement of operations at the PFT.

9.0 GENERAL CONDITIONS

- 9.1 The terminal infrastructure inside PFT would be developed for full rake handling on all handling lines with direct reception and dispatch facilities, engine escape line and brake van reversal line depending upon the volume of traffic to be handled as detailed in para 4.4 of this policy.
- 9.2 Train Operation in the PFT shall be on the Engine on Load (EOL) norm as per free time specified from time to time. The locomotive by which the train has arrived shall remain in the PFT during entire loading/unloading operation. Loco detention charges will be leviable beyond the prescribed free time for loading/unloading under EOL norms as per IR's extant policy on EOL and as per prescribed rates for All India Engine Hire Cost.
- 9.3 Construction of PFT will be as per provision of private siding policy and therefore all charges stipulated in the extant policy for construction of a private siding would be applicable on PFT. PFT connectivity will be permitted only from one of the existing crossing stations of IR which shall be nominated as the serving station. No PFT will be permitted from mid-section, however, in case a take off is essential from mid section, the same can be permitted by the zonal railway in accordance with the extant policy guidelines.
- 9.4 Railway commercial staff will be posted at the PFTs to carry out commercial function related to booking/delivery of freight carried in wagons.

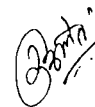


- 9.5 The TMC will pay cost of maximum one commercial staff per shift. However in case there are more than one handling area which cannot be supervised from one location, cost of additional commercial staff subject to maximum of one commercial staff per shift per handling area will also be borne by the TMC.
- 9.6 Freight charges or haulage charges as the case may be shall be paid by the consignor as per the prescribed rate from time to time.
- 9.7 Consignment booked from and to PFT will be pre paid. The consignment booked to PFT will be consigned to the consignee, for which the TMC shall give consent to handle the traffic of the said consignee so that traffic booked for the terminal is unloaded with out any detention to rolling stocks. To prevent incidence of non acceptance of trains at the PFT, for inward traffic to PFT, the consignor shall have consent of concerned TMC and a copy of the consent letter should be made available at the booking station while booking the rake. Rake booked to PFT will be unloaded by the TMC with out any liability of IR.
- 9.8 For the outward booking from the PFT, the TMC will enter into an agreement with the consignor and submit a copy of the agreement with the Railway Commercial staff posted at the PFT.
- 9.9 All "Commercial and Operating rules" as applicable in a Goods shed for booking, supply and delivery of goods shall be applicable at the PFT.
- 9.10 Freight on traffic booked from and to PFT shall be charged on through distance basis as per Public Tariff.
- 9.11 Demurrage charges shall be levied as per the extant rules and will be payable by TMC to the Railway.
- 9.12 In case of detention of rake short of the PFT for want of room or for the reason attributed to Terminal Management Company, railways will levy stabling charges on privately owned wagons provided they are stabled within a radius of 100 kms from the PFT. The stabling charges shall be payable at the rate as prescribed from time to time and such charges will be leviable on



TMC. In case of general purpose wagon restriction rules as existing for private siding and goods shed should be applicable.

- 9.13 Railways liability as a bailee for the claims for loss, destruction, damage, deterioration or non-delivery of any consignment will not extend beyond the handing over of the rake to TMC at the nominated line inside PFT after which the entire liability would rest with the TMC. Similarly for the outward traffic, Railway's liability would begin only after the goods are loaded into wagon and handed over to Railways. TMC shall indemnify Railways from claim, if any, preferred by the consignors/consignees on the Railways for any loss, destruction, damage, deterioration or non-delivery of any consignment in full or part during the period such liability rests with it.
- 9.14 TMC shall indemnify railway for any damage to railway property including rolling stock and injury or loss of life arising out of any negligent act or omission or breach of any of its obligations under the concession agreement by the TMC. Similarly, subject to the provisions of Railway Act and rules made there under, Railway Administration will indemnify the TMC against any negligent act or omission or breach of any of its obligations under the provision of the concession agreement.
- 9.15 Terminal Management Company would be responsible to get all statutory and non-statutory clearances that may be required from other government departments and statutory bodies for setting up and to operationalize such PFT. TMC will be responsible for payment of all taxes etc related to PFT working.
- 9.16 Gestation period for setting up and to operationalize a green field PFT will be a maximum of three years from the date of approval of the proposal by IR. The gestation period for brown field PFT (the conversion of an existing terminal to PFT) will be one year. Unless otherwise extended in writing by IR, failure to adhere to this time limit would lead to cancellation of such approval without any liability of Railways. However, Railways can extend the gestation period for operationalization of Greenfield or Brownfield PFT keeping in



view unforeseen exigencies etc. on payment of penalty @ 20% of the security deposit per year or part thereof, for a maximum period of 2 years.

- 9.17 No Rail Transport Clearance (RTC) will be required for setting up of PFT.
- 9.18 However, if a new industry intends to set up a industrial siding cum PFT, then before setting up of the industrial siding cum PFT, RTC as per extant rule will have to be obtained.
- 9.19 An agreement will be signed between TMC and IR detailing the terms and condition for operation of PFT. No PFT will be commissioned and notified unless agreement for PFT has been signed.
- 9.20 The CCM of the concerned Railway will declare open the PFT as an independent terminal through a Commercial Notification.

10.0 ELIGIBILITY CRITERIA

- 10.1 The company should be an entity registered in India under the Companies Act, 1956.
- 10.2 The company which fulfills any one of the following criteria can apply under the policy subject to having a net worth of Rs. 10 crore or having a turnover of Rs. 20 crores as on the last day of the previous financial year -
- (i) having logistics service as core business of the company with minimum one year experience in the field or;
 - (ii) be an existing container train operator or;
 - (iii) be an end user of railways with a private siding.
 - (iv) any industry intending to set up a private siding cum PFT.

11.0 LAND FOR DEVELOPMENT OF PFT

PFT will be developed on land owned or taken on lease/license by the TMC. The connectivity to Railway line through Railway Land will be facilitated by Railway as per extent rules on payment of license fee.



12.0 PROCEDURE FOR SETTING UP A PFT

12.2 A Terminal Management Company intending to develop a PFT on privately owned land shall apply to zonal railway with his proposals covering the followings:

- (i) Documents for land ownership/30 years lease, for setting up the proposed PFT.
- (ii) Anticipated Commodities proposed for handling and expected volume.
- (iii) Any other documents as specified by the Railways

12.3 The zonal railway shall examine the proposal from operational feasibility considering terminal capacity in and around the area; quantum of traffic that can be carried over the particular section with the present line capacity, future utilization and concurrent line capacity works in the pipeline or likely to be proposed over that section.

12.4 Application received will be screened by a Committee of HODs comprising of CTPM, CCM/FM, CPDE and FA&CAO/HQ. The Committee's recommendations will be considered by the GM for granting in principle approval or otherwise within 100 days.

12.5 In case more than one applicant applies for PFT at the same location, the quantum of traffic to be handled at such PFT and the consequential revenue to be earned by Railways will form an important parameter in selection of suitable applicant.

12.6 Zonal railway and the applicant/TMC should abide by following time schedule --

For Greenfield PFT

- i) DPR submission by the applicant : Three months after receipt of Zonal Railway's in principle approval.
- ii) DPR approval by zonal railway : One month on receipt of DPR from the applicant/TMC.
- iii) Engg. / bridge drawing submission by the applicant : One month after DPR approval by Zonal



- Railway.
- iv) Engg. Drawing approval by : One month after receipt of zonal railway : engineering drawings form the applicant/TMC.
 - v) Bridge drawings approval by : Two months after receipt of zonal railway. : of bridge drawings from the applicant/TMC.
 - vii) The completion time of 3 years will start after final approval is given by zonal railway i.e. approval of Engineering Drawings or Bridge Drawings, according to the requirement of PFT.

For Brownfield PFT

- i) DPR submission by the : One months after receipt applicant : of Zonal Railway's in principle approval.
- ii) DPR approval by zonal railway : One month on receipt of DPR from the applicant/TMC.
- iii) Engg. / bridge drawing : One month after DPR submission by the applicant : approval by Zonal Railway.
- iv) Engg. Drawing approval by : One month after receipt of zonal railway : engineering drawings form the applicant/TMC.
- v) Bridge drawings approval by : Two months after receipt of zonal railway. : of bridge drawings from the applicant/TMC.
- vii) The completion time of 1 year will start after final approval is given by zonal railway i.e. approval of Engineering Drawings or Bridge Drawings, according to the requirement of PFT.

13.0 NODAL OFFICE/AGENCY

ED/Freight (Mktg.), Ministry of Railways (Railway Board) would be the overall nodal officer for the implementation of the policy. His contact details are -- ED(FM), R. No.469, Ministry of Railways, Rail Bhavan, New Delhi -- 110 001. Phone No.43920 (Rly.), 23385222 (mtnl) and e-mail address cdfm@rb.railnet.gov.in.

At the Zonal Railways, Chief Traffic Planning Managers (CTPMs) would act, as the nodal officers during construction and planning stage and thereafter Chief Commercial Managers –Freight Marketing (CCM-FM) will be single window nodal officer for such PFT.

14.0 BENEFITS TO TERMINAL MANAGEMENT COMPANY

- 14.1 Terminal Management Company gets rail access to handle third party cargo and thereby providing him a business opportunity to augment his presence in logistics chain.
- 14.2 Terminal Management Company shall recover various charges from its customers for the use of PFT including Terminal charges, wharfage charges and charges for other value added services provided at the PFT. Depending on market, TMC will be free to fix tariff for such services at PFT owned by him.
- 14.3 Terminal Management Company will not be required to pay Wharfage charges to the railways.

15.0 CHARGES PAYABLE TO RAILWAYS BY TERMINAL MANAGEMENT COMPANY

- 15.1 All charges, surcharges, cess, levies, taxes etc. as per prevalent rules and as modified from time to time.
- 15.2 Demurrage and stabling charges as per para 9.11 & 9.12 above.
- 15.3 Loco detention charges beyond the prescribed free time as per extant policy guidelines.
- 15.4 All other charges as per extant Policy for private sidings.



15.5 Charges of licensing of railway land as per extant rules.

16.0 TERMINATION OF AGREEMENT

The agreement can be terminated by the Railways by giving a Notice of Termination of 180 days to the TMC for any breach of terms and conditions of the agreement, violations of the provisions of the Indian Railway Act or in the event of default as defined in the agreement. Before issuing the Termination Notice, Railway Administration shall by a written notice inform the TMC to make a representation and may after expiry of 30 days, whether or not, it is in receipt of such representation, issue the Termination Notice in writing subject to the provisions in the agreement. The TMC will also have the right to terminate the agreement by giving a notice of 180 days to the Railway Administration. Any dispute arising out of the same will be resolved through the Dispute Resolution Mechanism as prescribed under para 16.0 of the policy.

17.0 DISPUTE RESOLUTION

17.1 In case of any dispute in interpretation of the policy, the decision of MOR will be final and binding.

17.2 Any dispute in interpretation and implementation of the agreement, which is not resolved amicably, shall be finally decided by reference to arbitration by a Board of three Arbitrators appointed through a procedure which will be clearly spelt out in the Agreement between the railways and the TMC. Such Arbitration shall be held in accordance with the Rules of Arbitration of the International Centre for Alternate Dispute Resolution, New Delhi and shall be subject to the provisions of the "Arbitration and Conciliation Act 1996".

18.0 REVIEW OF THE POLICY

18.1 IR will review the policy after one year of its issue.





Gazette Notification, Indian Railway Rules, 2006

MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NOTIFICATION

New Delhi, the 26th September, 2006

G.S.R. 593(E).—In exercise of the powers conferred by Section 198 of the Railways Act, 1989 (24 of 1989), the Central Government hereby makes the following rules, namely:—

1. Short title and commencement :—

- (1) These rules may be called the Indian Railways (permission for operators to move container trains on Indian Railways) Rules, 2006.
- (2) They shall come into force on the date of their publication in the Official Gazette.

2. Definitions.—In these rules, unless the context otherwise requires—

- (a) “Act” means the Railways Act, 1989 (24 of 1989);
- (b) “Operator” means a person who has taken permission to run container trains on Indian Railways.
- (c) All other words and expressions used in these rules and not defined, but defined in the Act shall have the meanings respectively assigned to them in the Act.

3. Eligibility.—Any person individual or a joint venture or a company registered under the Companies Act, 1956 shall be eligible to obtain the permission to operate container trains under these rules.

4. Export-Import Traffic.—For export-import traffic the operator shall

- (a) have a suitable access to a rail linked Inland Container Depot with adequate handling capacity in the hinterland or inland location for handling of container trains; or
- (b) enter into an agreement with an existing rail Inland Container Depot operator or rail terminal operator for using his facility for container train

operations, within six months of obtaining in principle approval from Ministry of Railways; or

- (c) give an undertaking that he shall develop his own Inland Container Depot with rail facility within a period of three years from the date of obtaining in principle approval to operate container trains.

5. Domestic Traffic.—For Domestic traffic the operator shall

- (a) have a suitable access to two rail linked Inland Container Depots with adequate handling capacity in two hinterland or inland locations for handling of container trains; or
- (b) enter into an agreement with an existing rail Inland Container Depot operator or rail terminal operator for using his facility at two locations for container train operations, within six months of obtaining in principle approval from Ministry of Railways; or
- (c) give an undertaking that he shall develop his own Inland Container Depot with rail facility at two locations within a period of three years from the date of obtaining in principle approval to operate container trains.

6. The applicant shall have experience in any of the following activities namely :—

- (i) Transport;
- (ii) Trade and Commerce;
- (iii) Infrastructure;
- (iv) Handling of Goods/Cargo;
- (v) Port/Land Terminal operations;
- (vi) Logistics;
- (vii) Warehousing;
- (viii) Manufacturing;
- (ix) Leasing.

7. Regulation of Rail Container Operations.—In order to regulate the entry of rail container operators on Indian Railway network, various routes have been grouped into four categories largely based on the existing as well as anticipated traffic volumes on different rail corridors serving gateway ports and these categories are as follows:—

- (1) **Category I**-includes all existing or future Inland Container Depots serving J.N.Port or Mumbai Port in National Capital Region like Tughlakabad, Dadri, Gurgaon and shall also include all destinations reached via National Capital Region like Dhandari Kalan, Moradabad along with all domestic traffic.
- (2) **Category II**-includes all existing or future Inland Container Depots serving J.N.Port or Mumbai Port at locations other than those covered in Category I along with all domestic traffic except on traffic routes mentioned in Category-I.

- (3) **Category III**-includes all existing or future Inland Container Depots serving the ports of Pipava, Mundera, Chennai, Ennore, Vizag and Kochi and their hinterlands along with all domestic traffic except on traffic routes mentioned in Category-I.
- (4) **Category IV**- includes the ports like Kandla, New Mangalore, Tuticorin, Haldia, Kolkata, Paradip and Mormugao and their hinterland along with all domestic traffic except on traffic routes mentioned in Category-I.
- 8. Financial capability.**—(1) The applicant shall have the financial capability of an annual turnover or the net worth of not less than rupees one hundred crores.
- (2) In case a number of companies form a consortium for the purpose of operating container trains, each constituent member shall have either annual turnover or net worth of not less than rupees fifty crores.
- (3) Any company which has been declared sick under Sick Industrial Companies (Special Provision Act, 1985) shall not be eligible to apply under these rules to operate container trains either individually or in association with other companies.
- 9. Approval Process.**—(1) If the proposed operator has to develop Inland Container Depot then for rail linking an Inland Container Depot, he shall obtain the requisite permissions from the Inter-Ministerial Committee of the Government of India within six months for developing and operating Inland Container Depot.
- (2) He shall submit his application to Ministry of Railways indicating therein his legal identity, intended scope of operations for atleast next five years, proof of complying with various eligibility criteria and his willingness to abide by the terms and conditions laid down in these rules and as amended from time to time.
- (3) Based on the documents furnished and clarification, if any, Railways shall grant an 'in principle' approval and in case the prospective operator fails to indicate his readiness to operate his container trains to the satisfaction of Railway within three years of grant of 'in principle approval', it shall be deemed to have lapsed unless prior extension is given by Railways.
- (4) Before commencing operations, the operator shall enter into an agreement with the Railways containing the detailed operating and accounting procedure, including the ownership of the new lines or assets and other relevant details and the agreement shall have provisions for suitable arbitration procedure for resolving any dispute between Railways and the operators.
- (5) The permission shall be open for one month in every year.
- 10. Registration Fee.**—(1) At the time of submission of application to run container trains, every applicant shall be required to deposit a non-refundable registration fee of rupees fifty crores for applying for all categories of routes including Category-I and rupees ten crores for each individual category of routes except Category-I and the application only for routes mentioned in Category -I shall not be accepted.
- (2) The registration fee of applicants, who are not found eligible shall be refunded without any interest.
- 11. Modalities of granting permission.**—(1) Permission for Category-I, shall include permission to run trains between any pairs of points in the entire country and shall include permission for all other categories and in case the operator applies for a particular category (except for Category -I), he shall obtain permission to run container trains between any pairs of points in that category only for export-import traffic and for all routes in domestic traffic, except those mentioned in Category-I.
- (2) There shall be no limit on number of trains on any of the routes.
- 12. Terms and conditions.**—(1) The container trains of various operators shall normally be dispatched on a non-discriminating manner on 'first come first served' basis, subject to any operational exigencies and/or restrictions from time to time.
- (2) Inland Container Depots shall be treated like private sidings with the extant rules and procedures laid down for private sidings applying *mutatis-mutandis* to them.
- (3) Land and other related facilities required for railway operation and the track connecting the Inland Container Depot to the nearest rail head shall have to be provided by the operator at his own cost; but if railway land is available, on the application of the operator the same shall be provided on the normal terms and conditions laid down by Ministry of Railways for licensing of Railway Lands.
- (4) For movement of containers, the operator shall procure his own rolling stock and containers according to the approved design of the Research Design and Standard Organization and the rolling stock shall be inspected as per rules inforce.
- (5) Loading and unloading of containers in the ports or Inland Container Depots shall be the responsibility of the operator.
- (6) Maintenance of track shall be done by the operator at his own cost, with Indian Railways being paid the charges for inspection or supervision according to the prescribed prevailing rates and maintenance of rolling stock shall be done by Indian Railways, for which the prescribed charges shall be recovered from the operator.

- (7) The operator shall allow Indian Railways to enter into any of its premises for inspection and for scrutiny of documents pertaining to rail-related operations and shall provide necessary and reasonable facilities for doing so.
- (8) The operator may carry all goods subject to conditions specified in the goods tariff, red tariff, and under the provisions of the Act and any other instructions issued on the subject, by Ministry of Railways from time to time.
- (9) The movement of containers or flats shall only be in block rakes of prescribed standard sizes for different types of wagons as notified by the Railways from time to time.
- (10) Freight Operation Information System of Indian Railways shall also cater to the requirements of the operator for an integrated management and operations information service and the operator shall provide all relevant data as required by Freight Operation Information System and shall be given 'read only' access to this system on payment of reasonable cost.
- (11) The operator shall pay to the railways haulage charges applicable uniformly to all operators, as notified or fixed by the Railways from time to time.
- (12) For payment of haulage charges the provisions of Commercial Manual and other guidelines issued from time to time shall be followed.
- (13) Documentation work, including issue of Railway Receipt for haulage charges shall be done by Railway staff posted by Railways in the Inland Container Depot and the cost of such staff shall be borne by the operator and shall be charged separately.
- (14) The operator shall charge his customers for rail haulage, terminal handling, ground rent on a market determined basis and railways shall not exercise any control over such pricing.
- (15) All operations like shunting, placement, withdrawal, formation within the Inland Container Depot shall be done on the request of the operator and he shall pay for such services, as per the agreement signed between the operator and the Railway.
- (16) There shall be no demurrage charges by the Railway, but the Railway shall levy stabling

charges as per the rates notified from time to time in case rolling stock belonging to the operator is stabled on Indian Railways network.

- (17) The rail operator shall be a common carrier as defined under the Act.
- (18) Normal rules in respect of claims shall be applicable according to the Act.

13. Period of validity of permission for operating container trains.—(1) The validity of permission shall be for a period of twenty years from the date of operation of container trains by the operator and the permission can be extended by ten years to the same party on his application after expiry of the validity of permission subject to satisfactory performance and on payment of the fees as applicable at that time, to be decided by Railway Board.

- (2) An operator may be permitted to exit from the market or transfer the permission to another operator for container train operation, subject to the latter fulfilling the conditions for permission mentioned under these rules and also subject to prior approval of the Ministry of Railways and the permission shall be granted only one year after rail borne container traffic has commenced its operation from his Inland Container Depot.

14. Cancellation of the permission and dispute settlement.—(1) In case the operator does not follow the rules laid down by Railways for safety of goods carried or of railway property or any rules laid by the Government for movement of containers, the permission of the operator may be cancelled by giving one month's notice and he may also be liable to be penalized in accordance with the Act.

- (2) In case the operator wants to terminate operation of container trains before the expiry of permission period, he shall give the request in writing to the Ministry of Railways with three months notice.
- (3) On cancellation of the permission, no part of the registration fee shall be refunded to the party.
- (4) For resolving disputes on the issues pertaining to the siding for the Inland Container Depot, claims for damages, haulage charges, the operator may also seek redressal by resorting to the relevant provisions of siding agreement, Railway Claims Tribunal or Railway Rates Tribunal.

[F.No.2002/TT-III/15/39 (Policy)]

R. K. TANDON, Exec. Director, Traffic Transportation
(F)



**Feasibility Study for
Railway Siding for Farukhnagar Logistics Park**

Final Draft Feasibility Report

**Chapter 6
Civil Engineering**

Chapter 6

Civil Engineering

6.1 GENERAL

Reliance Haryana SEZ Limited, a Joint Venture between Reliance Ventures Ltd. and Haryana State Industrial Infrastructure Development Corporation (HSIIDC) along with IL&FS are engaged in developing an integrated economic enclave in Jhajjar including a multi modal logistics park which is located to the north west of Farukhnagar station at distance of 2.0 km. State Highway no15A that connects Gurgaon to Jhajjar via Farukhnagar is situated at distance of about 5km. For rail transportation of inbound & outbound traffic, the site is to be connected with Railway siding proposed to be extended from Farukhnagar Station.

6.2 SURVEY METHODOLOGY

The survey was conducted by taking the details of the existing important features like existing roads, villages, forests, rivers, streams falling on the proposed siding route from the take off station to plant site with the help of Total Station survey equipments and also for verifying the Topographical sheets of the area.

6.3 PROPOSED RAIL SYSTEM

- Provision of a 'Y' link at Rewari end of Garhi Harsaru station for direct movement of trains between Rewari & Farukhnagar.
- Railway connectivity from the Farukhnagar railway station to Container Terminal site.
- Loading & Unloading rail terminal inside Container Terminal.

6.4 DESCRIPTION OF THE PROPOSALS

After thorough survey and study of the site following proposals have been framed:

6.5 'Y' LINK AT GARHI HARSARU STATION

- For the description of rail alignment the take off point from the existing railway Km 42/050 near Garhi Harsaru at Rewari end has been assumed as Km. 0/000. The Kilometers are in ascending order while proceeding towards the Garhi Harsaru-Farukhnagar branch line and descending order towards Rewari end.
- The alignment, after takeoff is straight up to Km 0/135 followed by a left hand curve of radius 300m up to km 0/729.29 and thereafter the alignment is straight & meets the branch line at km 0/917.

- To facilitate merger of traffic arriving from Farukhnagar into upstream, at Garhi Harsaru, a crossover has been introduced between km (-) 0/108 to (-) 0/013.
- Isolations has also been provided at the both end of the 'Y' link by means dead end sidings.
- For balancing of rain water a 2x0.9m HP bridge has been proposed at Km 0/405.
- The total length of this 'Y' link is assessed as 1.0 Km. and is shown in Drg. No. RITES/T&E/IL & FS/Garhi Harsaru/ Plan-1.

6.6 RAIL CONNECTIVITY TO IR NETWORK AT FARUKHNAGAR

- For the description of proposed rail alignment, chainage of centre line of station building corresponding to existing railway Km 11.27 has been assumed as 0/000. The Kilometers are in ascending order while proceeding towards the MPSEZ site and descending order towards Garhi Harsaru end.
- One additional loop line has been proposed between Ch. (-) 0/317 to 0/594 with isolation at both ends.
- The alignment has been extended from line no 2. It is straight upto Ch. 0/678. For isolation purpose derailing switch has been proposed at Km 0/664.
- At Ch. 0/678, the alignment negotiates a right hand curve of radius 300 m upto Ch. 1/083.28 and remains straight upto Ch. 2/069 where it negotiates a left hand curve of radius 350 m upto Ch. 2/640.92. Thereafter, the alignment is straight. It crosses the Mudakhera village road at Ch. 2/711 where an unmanned level crossing has been proposed.
- The alignment enters the Container Terminal at Ch. 2/799 where a gate has been proposed.
- The terminal yard comprising 4 running lines and a brake van reversal siding has been designed in between Ch. 2/923 and 3/232. The yard terminals into dead end at Ch. 3/776.
- For balancing of rain water, two 2X0.9m HP bridges have been proposed at Ch. 1/143 & 2/268 respectively.
- The total length of the alignment has been assessed as 4.2 Km. and is shown in Drg. No. RITES/T&E/IL & FS/Farukhnagar/ Plan-1.

6.7 LOADING UNLOADING FACILITY INSIDE MMLP

For unloading & loading of goods and other materials a four line yard with two paved level platforms (650x20m) has been proposed. All the lines have full rake length of 720m.

6.8 DETAILS OF CURVES

The details of the curves falling in the proposed alignment have been tabulated below:

S.N	Curve No.	Chainage of TP-1	Chainage of TP-2	Curve Length (m)	Radius (m) / Degree of Curve
At Garhi Harsaru					
1	C-1	0/135	0/729.29	594.29	300 /5.83
At Farukhnagar					
1	C-1	0/678	1/083.28	405.28	300/5.83
2	C-2	2/069	2/640.92	571.92	350/5.00

6.9 DETAILS OF GRADIENTS

The details of gradients on the proposed alignment have been tabulated below:

S.N	Chainage	Gradient	Remarks
At Garhi Harsaru			
1	(-) 0/058	1 IN 295 Fall	Towards Farukhnagar
2	(-) 0/058	1 IN 575 Rise	Towards Rewari
3	0/867	1 IN 295 Rise	Towards Rewari
4	0/867	1 IN 400 Fall	Towards Farukhnagar
At Farukhnagar			
1	(-) 0/267	Level	Towards MMPL
2	0/644	Level	Towards Farukhnagar
3	0/644	Level	Towards Garhi Harsaru
4	3/777	Level	Towards Farukhnagar

6.10 LAND REQUIREMENT

Land requirement for proposed rail siding alignment has been assessed as under:

- At Garhi Harsaru about 2.30 Hectares of land needs to be acquired for the proposed railway connectivity for 'Y' Link.
- At Farukhnagar Railway Station, about 1.10 Hectares of land needs to be taken on lease from Railways for laying proposed rail track for MPSEZ & about 0.50 Hectares of land need to be acquired for the proposed diversion of road.
- At Farukhnagar about 5.22 Hectares of land needs to be acquired for laying of proposed rail track between Farukhnagar Railway Station & MMLP site.

6.11 LEVEL CROSSINGS

The existing level crossing has been proposed to be dismantled & shifted at Ch. (-) 0/339. A new unmanned level crossing has been proposed near entry of MMLP at Ch.2/711.

6.12 LIST OF BRIDGES

Details of minor bridges falling under the proposed alignment have been tabulated below:

S.N	Chainage	Type of Bridge	Remarks
At Garhi Harsaru			
1	0/405	2x09m HP Bridge	For balancing of rain water
At Farukhnagar			
1	1/143	2x09m HP Bridge	For balancing of rain water
2	2/268	2x09m HP Bridge	For balancing of rain water

6.13 TRACK STRUCTURE & CONSTRUCTION PARAMETERS

6.13.1 Gauge

The gauge adopted for the proposed rail infrastructure is 1676 mm. (5ft. 6 inches). Broad Gauge is in conformity with existing gauge of Northern Railway, in the vicinity of project area.

6.13.2 Track Structure

The track structure has been designed for 25 Tones axle load. 52Kg. (90 UTS) rails on PSC sleeper with sleeper density @ 1540 nos. /Km has been proposed in the siding as well as in loading/unloading terminal in compatibility with Indian Railway Standards.

6.13.3 Points & Crossings

All points & crossings shall be of 1 IN 8.5 curved switches except at main line take off points where 1 IN 12 curved switches has been proposed. PSC sleepers will be provided at all the points & crossings.

6.13.4 Ballast

250 mm cushion with 40 to 65 mm size stone aggregate has been proposed for running as well as loop lines. All points & crossing shall be provided with 65mm size stone ballast.

6.13.5 Curves

Curves of 232 m radius have been proposed in the yard portion to negotiate the curves of proposed points and crossings. Siding alignment has been proposed with curves not less than 300m radius.

6.13.6 Formation

Formation embankments to be made of compacted earth with side slope of 2:1 with beams of 3m width on either side after every 6m height. Similarly, side slope in cutting in ordinary/hard soil would be 1:1. Steeper slopes of ½: 1 or ¼: 1 in rocks and flatter

slope of 1.1/2:1 in soft/loose soil may have to be adopted depending upon the nature of the material to be excavated. Standard railway formation profile allowing for side drains would be adopted. Provision for catch water drains has been made. A sketch showing the formation profile has been placed at **Annexure 6.1**.

6.13.7 Bridges

All the minor Bridges have been provided to be designed for H.M. Loading Standard.

6.13.8 Moving Dimensions

Fixed structures are to be designed to suit the fixed structure line as per the Recommended Dimensions indicated in the B.G. Schedule of Dimensions of Indian Railways.

6.13.9 Turfing

Turfing has been envisaged for side slopes of all embankments to prevent their erosion.

6.13.10 HT/LT Crossings

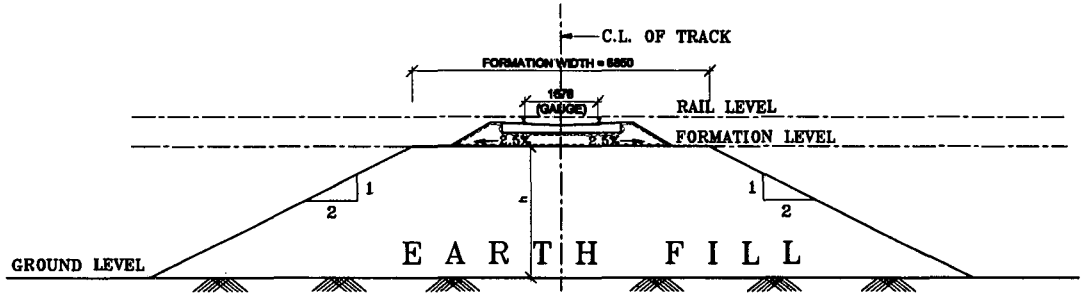
It has been proposed to shift, raise/ lower the HT/ LT and Telephone lines where ever required.

6.13.11 Structural Clearance

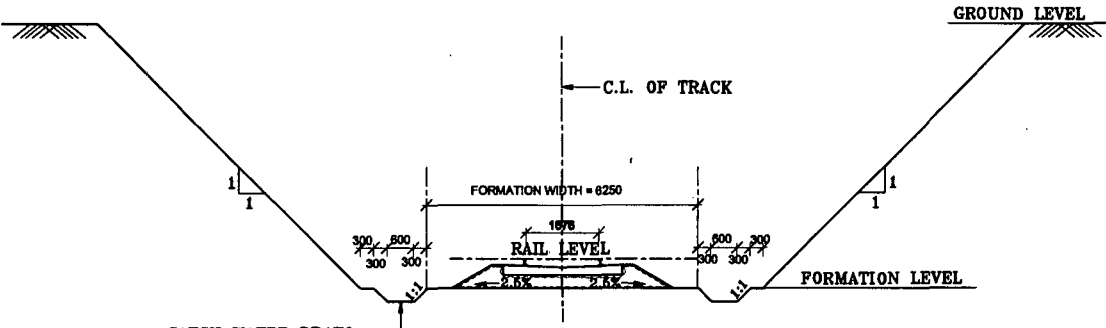
All over head structures will have clearance to cater for electric traction (OHE) as per Schedule of Dimensions of Indian Railways. Details of dimensions are placed at **Annexure 6.2**.

6.13.12 Speed Potential

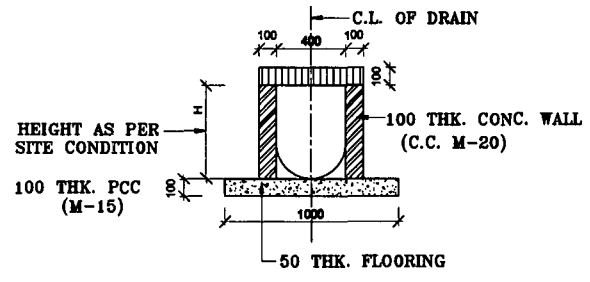
The speed of trains in the serving yard & loading/unloading yard should be restricted to 15 KMPH. The maximum permissible speed on the proposed siding outside the yards has been kept as 60 KMPH.



**TYPICAL CROSS SECTION OF EMBANKMENT
(UPTO 6.0m HEIGHT)**



**TYPICAL CROSS SECTION IN CUTTING
(UPTO 6.0m CUTTING)**



**TYP. CROSS SECTION OF DRAIN
(IN YARD)**

NOTES:- ALL DIMENSIONS ARE IN MILLIMETRES

CLIENT

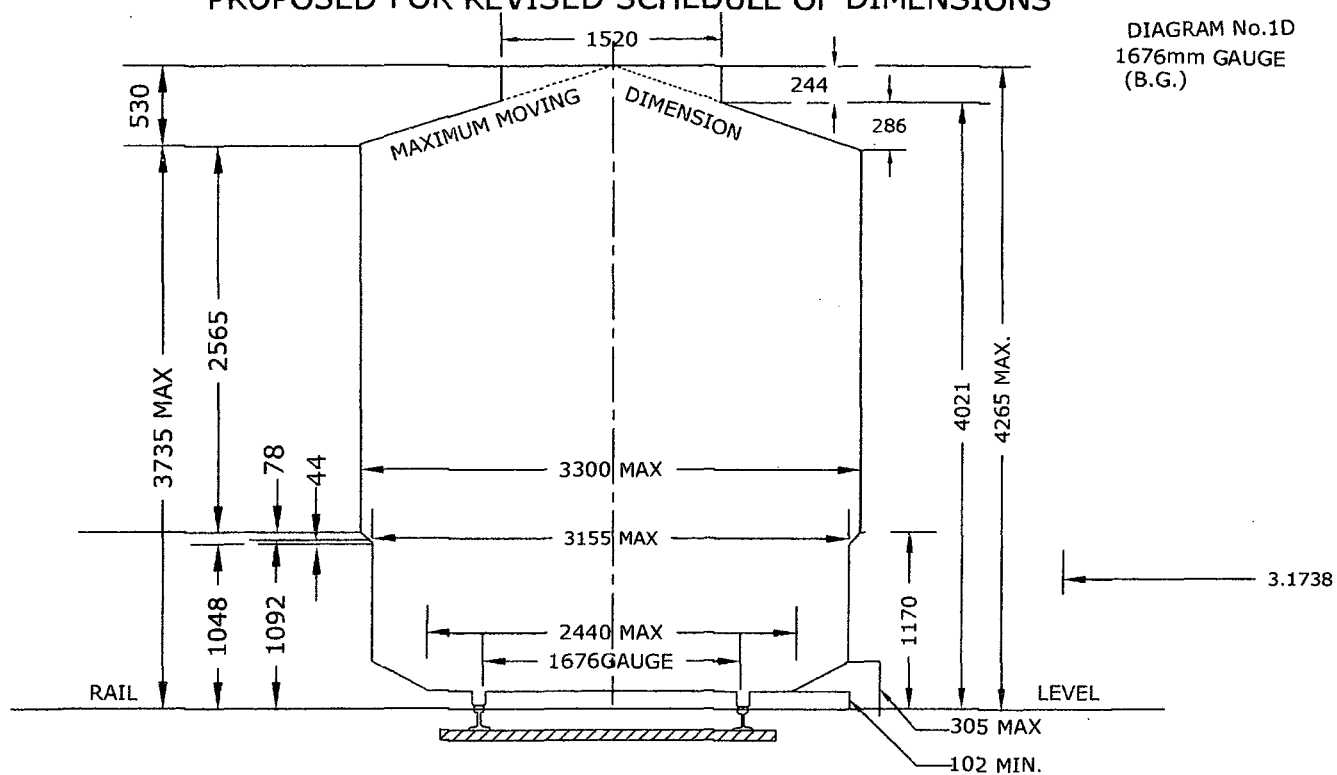
INFRASTRUCTURE LEASING & FINANCIAL SERVICES LIMITED

THE INFRASTRUCTURE PEOPLE

MAXIMUM MOVING DIMENSIONS OF THE PROFILE
PROPOSED FOR REVISED SCHEDULE OF DIMENSIONS

ANNEXURE-6.2

DIAGRAM No.1D
1676mm GAUGE
(B.G.)



NOTE :- ALL DIMENSIONS ARE IN MILLIMETRES
EXCEPT WHERE OTHERWISE SHOWN





**Feasibility Study for
Railway Siding for Farukhnagar Logistics Park**

Final Draft Feasibility Report

**Chapter 7
Abstract Cost Estimate**

Chapter 7

Abstract Cost Estimate

7.1 Cost estimate of private rail siding to be set up for MMLP, at Farukhnagar has been prepared on the present prevailing rates for manpower and materials. This may undergo changes at the time of DPR/Detailed engineering.

7.2 The anticipated expenditure on the recommended proposal will be as under:

S.N	Description	Cost (Rs in Lacs)	Cost (Rs in Lacs)	Cost of Railway Siding including terminal (Rs. In lacs)	
		Garhi Harsaru R S	Farukhnagar R S	From Take Off at Farukhnagar RS to entry point of Site	Within Logistic Hub
1	Cost of Civil Engineering works	386.00	340.00	465.00	953.00
2	Cost of S&T works	200.0	300.00	0.00	0.00
3	Sub Total	586.00	640.00	465.00	953.00
4	Add for overhead & general charges @8.5%	49.81	54.40	39.53	81.01
5	Total	635.81	694.40	504.53	1034.01
Add	i) Project Management @ 12.5%	79.48	86.80	63.07	129.25
	ii) Service tax @10.30% on item (I).	8.19	8.94	6.50	13.31
	iii) Railway's centage charges @4% on (3)	23.44	25.60	18.60	38.12
	Total	746.92	815.34	592.70	1214.69
	Grand total	3369.65 lacs say 3370 lacs or 34 Crores			

7.3 Estimated Cost of Civil Engineering Works will be as under:

S.N	Description	Cost (Rs. In lacs)	Cost (Rs. In lacs)	Cost of Railway Siding including terminal (Rs. In lacs)	
		Garhi Harsaru R S	Farukhnagar R S	From Take Off at Farukhnagar RS to entry point of Site	Within Logistic Hub
1	Formation including Blanketing Materials	133.00	49.00	105.00	170.00
2	Permanent way	208.00	224.00	285.00	683.00
3	Ballast	33.00	35.00	53.00	100.00
4	Dismantling of existing L- Xing &	Nil	5.00	2.00	0.00

	construction of new one including hut & gate, etc.				
5	Partial modification to existing track	2.00	2.00	Nil	Nil
6	Minor Bridges	10.00	Nil	20.00	00.00
7	Service Road	0.00	25.00	0.00	0.00
	Sub Total	386.00	340.00	465.00	953.00

Notes: The above cost does not include

- a) Cost of shifting of High-tension electric, low-tension electric lines and telephone lines etc.
- b) Payment to railways and any other government agency for any work, which may be required to be carried out in connection with the construction of railway siding.
- c) Cost of any additional works, which may crop up during construction stage.
- d) Cost of cutting of trees and payment to forest department.
- e) Cost of land to be acquired & taken on lease from Railways.
- f) Cost of loading/unloading platforms at logistic hub Terminal.
- g) Cost of station Building, Staff Quarters & allied works at Farukhnagar Railway Station
- h) Cost of modification & dismantling works at Farukhnagar & Gari Harsru Railway Stations.

7.4 Allocation of Capital Cost:

In terms of Para 3.2 of Liberalization Siding Rules, Circular No. 99/TC(FM)/26/1 dated 31.03.2005 cost of all traffic facilities such as 'Y' connection, additional lines at the serving station, crossing stations, patch doubling of the section etc. shall be fully borne by the railways. Capital cost of the siding from the take off point to the terminal is to be borne by the siding owner.



**Feasibility Study for
Railway Siding for Farukhnagar Logistics Park**

Final Draft Feasibility Report

Drawings



LEGEND

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NOTES:

CHBUL 18-C-1





TABLE

NO.	DESCRIPTION	DATE
1		
2		
3		
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6		
7		

REVISIONS

OPERATING LEADING AND
 TRAILING SERVICE LIMITS
 SIGNED BY ENGINEER FOR RAILWAY SIDING
 AND LAYOUT PLAN AT PULHEMANGALAM
RAILWAY SIDING PLAN
 DRAWN BY MR. S. S. S. S. S. S. S. S. S.

Feasibility Study for Railway Siding for Farukhnagar Logistics Park

**Final Draft Feasibility Report
August, 2010**

**Prepared by RITES Limited
1, Sector – 29, Gurgaon – 122 001 (India) Website: www.rites.com**

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt.II

Dated 28th October, 2010

COM.,
Northern Railway,
Baroda House,
New Delhi

Sub: Proposal of M/s Reliance Haryana SEZ Limited for Rewari-Garhi Harsaru- Farukhnagar and Rewari-Jhajhar line as a feeder route of DFC

Ref: Board's letter of even number dated 3rd August 2010

Kindly refer to Board's letter of even number dated 3rd August 2010 on the subject. M/s. Reliance Haryana SEZ Ltd. has requested for upgradation of Rewari-Garhi Harsaru- Farukhnagar and Rewari-Jhajhar line as a feeder route of DFC. A meeting was held with the representatives of the company on 3rd August, 2010.

M/s Reliance Haryana SEZ Ltd. has already submitted its feasibility report to the Railways for examination of connectivity. Northern Railway is requested to offer their comments on the appropriate connectivity to the above SEZ. Concurrently, it may also be examined whether there is traffic, technical or other justification for upgradation of these routes to feeder route standards of DFC, as suggested by M/s. Reliance Haryana SEZ Ltd. Board will take a view on the basis of the outcome of the Report.

OK

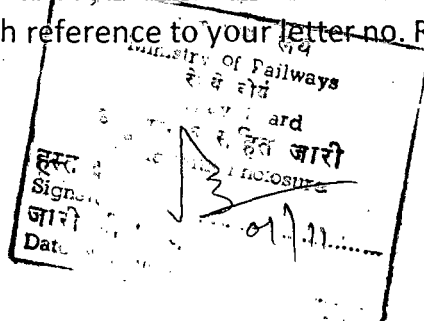
P

(P. R. Parhi)

Jt. Director Transport Planning

Copy to:

Shri A. Shankar, Director, M/s Reliance Haryana SEZ Ltd., Plot No. 206,
Sector-55, Behind Ansal Institute of Technology, Gurgaon – 122011 –
with reference to your letter no. RHSL/HO/2009-10/066 dated 31.01.2010



Pr. issue fair
01/11/10

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt.II

Dated 28th October, 2010

COM.,
Northern Railway,
Baroda House,
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(P. R. Parhi)

Jt. Director Transport Planning

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Sector-55, Behind Ansal Institute of Technology, Gurgaon – 122011 –
with reference to your letter no. RHSL/HO/2009-10/066 dated 31.01.2010

S.N.176



Reliance
Haryana SEZ
Limited

(A Joint Venture with HSIIDC)

RHSL\ HO\ 2010-11\ 053,

21st Oct 2010

Jt. Director Transport Planning
Ministry of Railways
Railway Board
New Delhi 110001.

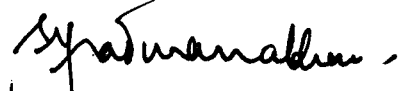
Sub: Connectivity to the DFC.

Dear Sir,

With reference to your letter no.2005/PL/6/7 Pt. II dated August 03, 2010, we are pleased to enclose a copy of the feasibility report prepared by RITES for kind perusal.

Thanking you,

For Reliance Haryana SEZ limited


AUTHORISED SIGNATORY

S.N. 1175

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt.II


Dated 3rd August, 2010

CTPM.,
Northern Railway,
Baroda House,
New Delhi

Sub: Proposal of M/s Reliance Haryana SEZ Limited for Rewari-Garhi Harsaru- Farukhnagar and Rewari-Jhajhar line as a feeder route of DFC

M/s. Reliance Haryana SEZ Ltd. has requested for upgradation Rewari-Garhi Harsaru- Farukhnagar and Rewari-Jhajhar line as a feeder route of DFC. A meeting was held with the representatives of the company on 3rd August, 2010.

M/s Reliance Haryana SEZ Ltd. was advised to submit the Survey Report, which is being undertaken by M/s. RITES Ltd. After the Survey Report is available, it would be possible to examine the matter.

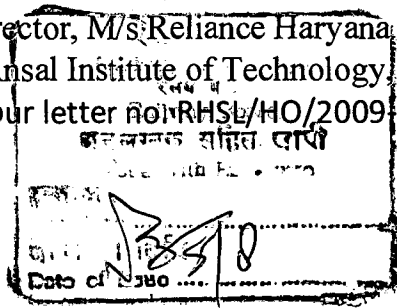

(P. R. Parhi)

dc


Jt. Director Transport Planning

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Shri A. Shankar, Director, M/s Reliance Haryana SEZ Ltd., Plot No. 206, Sector-55, Behind Ansal Institute of Technology Gurgaon – 122011 – with reference to your letter no. RHSL/HO/2009-10/066 dated 31.01.2010



Pl. Issue fear


4/8/10

S. No. 174

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt.II

Dated: 29th July, 2010


Shri A. Shankar
Director
M/s Reliance Haryana SEZ Ltd.
Plot No. 206, Sector-55
Behind Ansal Institute of Technology
Gurgaon – 122011
Fax: 23704089

**Sub: Proposal of M/s Reliance Haryana SEZ Limited for Rewari-Garhi
Harsaru- Farukhnagar and Rewari-Jhajhar line as a feeder route of DFC**

Ref: Your letter no. RHSL/HO/2009-10/066 dated 31.01.2010

Kindly refer to the request of M/s. Reliance Haryana SEZ Ltd. for upgradation
Rewari-Garhi Harsaru- Farukhnagar and Rewari-Jhajhar line as a feeder route of DFC.

In this regard, it is proposed to hold a meeting with M/s. Reliance Haryana SEZ
Ltd., in Room No. 152 C, Rail Bhavan at 15.30 hrs. on 2nd August, 2010. You are
requested to kindly make it convenient to attend the same.


(P. R. Parhi)
Jt. Director Transport Planning

S.N 183

Government of India
Ministry of Railways
(Railway Board)

No. 2005/PL/6/7 Pt.II

11th June, 2010

COM
North Western Railway
Jaipur.

COM
Northern Railway
Baroda House,
New Delhi.

**Sub: Proposals of M/s. Reliance Haryana SEZ Ltd., for feeder
route connectivity for DFC**

Please find enclosed a letter from Reliance Haryana SEZ Ltd. requesting for Upgradation of Rewari – Garhiharsaru- Farukhnagar and Rewari – Jhajjar sections as feeder routes for DFC. It is requested that Zonal Railway may examine the proposal on the respective sections considering the traffic justification, etc., and convey their comments.

Pr (Priya Ranjan Parhi)
Jt. Director (Transport Planning)

Encl.: As above.

Pr

15/6

Ministry of Railways Railway Board Priya Ranjan Parhi Joint Director (Transport Planning)
Signature <i>Pr</i>
Date of Issue

S.N.172

Northern Railway

Office of the
Dy. Chief Engineer/Const.,
Lilak Bridge, New Delhi.

No. 80-W/C/TKJ/Pt.II

Dated: 07.2010

The Jt. Director Transport Planning,
Govt. of India,
Ministry of Railways,
Railway Board,
New Delhi**Sub:-Proposal of M/s Reliance Haryana SEZ Limited for declaring Rewari-Jhajjar
new line as a feeder route of DFC****Ref.: Your office letter No. 2005/PL/6/7 Pt II dated 06/07/10**

In reference to your office letter referred above the details are as under:-

1. The tentative commissioning date of Rewari-Jhajjar new line is March, 2011.
2. Speed of track is 110 KMPH and Axle load is MBG loading.


Dy. CE/C/TKJ

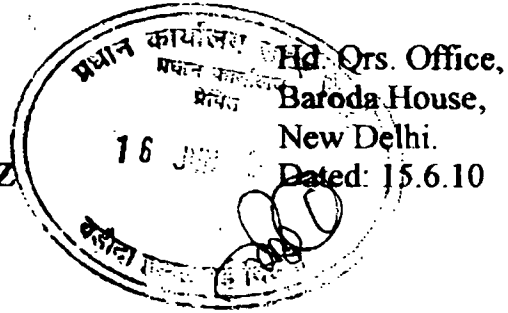
S.N. 171

12 JUNE 10

NORTHERN RAILWAY

No. 86-T/420/TGP/ICD/RHSEZ

Jt. Director (Trans. Planning),
Railway Board,
New Delhi.



Sub: Proposal of M/s RHSEZ Ltd., for feeder route connectivity
for DFC.

RE-Jhajjar-ROK line is under construction and Northern Railway
have written to Railway Board for transferring RE-Jhajjar-ROK line to
N.W. Railway for administrative control.

Garhi harsaru-Farrukhnagar section is under gauge conversion
since 2005 and yet not commissioned by RVNL. While Garhi harsaru-
Farrukhnagar section was on meter gauge, only 3 pair of passenger
trains were running and no goods traffic was there.

Suman
Chief Traffic Planning Manager

92



Rail Vikas Nigam Limited

रेल विकास निगम लिमिटेड
(A Government of India Enterprise)

S.N-178.1

29

No- RVNL/P-II/GHH-FN/GEN/1/Pt-II

Dated 14-07-2010

Jt Director Transport Planning,
Railway Board,
(Ministry of Railways),
Rail Bhawan, Raisina Road,
New Delhi.


Sub- Proposal of M/s Reliance Haryana SEZ Limited for Garhi Harsaru-Farukhnagar line as feeder route of DFC.

Ref:- Your letter No. 2005/PL/6/7/Pt-II dated 06-07-2010.

1.0 Please refer your letter mentioned above. In this regard it is to mention that the work of Rewari-Jhajhar new line is not being executed by RVNL. RVNL has executed work of Gauge Conversion of Garhiharsaru-Farukhnagar section, CRS inspection and sanction for commissioning of project is due.

2.0 The work of Garhi Harsaru- Farukhnagar was sanctioned with second hand materials and therefore, it is not fit for operation of trains with 25t axle load. Presently, it is fit for MBG loading standards and scheduled to be opened at 75 kmph.

3.0 Northern Railway, however, may be consulted for confirmation.


14/7/2010

(H.L.Suthar)
Addl. General Manager/P-III

S-11

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt.II

Dated: 6th July, 2010

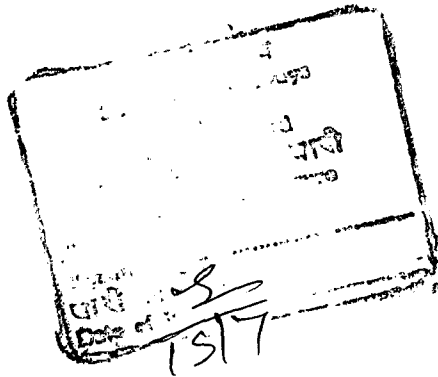
Shri H. L. Suthar
AGM/Projects/RVNL
August Kranti Bhawan
Bhikaji Cama Place
New Delhi.

Sub: Proposal of M/s Reliance Haryana SEZ Limited for Garhi Harsaru-Farukhnagar line as a feeder route of DFC

Kindly refer to Board's letter of even number dated 6th July 2010, wherein it was requested to furnish the following information.

1. The tentative commissioning date of Rewari-Jhajhar new line
2. Track fitness such as speed of the track and axle load capacity, whether it is fit for 25t axle load.

You are requested to kindly furnish the above information urgently.



P
(P. R. Parhi)
Jt. Director Transport Planning

*Please issue
train
4/17*

S.N. 168

PLG

North Western Railway

No: T-5/PLG/424/DFC

Headquarters office
Jaipur
Date 02.07.2010


**Joint Director (Transport Planning),
Railway Board,
New Delhi.**

SUB :- Proposal of M/s Reliance Haryana SEZ Ltd. for feeder route connectivity for DFC.

REF :- Your letter no. 2005/PL/6/7/Pt.II dated 11.06.2010.

With reference to the above subject it is to mention that both the feeder routes i.e. Rewari –Gariharsaru- Farukhnagar and Rewari- Jhajjar (New line) fall in the jurisdiction of Northern Railway (Delhi Division).

However adequate connectivity will be given to the above mentioned sections to the proposed DFC yard of Rewari subject to the justification of traffic by the concerned Railway for smooth flow of traffic.


For Chief Operations Manager 02/7/2010

<p>रेल मन्त्रालय (रेलवे बोर्ड) (Railway Board)</p> <p>9 JUL 2010</p> <p>क.रे.सं./C.R. No..... अनुदान आयरी सं. Section Dy. No..... वर्गीकरण/Classification.....</p>
--

Government of India
Ministry of Railways
(Railway Board)

No. 2005/PL/6/7 Pt.II

6th July, 2010

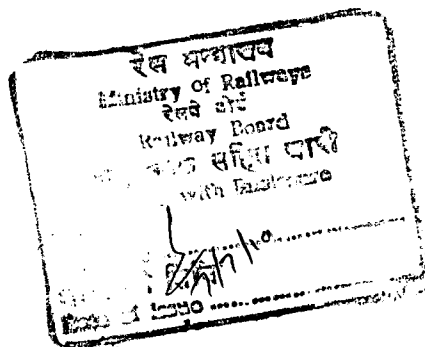
CTPM
Northern Railway,
Baroda House.,
New Delhi.

Sub: RTC application for M/s. Reliance Haryana SEZ Ltd.,

Kindly refer to RTC application of M/s. Reliance Haryana SEZ Ltd., at Farukhnagar station. The tentative commissioning plan of Garhi Harsaru-Farukhnagar line and the fitness for goods traffic may kindly be conveyed to Board for issue of RTC.

one P₂
(Priya Ranjan Parhi)
Jt. Director (Transport Planning)

Dr. Usha Jain
[Signature]
2/7



Government of India
Ministry of Railways
(Railway Board)

No. 2007/Infra/6/4 Pt.II

Dated: 05.07.2010

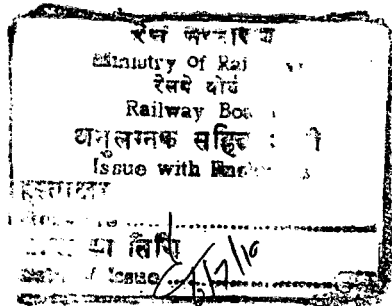
COM.,
Northern Railway,
Baroda House,
New Delhi

Sub: Rail connectivity for the Rajpura Thermal Power Project

A copy of the letter from Chairman, Railway Board addressed to Chief secretary, Punjab, in connection with finalisation of siding plans for Rajpura Thermal Power Station is enclosed for information and necessary action.

Dr
(Priya Ranjan Parhi)
Jt. Director (Transport Planning)
Tel/Fax: 23388858

Encl.: As above.



S.N.167

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt.II

Dated: 6th July, 2010

Shri S. K. Mishra
Dy.CE/Construction
Tilak Bridge
New Delhi.
Fax: 23238606

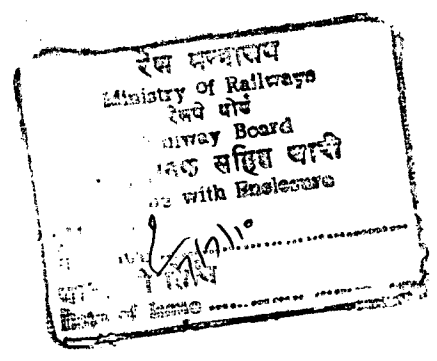
**Sub: Proposal of M/s Reliance Haryana SEZ Limited for declaring
Rewari- Jhajhar new line as a feeder route of DFC**

M/s Reliance Haryana SEZ Limited is going to set up a SEZ near Farukhnagar station of NR. In this context they have requested the Rewari- Jhajhar new line may be declared as a feeder route of Western DFC. In this connection the following may kindly be clarified:

1. The tentative commissioning date of Rewari-Jhajhar new line
2. Track fitness such as speed of the track and axle load capacity

De (P. R. Parhi)
Jt. Director Transport Planning

De. issue fair
[Signature]
2/7



S.N. 166

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt.II

Dated: 6th July, 2010

Shri H. L. Sutar
AGM/Projects/RVNL
August Kranti Bhawan
Bhikaji Cama Place
New Delhi.

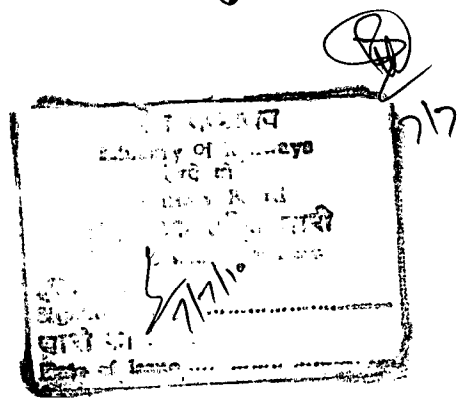
**Sub: Proposal of M/s Reliance Haryana SEZ Limited for Garhi Harsaru-
Farukhnagar line as a feeder route of DFC**

M/s Reliance Haryana SEZ Limited is going to set up a SEZ near Farukhnagar station of NR. In this context they have requested the Garhi Harsaru- Farukhnagar line may be declared as a feeder route of Western DFC. In this connection the following may kindly be clarified:

1. The tentative commissioning date of Rewari-Jhajhar new line
2. Track fitness such as speed of the track and axle load capacity, whether it is fit for 25t axle load.

Dr (P. R. Parhi)
Jt. Director Transport Planning

Dr. issue fair



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt. II

Dated: 7th July, 2010

CTPM
Eastern Railway,
Kolkata

Sub: Feeder Route connectivity for Eastern DFC

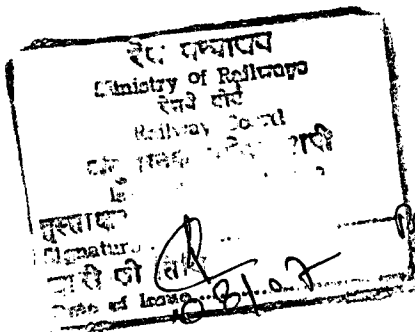
Ref: Eastern Railway's letter No. TP.183/229/DFC dated 01.6.2010

Kindly refer to Eastern Railway's proposal regarding inclusion of the following routes as Feeder routes for Eastern DFC:

1. Dankuni-Dum Dum-Baliganj – Diamond Harbour – Budge Budge
2. Haldia-Dankuni on SER
3. Bardwan-Katwa

In this connection, it is advised that the routes mentioned in item nos (1) & (2) above are already identified feeder routes.

Since BWN – KWAE section is under Gauge Conversion, the proposal for inclusion of this section as a feeder route for DFC will be considered at an appropriate time depending on traffic justification. However, Eastern Railway may furnish information regarding the plans for the proposed power plant and its likely date of its commissioning.



or
(P. R. Parhi)
Jt. Director Transport Planning

Please issue this
[Signature]
07/10

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt. II

Dated: 7th July, 2010

CTPM
Eastern Railway,
Kolkata

Sub: Feeder Route connectivity for Eastern DFC


Ref: Eastern Railway's letter No. TP.183/229/DFC dated 01.6.2010

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1. Dankuni-Dum Dum-Baliganj – Diamond Harbour – Budge Budge
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3. Bardwan-Katwa

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(P. R. Parhi)

Jt. Director Transport Planning

Feeder routes of Eastern and Western DFC

1. Sonnagar- Garwa Road- Barkakana
2. Gomoh-Chandrapura-Bokaro-Muri-Chandil-Sini-Chakradhapur
3. Patratu- Gomoh including PD Branch Line
4. Sonnagar - Gaya - Gomoh
5. Gomoh - Pradhankhunta (39 kms.) including Kusunda-Tetulmari (4.5 Kms.) Katrasgarh-Nichitpur, Pradhankhunta-Pathardih links (24 kms.)
6. Pradhankhunta - Asansol - Andal including coal Branch lines
7. Dhanbad-Katrasgarh-Jamuniatar-Chandrapura
8. Andal-Sainthia-Pakur
9. Dankuni-Andul-Panskura-Haldia
10. Dankuni-DumDum Junction - Ballygunj Junction - Diamond Harbour Ballygunj Junction - Budge Budge
11. Chandil-Bhojidih-Mohuda-Gomoh
12. Tatanagar-Chandil
13. Mughalsarai - Unchahar via Janghai, Phaphamau
14. Aligarh - Harduaganj
15. Zafrabad - Tanda
16. Kanpur - Paricha
17. Varanasi-Sultanpur-Utratia - Rosa
18. Ludhiana - Beas-Govindwal Sahib
19. Rajpura - Dhuri - Bhatinda (Lehra Mohabbat)
20. Sirhind - Rupnagar - Nangal Dam
21. Hissar-Bhatinda-Suratgarh
22. Suratgarh-Biradhwai

Western Corridor

1. Pipavav- Surendranagar- Viramgam- Mehsana
2. Kandla Port- Gandhidham- Palanpur
3. Mundra Port - Gandhidham
4. Viramgram - Samakhiali
5. Hazira - Surat
6. Ludhiana - Hissar - Rewari
7. Mumbai Port - Wadala - Kurla - Diva with connectivity with DFC
8. Panvel - Pen - Roha
9. Bharuch - Dahej

142

EASTERN RAILWAY

No.TP.183/229/DFC.

Kolkata, dated the 1st June 2010.

Director Transport Planning,
Railway Board,
Ministry of Railway,
New Delhi.

Sub : Eastern Dedicated Freight Corridor from
Sonnagar-Dankuni.

Earlier Eastern Corridor was planned for termination at Sonnagar and the sections (i) Pradhankhanta-Asansol-Andal, (ii) Andal-Sainthia-Pakur were identified as feeder routes.

Now the route Pradhankhanta-Asansol-Andal will not be relevant as it falls on DFC route. Since the DFC has been extended upto Dankuni, the following routes may be added as feeder route :-

- (i) DKAE-DDJ-BLN-BGB (for Kolkata Port traffic)
- (ii) BWN-KWAE (for proposed KWAE Power House).

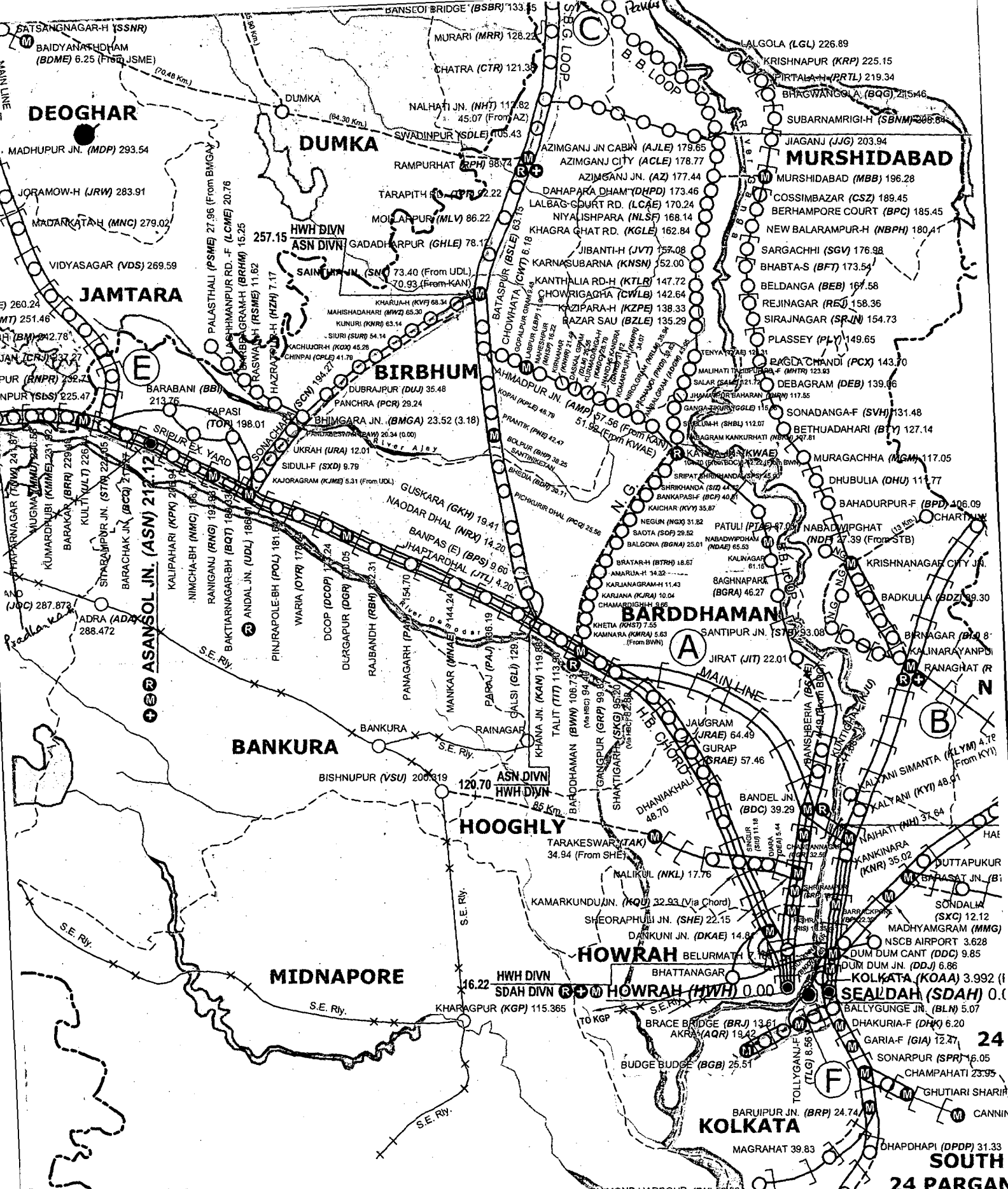
South Eastern Railway may also be advised for confirmation of HILZ-DKAE route as feeder route.

Board may kindly confirm so that infrastructural works may be planned on these routes.



(P. K. Sahu)

Chief transportation Planning Manager.



WEST BENGAL

**NALHATI JN.
NJ JN. &
BALLALPUR**

Approved feeder route

SCALE

24 PARGANAS
 DAKSHIN BARASAT 41.78
 LAKSHMIKANTAPUR (LKPR) 61.46
 UDAIRAMPUR-H (URP) 66.81
 KASHINAGAR-H 91.56
 KAKDWIP 94.92
 UKILERHAT 102.16
 NAMKHANA 108.07

C

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt.II

Dated: 6th July, 2010

Shri H. L. Sutar
AGM/Projects/RVNL
August Kranti Bhawan
Bhikaji Cama Place
New Delhi.

**Sub: Proposal of M/s Reliance Haryana SEZ Limited for Garhi Harsaru-
Farukhnagar line as a feeder route of DFC**

M/s Reliance Haryana SEZ Limited is going to set up a SEZ near Farukhnagar station of NR. In this context they have requested the Garhi Harsaru- Farukhnagar line may be declared as a feeder route of Western DFC. In this connection the following may kindly be clarified:

1. The tentative commissioning date of Rewari-Jhajhar new line
2. Track fitness such as speed of the track and axle load capacity, whether it is fit for 25t axle load.



(P. R. Parhi)

Jt. Director Transport Planning

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt.II


Dated: 6th July, 2010

Shri S. K. Mishra
Dy.CE/Construction
Tilak Bridge
New Delhi.
Fax: 23238606

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1. The tentative commissioning date of Rewari-Jhajhar new line
2. Track fitness such as speed of the track and axle load capacity


(P. R. Parhi)
Jt. Director Transport Planning

S.N. = 160

North Western Railway

No: T-5/PLG/424/DFC

Headquarters office
Jaipur.
Date 02.07.2010**Joint Director (Transport Planning),
Railway Board,
New Delhi.****SUB :- Proposal of M/s Reliance Haryana SEZ Ltd. for feeder route
connectivity for DFC.****REF :- Your letter no. 2005/PL/6/7/Pt.II dated 11.06.2010.**

With reference to the above subject it is to mention that both the feeder routes i.e. Rewari - Gariharsaru - Farukhnagar and Rewari - Jhajjar (New line) fall in the jurisdiction of Northern Railway (Delhi Division).

However adequate connectivity will be given to the above mentioned sections to the proposed DFC yard of Rewari subject to the justification of traffic by the concerned Railway for smooth flow of traffic.


02/07/2010
For Chief Operations Manager

(19)

S.W. 159

NORTHERN RAILWAY

RL

No. 86-T/420/TGP/ICD/RHSEZ

Hd. Qrs. Office,
Baroda House,
New Delhi.

Dated: 15.6.10

Jt. Director (Trans. Planning).
Railway Board,
New Delhi.Sub: Proposal of M/s RHSEZ Ltd., for feeder route connectivity
for DFC.RE-Jhajjar-ROK line is under construction and Northern Railway
have written to Railway Board for transferring RE-Jhajjar-ROK line to
N.W. Railway for administrative control.Garhi harsaru-Farrukhnagar section is under gauge conversion
since 2005 and yet not commissioned by RVNL. While Garhi harsaru-
Farrukhnagar section was on meter gauge, only 3 pair of passenger
trains were running and no goods traffic was there.

Chief Traffic Planning Manager

रेल मंत्रालय (एन. डी.) (Railway Board)
17 JUN 2010
के.रे.सं./C.R. No.....
अनुभाग डायरी सं. Section Dy. No.....
वर्गीकरण/Classification.....

S-2.158

Reminder

**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt.II

18th June, 2010

COM
North Western Railway
Jaipur.


COM
Northern Railway
Baroda House,
New Delhi.

Sub: Proposals of M/s. Reliance Haryana SEZ Ltd., for feeder route connectivity for DFC

Ref: This office letter of even number dated 12.05.2010 and 11.06.2010

Kindly refer to the above letter regarding the proposal of M/s Reliance Haryana SEZ Ltd. requesting for Upgradation of Rewari – Garhiharsaru- Farukhnagar and Rewari – Jhajjar sections as feeder routes for DFC. NR and NWR were requested to examine the proposal considering the traffic justification, etc., and convey their comments.

The same has not been received. It is requested to furnish the remarks urgently by 23.06.2010.


(Priya Ranjan Parhi)
Jt. Director (Transport Planning)

Reminder

**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt.II

11th June, 2010


COM,
Northern Railway,
Baroda House,
New Delhi

Sub: Proposals of M/s. Reliance Haryana SEZ Ltd., for feeder route connectivity for DFC

Ref: This office letter of even number dated 12.05.2010

Kindly refer to the above letter regarding the proposal of M/s Reliance Haryana SEZ Ltd. requesting for Upgradation of Rewari – Garhiharsaru- Farukhnagar and Rewari – Jhajjar sections as feeder routes for DFC. Northern Railway was requested to examine the proposal considering the traffic justification, etc., and convey their comments.

The same has not been received. It is requested to furnish the remarks of NR expeditiously.


(Priya Ranjan Parhi)
Jt. Director (Transport Planning)

S.N.157

**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt.II

11th June, 2010

COM
North Western Railway
Jaipur.

COM
Northern Railway
Baroda House,
New Delhi.

**Sub: Proposals of M/s. Reliance Haryana SEZ Ltd., for feeder
route connectivity for DFC**

Please find enclosed a letter from Reliance Haryana SEZ Ltd. requesting for Upgradation of Rewari – Garhiharsaru- Farukhnagar and Rewari – Jhajjar sections as feeder routes for DFC. It is requested that Zonal Railway may examine the proposal on the respective sections considering the traffic justification, etc., and convey their comments.

D₂
(Priya Ranjan Parhi)
Jt. Director (Transport Planning)

Encl.: As above.

S.N.156

No. 2009/Infra/3/1/27

Sub: Progress of works on feeder routes of Western and Eastern
DFC

Ref: DCE(P) Note No. 2005/CE-II/TS/2(Part) dated 13.05.2010

With reference to your note the correct list of feeder routes is
enclosed.

*A letter to ECR has also been sent attaching the list.
ECR may be advised accordingly.*

D
JDTP

14.05.2010

DCE(P)

Feeder routes of Eastern and Western DFC

1. Sonnagar- Garwa Road- Barkakana
2. Gomoh-Chandrapura-Bokaro-Muri-Chandil-Sini-Chakradhapur
3. Patratu- Gomoh including PD Branch Line
4. Sonnagar - Gaya - Gomoh
5. Gomoh - Pradhankhunta (39 kms.) including Kusunda–Tetulmari (4.5 Kms.) Katrasgarh–Nichitpur, Pradhankhunta-Pathardih links (24 kms.)
6. Pradhankhunta - Asansol - Andal including coal Branch lines
7. Dhanbad-Katrasgarh-Jamuniatar-Chandrapura
8. Andal-Sainthia-Pakur
9. Dankuni-Andul-Panskura-Haldia
10. Dankuni-DumDum Junction - Ballygunj Junction - Diamond Harbour Ballygunj Junction -Budge Budge
11. Chandil-Bhojidih-Mohuda-Gomoh
12. Tatanagar-Chandil
13. Mughalsarai – Unchahar via Janghai, Phaphamau
14. Aligarh – Harduaganj
15. Zafrabad – Tanda
16. Kanpur – Paricha
17. Varanasi-Sultanpur-Utratia –Rosa
18. Ludhiana –Beas-Govindwal Sahib
19. Rajpura – Dhuri – Bhatinda (Lehra Mohabbat)
20. Sirhind – Rupnagar – Nangal Dam
21. Hissar-Bhatinda-Suratgarh
22. Suratgarh-Biradhwai

Western Corridor

1. Pipavav– Surendranagar– Viramgam– Mehsana
2. Kandla Port– Gandhidham- Palanpur
3. Mundra Port – Gandhidham
4. Viramgram – Samakhiali
5. Hazira – Surat
6. Ludhiana – Hissar – Rewari
7. Mumbai Port – Wadala – Kurla – Diva with connectivity with DFC
8. Panvel – Pen – Roha
9. Bharuch – Dahej

S.N. 155

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2009/Infra/3/1/27

Dated: 14th May 2010


General Manager,
East Central Railway,
Hajipur

Sub: Feeder routes for DFC

Ref: Board's letter of even number dated 23/03/2010

Kindly refer to Board's letter of even number dated 23rd March 2010 on the progress of works on feeder routes of Western & Eastern DFC.

In the list circulated vide letter under reference, Sonnagar – Gaya – Gomoh section may also be included and the new list is enclosed.


(P. R. Parhi)
Jt. Director Transport Planning

Encl: As above

S.N. 154

No. 2005/CE-II/TS/2 (Part)

Sub: Progress of works on Feeder Routes of Western and Eastern Dedicated Freight Corridors.

Please find enclosed herewith a copy of letter from CTE, East Central ~~Central~~ Railway and confirm whether Sonnagar-Gaya-Gomoh section of East Central Railway has been deleted from the list of feeder routes of Eastern DFC as the same was earlier appearing in the identified feeder routes circulated by letter No. 2005/PN/6/7 Part.II dated 4/4/2006.

Encl: As above


13/5/10
DCE(P)
13/05/10.

JD(TP)

East Central Railway

1st Copy

Office of the
General Manager (Engg)
Hajipur

No: W-7/632/09/DFC

1540

Date: 03.05.2010

OK

Exec. Director Civil Engg. (Plg),
Railway Board, New Delhi.

137

Sub: Progress of works on Feeder Routes of Western & Eastern Dedicated Freight Corridors.

Ref: Director/Plg(Spl.) Letter No: 2009/Infra/3/1/37 Dated: 23.03.2010.

Vide above referred Board's letter, list of the Feeder Routes pertaining to Eastern Corridor of DFC has been enclosed. During verification at this end from earlier list of the Feeder Routes pertaining to Eastern Corridor of DFC, issued vide Board letter No: 2005/CE-II/TS/2 Dated: 10.02.2009, it has been noticed that Sonnagar-Gaya -Gomoh section is excluded in the latest list, communicated vide above letter.

Since all the correspondences about feeder routes are received by Railway from you, deletion of Sonnagar-Gaya-Gomoh section on ECR from feeder routes vide Planning Directorate, Railway Board's above letter may please be confirmed.

2/1364

DCP
→
[Signature]
M

[Signature]
(J. K. Verma)
Chief Track Engineer
East Central Railway, Hajipur

S.N. 153

**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt.II

12th May, 2010

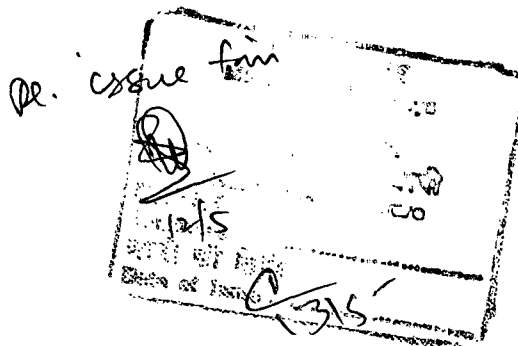
COM.,
Northern Railway,
Baroda House,
New Delhi

Sub: Proposals of M/s. Reliance Haryana SEZ Ltd., for feeder route connectivity for DFC

Please find enclosed a letter from Reliance Haryana SEZ Ltd. requesting for Upgradation of Rewari – Garhaharsaru- Farukhnagar and Rewari – Jhajjar sections as feeder routes for DFC. It is requested that Zonal Railway may examine the proposal considering the traffic justification, etc., and convey their comments.

Pr (Priya Ranjan Parhi)
Jt. Director (Transport Planning)

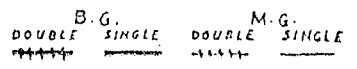
Encl.: As above.



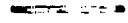


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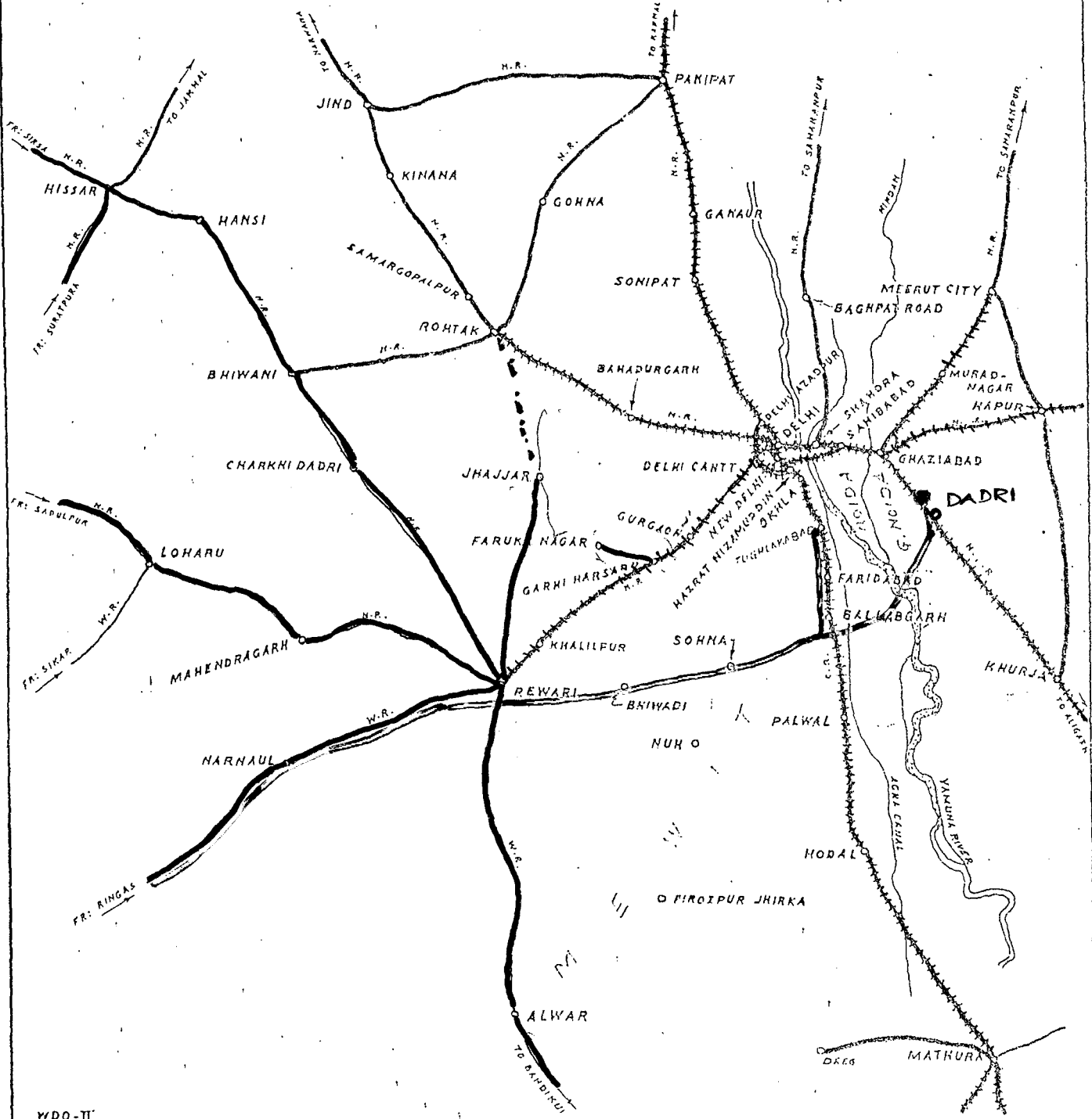
EXISTING RAILWAY LINES



PROPOSED DFC ALIGNMENT



SCALE: 1" = 16 MILES

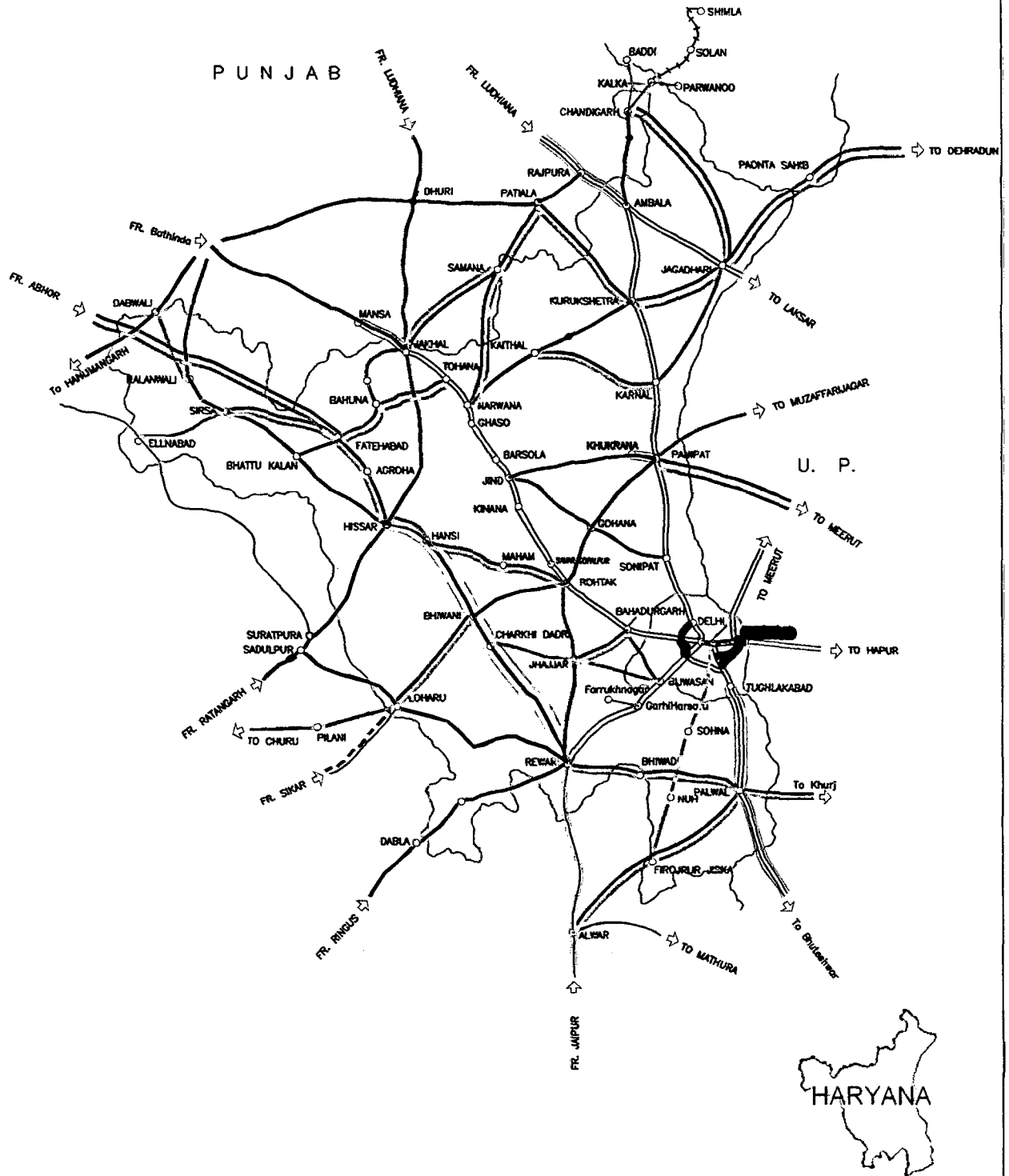


REFERENCE:

	B.G.		M.G.		N.G.
	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE
1. EXISTING RAILWAY LINES	DL	NL	++++	GC	++++
2. WORKS IN PROGRESS	DL	NL	++++	GC	++++
3. LINES SURVEYED	DL	NL	----	GC	----
4. SURVEYS IN PROGRESS	DL	NL	----	GC	----
5. STATE LINE	----	----	----	----	----

HIMACHAL PRADESH

PUNJAB



RHSLA HO\ 2009-10\ 066

21st Jan 2010

*1204
21-1-10*

**The Adviser (Infrastructure),
Railway Board,
Rail Bhawan,
New Delhi- 110001**

*JD TP
for
21/1/10*

Sub Request for DFC - Feeder Route status

Sir,

Reliance Haryana SEZ Limited (RHSL) is a joint venture between Reliance Ventures Limited (RVL) a subsidiary of Reliance Industries Limited and the Haryana State Industrial Infrastructure Development Corporation (HSIIDC) and has been established to develop Special Economic Zones (SEZs) in the districts of Gurgaon and Jhajjar in Haryana.

With regard to the above mentioned subject we would like to inform that –

1. RHSL has received in principle approval from GoI to establish a fully integrated Multi Product SEZs for low / non polluting industries in the districts of Jhajjar and Gurgaon in Haryana spread over an area of 10000 hectares (25000 acres). We have already acquired about 40% of the total land required. ✓
2. The Government of Haryana has recommended that the project be treated as a node to the Manesar Bawal Investment region of the proposed DMIC along the DFC. Copy of the letter is enclosed. ✓

Annexure A

3. The project, being implemented in phases, envisages development of all infrastructure facilities such as power and water utilities, logistics hub etc. Accordingly a Container Freight Station (CFS)/ Inland Container Depot (ICD) is also planned within the zone which will form an integral part of the SEZ Logistics Park.

The Logistics hub is being planned and conceived as per the DFC's standards to enable seamless movement of our traffic on to the DFC when commissioned. A significant proportion of the traffic will comprise double stack container movement, including hi-cube double stacking on flat bed wagons.

4. Rail connectivity is envisaged through two sections of IR, namely
 - (i) through the under construction Rewari – Jhajjar – Rohtak section and
 - (ii) through the Rewari - Garhi Harsaru – Delhi section.
5. As per study commissioned through one of the reputed consultants, M/s. Feedback Ventures, it is estimated that the CFS/ICD will handle freight traffic of 46,402 TEUs in the initial year of its operation which will further reach 0.10 million TEUs in the next two years and ultimately to handle 1.36 million TEUs in the 25th year of the project period. Synopsis of the rail traffic projection is enclosed.

Annexure B



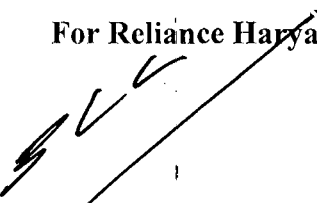
6. It is envisaged that during the initial period, the SEZ will cater to 1-2 rakes per day and gradually increase to 3-4 rakes per day from the 5th year of the project onwards.

We request you to grant DFC Feeder Route status to both the – (1) Rewari – Garhi Harsaru- Farukhnagar and (2) Rewari – Machrauli – Jhajjar sections to enable smooth, seamless movement of our Container traffic along these two sections and on to the DFC in due course.

Thanking you,

Yours Sincerely

For Reliance Haryana SEZ limited


Adawal Shanker
Director

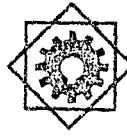
Encl As above

011 - 23708090 -

Mr. Padmanavan -

fax

23704089



(A State Government Undertaking)

D.O.No.HSIDC:MD:BDC:2009: 1382
Date: 17-9-09

Subject: Inclusion of Reliance Haryana SEZs at Gurgaon & Jhajjar as a
node of the DMIC in Manesar – Bawal Investment Region

Dear Mr. Amitabh Kant,

With reference to the subject stated above, it is to inform that Govt. of Haryana vide its orders dated 15.9.2009 has approved the inclusion of Reliance Haryana SEZ(RHSEZ) projects (a Joint Venture of HSIDC and Reliance Ventures Ltd.) being developed at Gurgaon & Jhajjar as a node of the DMIC project in Manesar - Bawal Investment Region. The salient features of the project are as under:-

1. The Project is envisaged over an area of 10000 hectares (100 Sq.KMs) comprising of two SEZs of 5000 hectares each at Gurgaon and Jhajjar. Gurgaon-Jhajjar being part of NCR region, however Jhajjar is an underdeveloped district to the close proximity to National Capital Delhi
2. The Project is being developed as Multi Product SEZ and will be developed in three phases with an estimated investment of Rs. 40,000 Crores.
3. The promoters of the RHSEZ have been advised to contact DMIC and its consultants for taking forward the planning of the node.
4. Copy of the communication dated 17th September addressed to RHSEZ is enclosed for the information.

Warm regards,

Yours Sincerely,

Rajeev Arora
Rajeev Arora

Sh. Amitabh Kant, IAS
CEO,
Delhi Mumbai Industrial Development Corporation
New Delhi

Reliance Haryana SEZ (RHSEZ) Logistics Park – Rail Traffic Projection

RHSEZ at a glance

RHSEZ is strategically located on the Delhi Mumbai Industrial Corridor (DMIC), in proximity to the National Capital and adjacent to Gurgaon and Manesar, the fastest growing outsourcing and industrial destinations. The KMP expressway and NPR pass through the site and NH 8 and SH are also other linkages to the site.

The entire area will be developed as several integrated hubs and parks for processing and non-processing activities. Industrial sectors like IT-ITES, Biotechnology, Pharmaceuticals, Electronics, Automotives and ancillaries, Textiles and apparels, Light engineering, Polymers and several Service industries to name a few would be accommodated in RHSEZ, besides residential, commercial and institutional facilities. The zone would meet global standards in terms of infrastructure supporting the industries and residents amidst the eco-friendly business climate in order to be able to compete against the international SEZs in this region in attracting big investors.

RHSEZ Logistics Park – Container Rail Freight Volume

As part of our comprehensive plan, a Logistics Park is one of the major requirements to handle the freight movement generated in the zone. Accordingly, a state-of-the-art logistics infrastructure is planned within the RHSEZ Logistic Park. The Logistics Park will handle all the freight movement in and out of the Reliance SEZ. It is undoubtedly expected to attract a significant share of the Hinterland EXIM container freight and the Domestic Tariff Area (DTA) freight traffic. As per our study, the secondary Hinterland consists of catchment areas divided into four axes, viz, Panipat, Kurukshetra, Faridabad, Gurgaon and Delhi. The DTA freight will consist of RHSEZ freight and others that will move within the Indian territories and will use the Logistics Park.

EXIM Container Rail Freight Projections

EXIM freight will have the origins and destinations from the region with the Eastern and Western sea ports of the country. A total container rail freight of 1.01 million TEUs has been projected to be generated in the year 2010 within the catchment area of the project to be called as the Hinterland. The Hinterland rail freight has been projected upto 2034 which is the 25th year of the project and has been found to touched over 20 million TEUs.

Hinterland EXIM Container Freight	2010	2011	2012	2013	2014	2019	2024	2029	2034
Total Freight	1,453,700	1,632,796	1,833,956	2,076,039	2,350,076	4,452,118	8,129,586	14,327,108	25,249,260
Rail Mode (%)	70.0%	70.0%	70.0%	72.5%	72.5%	75.0%	77.5%	80.0%	80.0%
Rail Share of Total	1,017,590	1,142,957	1,283,769	1,505,128	1,703,805	3,339,088	6,300,429	11,461,687	20,199,408

The Logistic Park is expected to be operational from the 2012 and will handle certain volume of the hinterland freight, besides handling the RHSEZ's DTA and EXIM freights that will be generated from the SEZ. The Logistic Park will handle an initial 37730 TEUs of Hinterland EXIM container rail freight in 2012. Reliance SEZ is expected to start generating industrial EXIM freight from the year 2017 and the Logistics Park will handle 1795 TEUs of RHSEZ freight in the year 2019.

The Logistics Park will handle 37730 TEUs in 2012 and will reach over 1 million TEUs of EXIM container rail freight in the year 2034.

EXIM CONTAINER RAIL FREIGHT	2010	2011	2012	2013	2014	2019	2024	2029	2034
Hinterland EXIM Freight (TEUs)	0	0	37,730	62,444	90,353	188,212	301,274	509,352	909,764
RHSEZ EXIM Freight (TEUs)	0	0	0	0	0	1,795	18,031	53,193	96,216
Total EXIM Freight (TEUs)	0	0	37,730	62,444	90,353	190,007	319,305	562,546	1,005,979
In Bound (TEUs)	0	0	15,092	24,977	36,141	76,003	127,722	225,018	402,392
Out Bound (TEUs)	0	0	22,638	37,466	54,212	114,004	191,583	337,527	603,586
No of Rakes per annum @ 90 TEUs	0	0	419	694	1,004	2,111	3,548	6,251	11,178

DTA Container Rail Freight Projections

The Logistics Park will also handle 8672 TEUs of domestics or DTA container freight in the year 2012 or the initial 3rd year of its operation and will reach about 0.36 million TEUs of DTA container rail freight in 2034.

DTA CONTAINER RAIL FREIGHT	2010	2011	2012	2013	2014	2019	2024	2029	2034
Total DTA Freight (TEUs)	0	0	8,672	10,831	13,470	52,508	92,054	222,982	361,444
In Bound (TEUs)	0	0	4,336	5,416	6,735	26,254	46,027	111,491	180,722
Out Bound (TEUs)	0	0	4,336	5,416	6,735	26,254	46,027	111,491	180,722
No of Rakes per annum @ 90 TEUs	0	0	48	60	75	292	511	1,239	2,008

Total Container Rail Freight Projections

The Park will therefore handle a total of 46402 TEUs of container rail freight in the year 2012 and will touch 0.10 million TEUs in the year 2014 and will handle a threshold of 1.36 million TEUs in 2034. The Logistics Park will initially cater to 1-2 rakes per day and gradually increase to 3-4 rakes per day from 2014 onwards.

TOTAL CONTAINER RAIL FREIGHT	2010	2011	2012	2013	2014	2019	2024	2029	2034
Total (TEUs)	0	0	46,402	73,275	103,823	242,515	411,359	785,528	1,367,423
In Bound (TEUs)	0	0	19,428	30,393	42,876	102,257	173,749	336,509	583,114
Out Bound (TEUs)	0	0	26,974	42,882	60,947	140,258	237,610	449,019	784,310
No of Rakes per annum @ 90 TEUs	0	0	467	754	1,079	2,403	4,059	7,489	13,186
No of Rakes per month @ 90 TEUs	0	0	39	63	90	200	338	624	1,099
No of Rakes per day @ 90 TEUs	0	0	1	2	3	7	11	21	37

Proposed Rail Connectivity

Considering the size of RHSEZ and the significant potential for generating large volumes of freight, it is considered necessary to have rail access from two sides of the Special Economic Zones. We have explored the possible rail connectivity options and have identified the two nearest sections, namely, (i) the Rewari - Garhi Harsaru – Farukhnagar section of the IR network and (ii) the under construction Rewari – Jhajjar – Rohtak section as the best options

- (i) **Rewari - Garhi Harsaru – Farukhnagar section:** This section will give RHSEZ access to the main Delhi – Mumbai rail corridor. The nearest station is Mubarakpur/ Farukhnagar situated 12 Km from the main line. Connectivity from this section will give RHSEZ the shortest connectivity to the major western ports of Maharashtra and Gujarat as well as a link to the proposed DFC in the future.
- (ii) **Rewari-Jhajjar-Rohtak section:** At present, Jhajjar district headquarters is not on the railway map, however, Jhajjar is now proposed to be connected with Rewari and Rohtak by a straight north-south linkage of these three major towns. Connectivity from this section to RHSEZ will link RHSEZ with the ports on Maharashtra and Gujarat as well as the proposed DFC in due course and increase the efficiency of the logistic park.

S.N
150

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

No.2005/PL/6/7 Pt.II

New Delhi, dated 6.4.2008

Managing Director,
Bharuch-Dahej Railway Company Ltd.,
Palika Bhawan,
R.K. Puram,
New Delhi.

Sub:- Connectivity of Bharuch-Dahej line with DFC and the technical standards for Dahej-Bharuch line.

Ref:- Rly. Bd's letter No.2005/PL/6/7 Pt.II dated 30.9.2008 and letter No.2004/W-I/RVNL/17 dated 29.10.2008.

With reference to the above letters, Board have now reviewed the matter and decided that Dahej-Bharuch line which is a feeder route of the Western DFC should be constructed to 25 tonne axle load standards and not to DFC standards. It has also been decided that the line would be provided with normal OHE (and not the higher height OHE) and the stations with standard-III interlocking signaling systems.

P
(P.R. Parhi)

olc
Jt. Director Transport Planning,
Railway Board.
Tel/Fax: 23388858

Copy to :- MD, RVNL, New Delhi.
MD, DFCCIL, New Delhi.
GM, Western Railway, Mumbai.

Pl. issue form

रेल्व बोर्ड Ministry of रेलवे
अनुसूचित निदेशक निदेशक
हस्ताक्षर Signature <i>SM</i>
जारी की तिथि Date of issue

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
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P

(P.R. Parhi)

Jt. Director Transport Planning,
Railway Board.
Tel/Fax: 23388858

Copy to :- MD, RVNL, New Delhi.
MD, DFCCIL, New Delhi.
GM, Western Railway, Mumbai.

S.N. 149

63

भारत सरकार (GOVERNMENT OF INDIA)
रेल मंत्रालय (MINISTRY OF RAILWAYS)
रेलवे बोर्ड (RAILWAY BOARD)

No. 2004/W-I/RVNL/17

New Delhi, dt. 29 -10-2008


**Managing Director,
Dedicated Freight Corridor
Corporation of India Ltd.,
2nd Floor, Palika Bhawan,
Sector-XIII, R.K. Puram,
New Delhi-110066.**

**Sub: Connectivity of Dahej-Bharuch Railway Line with
DFCC.**

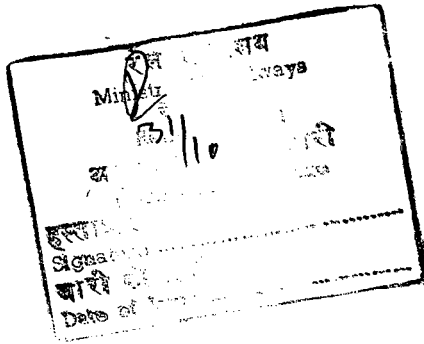
**Ref. DFCCIL's letter No. HQ/Dir(Opns)/Port Connec. Dated-
18.09.2008.**

The issues contained in the letter under reference has been considered by Board. In this connection, Board's decision contained in their letter No. 2005/PL/6/7 Pt. II dated 30.09.2008(copy enclosed) may be referred to. As the Bharuch-Samini-Dahej line will be a feeder route to DFC, it should be to the DFC standard.

D.A. /as above


o/c **(Alok Misra)**
Director Works Planning

Copy to MD/RVNL, New Delhi for information.





S.N.148

59

डेडीकेटेड फ्रेट कोरीडोर कॉर्पोरेशन ऑफ इण्डिया लि.
(भारत सरकार का उपक्रम)
Dedicated Freight Corridor Corporation of India Ltd.
(A Government of India Enterprise)

V.K. KAUL
MANAGING DIRECTOR

D.O. No. HQ/Dir(Opns)/Port Connec.

18th Sept, 2008

1523
Dear Shri Jena,

Sub: Connectivity of Dahej-Bharuch Railway line with DFCC

m.e.
ED/WP
20/9
Pls look on file of this matter on file.
24/9
24/9/08
D.O/WI

During meeting with Gujarat Government officials on 10.9.08 at Ahmedabad, MD, GIDC mentioned that port connectivity for Bharuch-Dahej line is under implementation through an SPV with RVNL, where GIDC and others will be equity holders. MD, GIDC further briefed about the logistic need of Petroleum Chemical & Petrochemicals Investment Region (PCPIR) near Dahej Port spread over 45,000 hectares land with huge investment of Rs. 2 lakh crores.

Gujarat Govt. officials advised that the Dahej-Bharuch connectivity through SPV is in advance stage and wanted following issues to be addressed:

- i) Technical specifications of Dahej-Bharuch connectivity should be of DFC standards so as to have seamless movement of traffic from Dahej Port using DFC on end to end basis;
- ii) Connectivity of Dahej Port to DFC at the nearest location in view of very high volume of traffic involved from this industrial complex;

Board may consider issue of suitable instructions to address these issues.

With kind regards,

Yours sincerely,

(V.K. KAUL)

Shri K.C. Jena,
Chairman,
Railway Board,
New Delhi.

Copy to: i. Member(Engg.), Railway Board for information

ii. Managing Director, RVNL for information.

Sub: Connectivity of Dahej- Bharuch railway line with DFCC.

DFCCIL in their letter at S.No.59 have stated that during a meeting with Gujarat Government officials on 10.09.08 at Ahmedabad, MD/GIDC mentioned that port connectivity for Bharuch-Dahej line is under implementation through an SPV of RVNL, where GIDC and others will be equity holders. MD.GIDC further briefed about the logistic need of Petroleum Chemical & Petrochemicals Investment Region (PCPIR) near Dahej Port, spread over 45,000 hectares land with huge investment of Rs.2 lakh crore.

Gujarat Govt. officials advised that the Dahej-Bharuch connectivity through SPV is in advance stage and wanted the following issues to be addressed;

- (i) Technical specification of Dahej-Bharuch connectivity should be of DFC standards so as to have seamless movement of traffic from Dahej Port using DFC on end to end basis;
- (ii) Connectivity of Dahej Port to DFC at the nearest location in view of very high volume of traffic involved from this industrial complex;

DFCCIL has requested for issue of suitable instructions to address the aforesaid two issues.

An extract of status of Bharuch-Samni-Dahej GC project taken from PCDO of RVNL and placed below at S.No.60 may kindly be perused. The project is being executed by an SPV (BDRCL) formed by RVNL, of which DSL/GIDC is a strategic partner. The Concession Agreement for the SPV has been finalized. The plans are under final stage of approval. Detailed estimate has been sanctioned. Tender is scheduled to be opened on 01.10.08.

In reply to Lok Sabha Unstarred Question No.2365 for 15.03.07, it was stated to the House that it will be possible to integrate Bharuch-Dahej NL with Western Dedicated Freight Corridor. A copy of the reply placed below at S.No.61 may kindly be perused.

Contd.....

Before papers are submitted to Board, EDPP and ED/Traffic/PPP may kindly see w.r.t. connectivity of Dahej Port to the nearest point on DFC.

Board may kindly see for consideration whether technical specifications of Bharuch-Samni-Dahej GC project should be of DFC standards, and Dahej Port may be connected to the Western DFC at the nearest location.

[Signature]
D.O./W-I
29.09.08

~~DWP~~

3m
29/9/08

~~EDWP~~

[Signature]
29/9/08

~~EDPP~~

~~ED/Traffic/PPP~~

~~Adv./W~~

~~ME~~

~~MT~~

1049
29.9.08

Board have on a separate file recently app connectivity of this DFC to the Dahej Bharuch line

as suggested by both DFCIL & ARWL.

As this Dahej Bharuch line will be a feeder route, it should be to DFC standard. Copy of letter issued for connectivity of Dahej - Bharuch line to DFC is placed on file

I agree with the views of ED/Traffic/PPP.

[Signature]
29/9/08

[Signature]
29/9/08

may pl see.

[Signature]
29/10

[Signature]
Pl. issue letter 3m
pending of 5/10/13/10

DO/W E

[Signature]
10/10

DWP
[Signature]
29/9/08

NAME OF PROJECT : BHARUCH - SAMNI - DAHEJ - GAUGE CONVERSION

SALIENT FEATURES:
Contract Details of RVNL

		<u>Name of Firm</u>	<u>Value (Cr.)</u>	<u>DOA</u>	<u>DOC</u>
1	Plan Head	: Gauge Conversion			
2	Rly. / State	: WR / Gujarat	M/S L&T	174	21.02.09
3	Length	: 62.36 Kms.			Aug.-10
4	Ruling Gradient	: 1 in 266			
5	Track Structure	:Bharuch-Samani (60 Kg.,M+7,1660,PSC) Samani-Dahej (52 Kg., M+7,1660,PSC)			
6	Signalling Std.	: Std. III MACLS			
7	Funding Source :	:SPV			
8	Executing Agency :	: RVNL			

SPV : RVNL(29.50%), Dahej SEZ (11.75%), GMB (11.75%), APDPPL (11.75%), GNFC (11.75%), Hindalco-Birla Copper (11.75%), Jindal Rail Infrastructures Ltd (11.75%)

DETAILS:

1	Year of Clearance	: 2005-06
2	Original Cost	165.77 cr
3	Sanctioned Cost	200.80 Cr.(Revised 261.00 Cr.)
4	Exp. upto 31.3.2008	0.78 cr.
5	Exp. during the month	0.14 cr.
6	Exp. upto the month	0.33 cr. (Project expenditure by RVNL from SPV funds)
7	Budget Outlays 2008-09	11.61 cr.(RE) (for equity call by SPV)
8	Date of actual commencement	
9	Physical progress (%)	0 %
10	Financial progress (%) - FY	2.84 %
11	Financial progress (%) - Cum.	0.55 %
12	Original Target date	2009-10
13	Revised Target date	

PROGRESS:

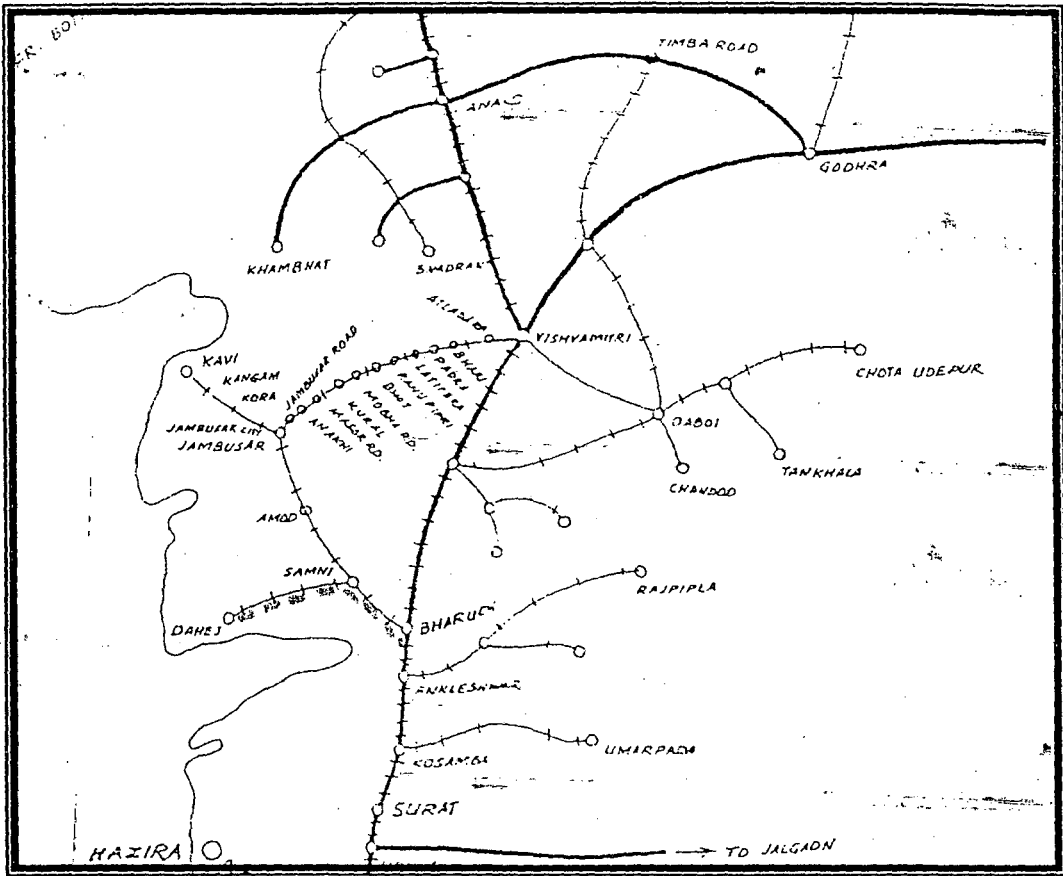
S.No.	Description of items	Unit	Scope of Works	Progress upto previous month	Progress during the month	Cumulative Progress	Target	Remarks
1	Final Location Survey	km	62	62	0	62	31.12.05	Completed
2	Plans and Estimates	no.	Minor 87 + Major 3 + Yard Plan 6					Plans approved by division submitted to W.Rly. HQ on 04.08.2008
3	Land Acquisition	hect.	16.8					The Project approved, detailed estimate sanctioned and revised estimate is in vetting.
8	Earth work	lac cum	5,593					
9	Blanketting	lac cum	1.75					
10	Minor Bridges	no.	87					
11	Major Bridges	no.	3					
12	Ballast	cum	1.75					
13	Linking of Track	km	72.16					
14	OHE	km	72.16					
15	S&T	No. of stn.	8					
16	Opening of Section	km						

Status :

(i) The project has been sanctioned vide Rly.Bd.No. 2004/W-I/RVNL/17 Dated:-22.03.06 alongwith remarks that "Project implementation should not commence until equity funds have been tied up , with RVNL equity stake being restricted to 33.33%". SHA has been signed on 12.01.07. (ii) Finalisation of Concession Agreement by Rly.Bd. Completed. (iii) Alignment had to be modified as connectivity towards Mumbai end was not acceptable to Railway. Thus connectivity at Chavaj was planned. Meetings held with DRM. Last meeting held on 27.01.09. iv) Execution tender has been awarded to M/s. L&T on 21.02.09. (v) PMC tender opened on 23.12.2008. Briefing note is under preparation and credentials are being verified. (vi) All the yard plans were submitted to WR HQ which have been returned with remarks. These are being complied with. (vii) L - Section & bridge details are being modified for DFC loading.

Assistance Required :

Nil



	BG	MG	NG
EXISTING RAILWAY LINES		—————	
WORKS IN PROGRESS	—————		
LINE SURVEYED	—————		
LINE SUGGESTED	—————		

Table 3.5B - Final Freight Traffic Assessment

(Figures in Million Tonnes)

Sl.No.	Commodity	07-08	11-12	15-16	19-20
1.	Coal	2.90	3.50	4.20	4.90
2.	Fertilizer & other Raw material	1.00	1.10	1.60	1.80
3.	De Oiled Cake	0.90	1.20	1.30	1.50
4.	Raw Steel & Finished Products	0.30	0.45	0.55	1.10
5.	Others	0.05	0.06	0.08	0.09
	Total	5.15	6.31	7.73	9.39

The above projections include shift of some traffic from existing streams due to distance advantage. For example DOC shall shift from Kandla, Mundra, Mumbai or Bhavnagar ports to Dahej port, except incremental traffic due to growth in export. In addition, traffic of coal, Fertiliser, which is moving from Dahej to Bharuch on onward dispatch by rail shall also come to aril from Dahej leading to more leads and more incremental revenue. But other traffic, which is currently being handled at Dahej port and is moved by road due to absence of railway facilities, shall come as incremental traffic. This shall be primarily imported coal, rock phosphate, DAP, Iron & Steel and export foodgrains, etc., which shall be more than 3 million tonne in the year 2007-08.

3.5.3 Traffic Leads

O-D analysis was conducted to firm up leads for various streams of traffic on different corridors and also for the assessment of apportioned earnings for the project line. The traffic leads for the major commodities are as under:

Table 3.5C - Traffic Commodity Leads and Users

Commodity and Class	Origin	O - Ds	Avg, Lead(kms)	User industries / Place
Coal -130	Dahej	Various	260	GNFC, GSFC, KRIBHCO, ADI, Power plants at Wanakabari, Ukai-Songarh, Nasik, Bhusawal, etc.
Fertilizer & FRM-95	Dahej	Various	775	Gujarat, Maharashtra, MP, Rajasthan, Punjab, Haryana
De-oiled cake-120	MP Rajasthan Maharashtra	Dahej	555	Export Cargo
Steel raw material -160	Mundra	Dahej	600	Raw material and finished products from Welspun
Steel raw material	Bhilai	Dahej	1679	Raw material for Welspun,

-160	Rourekela			Dahej
Steel finished -180	Dahej	Various	674	MP, Maharashtra, Gujarat, Rajasthan
Others - Salt, etc-115	Dahej	Various	775	MP, Maharashtra, Haryana, Punjab, Gujarat.
Containers	Dahej	Various	450	MP, Maharashtra, Gujarat, Rajasthan.

3.5.4 Assessment of Passenger Traffic

The road is running parallel to rail alignment from Bharuch to Samni to Jambusar, however, by direct route Dahej is shorter by road as compared to rail. As a result white collar workers shall continue to use buses and private vehicles shall ply between Bharuch and Dahej even if broad gauge rail line is extended up to Dahej. GMB has however, indicated that there may not be any need of passenger train services on the project line due to road route being shorter and a large number of trains are available at Bharuch for various destinations. We have accordingly not taken the cost of operations of any passenger train services, which shall otherwise be operated and maintained by the railway, if the project is implemented through SPV route. Following number of Freight Trains, loaded and empty, which are likely to move on Dahej - Bharuch corridor, are suggested

Table 3.5 D- No. of Trains(Loaded & Empty) on the Project Line

C'dity	2007-08			2011-12			2016-17			2021-22		
	L	E	Total	L	E	Total	L	E	Total	L	E	Total
Coal	2.3	2.3	4.7	2.8	2.8	5.6	3.4	3.4	6.8	3.9	3.9	7.9
Fertilizer												
&FRM	1.2	0.1	1.3	1.3	0.0	1.3	1.9	0.4	2.3	2.2	0.4	2.6
DOC	1.1	0	1.1	1.5	0.1	1.6	1.6	0.0	1.6	1.8	0.0	1.8
I&S	0.4	0.2	0.6	0.5	0.3	0.8	0.7	0.3	1.0	1.3	0.6	1.9
Others	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2
Con. Trains	0.2	0.2	0.4	0.2	0.2	0.4	0.2	0.2	0.4	0.2	0.2	0.4
Total	5.3	3.0	8.2	6.4	3.5	10.0	7.9	4.3	12.2	9.6	5.2	14.8

3.6 ASSESSMENT OF EARNINGS

The freight earning has been estimated based on the leads, various commodities and their prevailing class rates of transportation as published in IRCA freight table. The earning for the project shall be in proportion to the length of the section, besides the benefit of terminal handling charges on one end due to Dahej being a terminal station in case of freight cargo moving on this line.

This is calculated as follows:

$$\begin{aligned} & (\text{Total earnings} - 2X \text{ Terminal charges}) \times (\text{Project length/Total lead length}) \\ & + \text{Terminal charges} \end{aligned}$$

Based on the above the revenue earnings for the project line comes as under:

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD



S. N. 144

Sab. 95

No. 2007/CE-I/BR-III/5/25t

New Delhi, Dt.: 14.1.09

Principal Chief Engineers,
All Indian Railways

Sub: Rebuilding/strengthening/rehabilitation of bridges on Indian Railways to 25t loading – 2008 and DFC loading

Ref : (i) Board's letter of even No. dt. 27.11.07;
(ii) Board's letter No. 2006/CE-I/BR-III/12 dt. 20.8.08
(iii) Correction slip No.38 to IRS Bridge Rules (2001) issued by RDSO for 25t loading - 2008
(iv) Correction slip No. 39 to IRS Bridge Rules (2001) issued by RDSO for DFC loading (32.5t axle load)

1.0 Regarding rebuilding/strengthening/rehabilitation of bridges on Indian Railways following directives should be followed:

(a) Bridges being rebuilt on DFC feeder routes and 25t routes should be rebuilt to DFC loading provided in IRS Bridge Rules vide correction slip No.39 cited in ref (iv) above. Other bridges on these routes requiring rehabilitation/strengthening should have required works carried out at least for 25t loading, 2008 (if works for DFC loading are not feasible) provided in IRS Bridge Rules vide correction slip No.38 cited in ref (iii) above.

(b) For rest of the routes, bridges being rebuilt/strengthened/rehabilitated should have required works carried out for 25t loading -2008 provided in IRS Bridge Rules vide correction slip No.38 cited in ref (iii) above.

2.0 It is reiterated that the above directives should be rigorously followed in all ongoing and future bridge works. Board (ME) has also directed that mega bridge works such as Bogibheel, Nirmali-Kosi, Patna-Ganga bridge and Munger-Ganga bridge should also have required works carried out for 25t loading - 2008 without any loss of time.

(S.K. Malik)
Additional Member CE
Railway Board

रेल्वे मंत्रालय
Ministry of Railways
रेलवे बोर्ड
Railway Board
आवक संख्या
Issue with Enclosure
Copy to : Chief Administrative Officers/Con, All Indian Railways
Copy to : General Manager (Con.), N.F. Railway, Maligaon, Guwahati-11
Copy to : Managing Director, Rail Vikas Nigam Limited, 1st floor, August Kranti Bhawan, Bhikaji Cama Place, New Delhi – 110066
Copy to : Executive Director (B&S)-I & II, RDSO, Manak Nagar, Lucknow.
Recd. & issued
Joshi
14/1/09

Copy to : Chief Administrative Officers/Con, All Indian Railways
Copy to : General Manager (Con.), N.F. Railway, Maligaon, Guwahati-11
Copy to : Managing Director, Rail Vikas Nigam Limited, 1st floor, August Kranti Bhawan, Bhikaji Cama Place, New Delhi – 110066
Copy to : Executive Director (B&S)-I & II, RDSO, Manak Nagar, Lucknow.

S.N. 143

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt.II

Dated: 30.09.2008

Managing Director
DFCCIL
New Delhi
Fax: 24122949

Managing Director
Rail Vikas Nigam Ltd.,
August Kranti Bhawan,
Bhikaji Kama Palace,
New Delhi.
Fax: 26182932/26182957

दाख

Sub: Connectivity of Bharuch - Dahej line with DFC

9-08

Ref: i.DFCCIL's letter no. HQ/Dir(Ops)/Port connection dtd. 18.9.08
ii. RVNL's letter no. PP&D/BH-DHF/2005/Vol.III dated 09.9.08

With reference to the above letters, it is advised that Railway Board has approved the connectivity of DFC Western Corridor with Dahej-Bharuch line near Dayadra and Dahej – Bharuch line will be a feeder route to DFC. Necessary action may be taken by DFCCIL and RVNL in this regard.

Φ/c

P
(P. R. Parhi)
Jt. Director Transport Planning

Copy to:

General Manager, Western Railway, Churchgate, Mumbai.

रेल मन्त्रालय
Ministry of Railways
रेल बोर्ड
हस्ताक्षर
Signature
जारी की
Date

Feeder Routes for DFC				
Eastern Corridor				
	Route	Kms.	Joining at	Axle load
1	Sonnagar- Garwa Road- Barkakana	311	Sonnagar	CC + 8
2	Gomoh-Chandrapura-Bokaro-Muri-Chandil-Sini-Chakradhapur	216	Gomoh	Sini - Chandil, Chandrapur - Gomoh CC + 8, Muri - Chandi - Bokaro CC + 6
3	Patratu- Gomoh including PD Branch Line	128	Gomoh	CC + 8 except PD
4	Kusunda-Tetumari (4.5 Kms.) Katrasgarh-Nichitpur, Pradhankhunta- Pathardih links	29	Gomoh	CC + 6
5	Dhanbad-Katrasgarh-Jamuniatar-Chandrapura	36	Gomoh	Katrasgarh - Chandrapura CC+ 8 rest
6	Andal-Sainthia-Pakur	151	Andal	CC + 6 Andal - Sainthia only
7	Dankuni-Andul-Panskura-Haldia	155	Dankuni	CC + 8 Panskura - Haldia rest CC + 6
8	Dankuni-DumDum Junction - Ballygunj Junction - Diamond Harbour Ballygunj Junction -Budge Budge	101	Dankuni	CC + 6
9	Chandil-Bhojidih-Mohuda-Gomoh	144	Gomoh	CC + 6
10	Tatanagar-Kandra	20	Gomoh	CC + 6
11	Mughalsarai – Unchahar via Janghai, Phaphamau	205	Mughalsarai	CC + 8
12	Aligarh – Harduaganj	15	Daudkhan	CC + 6
13	Zafrabad – Tanda	99	Mughalsarai	CC + 6
14	Kanpur – Paricha	198	Bhaupur	CC + 6
15	Varanasi-Sultanpur-Utratia –Rosa	558	Mughalsarai	CC + 8
16	Ludhiana –Beas-Govindwal Sahib	112	Dhandarikalan	CC + 6
17	Rajpura – Dhuri – Bhatinda (Lehra Mohabbat)	173	Rajpura	CC + 8
18	Sirhind – Rupnagar – Nangal Dam	104	Sirhind	CC + 8
19	Hissar-Bhatinda-Suratgarh	298	Dadri/Rewari	Hissar - BTI CC + 8 and rest CC + 6
20	Suratgarh-Biradhwai	18	Dadri/Rewari	CC + 6
	Total Route Kms.	3071		
Western Corridor				
1	Pipavav– Surendranagar– Viramgam– Mehsana	395	Amla Road/ Sabarmati	
2	Kandla Port– Gandhidham- Palanpur	312	Palanpur	CC + 6
3	Mundra Port – Gandhidham	66	Palanpur	CC + 6
4	Viramgram – Samakhiali	182	Amla Road/ Sabarmati	
5	Hazira – Surat	40	Gothangam	
6	Ludhiana – Hissar – Rewari	348	Rewari	Ludhiana- Jhakar CC + 6
7	Mumbai Port – Wadala – Kurla – Diva with connectivity with DFC	36	Vasai Road	
8	Panvel – Pen – Roha	75	Panvel	
9	Bharuch – Dahej	62	near Bharuch	
	Total Route Kms.	1516		

3/12/08

S.N. 141



डेडीकेटेड फ्रेट कोरीडोर कॉर्पोरेशन ऑफ इण्डिया लि.
(भारत सरकार का उपक्रम)
Dedicated Freight Corridor Corporation of India Ltd.
(A Government of India Enterprise)

HQ/F&A/c/MoU

27th November, 2008

Handwritten signature

✓ The Secretary
Railway Board
Rail Bhavan
New Delhi

Handwritten signature

Sub: Progress on project implementation and finalization of detailed plans for two major junction arrangements.

Ref: Memorandum of Understanding between DFCC and Ministry of Railways

A Memorandum of Understanding was entered into between Dedicated Freight Corridor Corporation of India Limited (DFCC) and Ministry of Railways in March 2008 for the works to be carried out by DFCC during 2008-09 which was approved by CPSE/Task Force.

As per MoU, DFCC was required to finalise detailed plans for two major junction arrangements. It is to intimate that junction arrangements for the following four yards of Western Corridor have been finalized:-

1. Jawaharlal Nehru Port Trust Yard (JNPT)
2. Vasai
3. Gothangam
4. Makarpura

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Govt/RB/1/3629
01 12/08

Handwritten signature of Manmohan Aluwalia

(Manmohan Aluwalia)
Dy.Gen.Manager/Finance

Copy: Shri S S Negi, Director (MoU),
Ministry of Heavy Industries & Public Enterprises,
Department of Public Enterprises,
Public Enterprises Bhawan, Block No.14, CGO Complex, Lodhi Road
New Delhi

Director (PP)/DFCC

Advisor (Infra)/Railway Board, Rail Bhavan, New Delhi

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Govt. of India
Ministry of Railways
(Railway Board)

No. 2006/PL /6/7 Pt. II

New Delhi, 12th December 2008

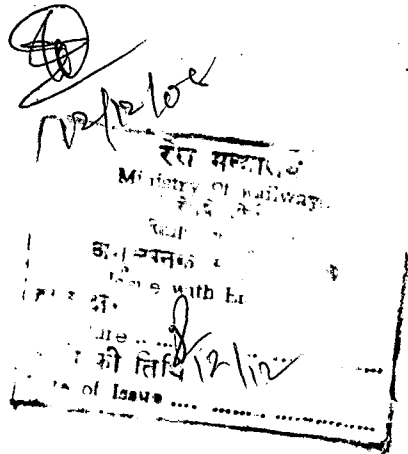
Managing Director
DFCCIL, 5TH Floor, Pragati Maidan
Metro Station Building Complex
New Delhi -110 001
Fax: 23454701

Sub: Western Dedicated Freight Corridor Project – Vitai Links

Please find enclosed a copy of letter number TW/DFC/144 dated 17.10.2008 on the above subject received from COM/Central regarding alignment of Western DFC over Central Railway. It is requested that the remarks of DFCCIL may kindly be furnished for further action.

P
(Priya Ranjan Parhi)
Jt. Director (Transport Planning)
Tel/Fax: 23388858

Pl. issue Part



P.N. Shukla
Director (Operations & Business Development)

D.O.No. 2007/DFCCIL/Opns/Feeder Route/Western/1

5.2.08

My dear Pradeep,

Sub: Feeder routes of DFC - review of the routes & their strengthening

Feeder Routes were identified with a view to upgrade these routes to the higher standards of DFCs for ensuring seamless transfer of freight traffic from the existing network to DFCs and vice versa. These routes were identified in such a way that the major share of freight traffic moving on the DFC originate/terminate on these routes.

In our view, upgradation of following routes to DFC standards will be useful for seamless movement:

- i) The doubling of **Tundla-Jamuna Bridge Section** on North Central Railway sanctioned in 1995-96 may be necessary for East to West DFC movement and vice versa.
- ii) Presently, the Feeder Route of Western DFC does not include the section beyond Panvel on Central Railway, which will act as feeder route for the traffic moving to/from the proposed Rewas and Dighi Ports. The detail of sanctioned works on these sections is as under:

Railway	Plan	Year of inclusion in Budget	Project	Kms
Central Railway	Doubling	2006-07	Panvel-Pen	35
Central Railway	Doubling	2007-08	Pen-Roha	40

Kindly undertake the review of the above feeder routes so that the process of upgradation of such sections could be tackled at initial stage itself.

With regards,

Yours sincerely,

P.N. Shukla
(P.N. Shukla)

Shri Pradeep Bhatnagar,
Advisor(Infrastructure),
Railway Board,
New Delhi.

23/12 2008 12:18 FAX 22612354

C.R.I.Y.MB.CSI

S.N. 138 001

41

CENTRAL RAILWAY
 Chief Operations Manager's Office
 Chhatrapati Shivaji Terminus,
 Mumbai- 400001
 Tele. Rly : 54200

No. TW/DFC/144

Date : 17/10/2008

Advisor Infrastructure,
 Railway Board,
 New Delhi

Sub: **Western Dedicated Freight Corridor project- Vital Link**

---X---

1. Introduction : The alignment of Western DFC over this Railway, originating from JNPT, has been planned with inter-corridor transfer facility between existing corridor and DFC only at one location on it's entire route viz, near Kharbao, where it is planned to develop a new Vasal Road station. This is the extreme end of the corridor on this Railway.

2. Need for Integrated Compatible Planning and important issues need to be addressed : The alignment of DFC has been planned in isolation taking into consideration the traffic requirements of JNPT only. This has left some important issues mentioned herein un-addressed, which are vital for smooth operation of traffic from Operations point of view :

(a) Connectivity of Rewas part taking off from Hamrapur on Panvel-Pen section to DFC and its electrification along with that of Panvel-Pen section : The planned connectivity of Rewas part to Hamrapur station on Panvel-Pen section will generate considerable container traffic requiring movement on existing network and consequently result in congestion at Panvel station, which itself is a bottleneck with the present traffic levels. There is, therefore, an imminent need to plan a direct link from Hamrapur to the DFC corridor at the nearest feasible location.

In order to finalize the alignment of such proposal, necessary survey work needs to be sanctioned on priority.

Further, in view of the fact that Western Dedicated Freight Corridor is now planned to be constructed with electric traction, it is desirable to undertake electrification of Panvel-Pen-Roha section along with electrification of Rewas - Hamrapur link to avoid problems of traction change at Panvel and consequent detention to rolling stock.

(b) Connectivity / Corridor transfer facility & Standard of construction of private sidings in Navi Mumbai area : The EXIM traffic from a number of private sidings under development in Panvel / Navi Mumbai area (list enclosed) for DFC route

23/12 2008 12:20 FAX 22612354

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will require inter-corridor transfer from existing alignment to DFC at one more nearest feasible location on the existing alignment to ease the congestion on existing system.

This will require Survey for ascertaining such location and policy guidelines for Private sidings to adopt technical specifications in respect of track, bridge, vertical clearances etc. as per DFC requirements.

(c) Provision of junction station at Nilaje : In order to facilitate inter-corridor transfer of traffic between DFC and existing network as mentioned above, it is suggested that Nilaje station on Diva-Parvel section may be converted into a junction station. This will also help in evacuation of goods traffic from the proposed logistic park in the nearby area.

(d) Strengthening of feeder routes on Central Railway to DFC standards : Following routes on this Railway have been identified as feeder routes for DFC :

- a) Mumbai Port-Wadala-Kurla-Vasai Road.
- b) Trombay-Kurla.
- c) Thal-Parvel-Diva (Thal-Pen being a private siding of RCF).
- d) Parvel-Pen-Roha.

The existing standard of construction of these routes planned for 25 tonne axle load does not match the standard of construction of DFC, which has been planned for 32.5 tonne axle load. It will not be possible to ensure seamless and unhindered transfer of double stack containers between DFC and these routes unless they are upgraded. It is, therefore, necessary to upgrade the standard of these feeder routes to that of DFC.

Similarly, in case of sanctioned works of new lines / doubling along the feeder routes, it will be preferable to adopt Standard of construction suitable for 32.5 tons axle loads during execution of these projects.

(e) Dighi port : The traffic from Dighi Port being developed on Konkan Railway system will also need to be transferred to Western DFC after traversing over Konkan & Central Railways. This can be merged with the above suggested link of DFC to alignment of Rewas port.

In view of the above, it is requested that Board may take a holistic view in respect of these issues and convey necessary directives in respect of the same.

Vinay Mittal
(VINAY MITTAL)
COM

o/c

21/12/08

NOTE

LIST OF SIDINGS IN NAVI MUMBAI AREA

Section	Taking off station	Name of the siding
Panvel-Diva	Kalamboli	1-In logistic
	Kalamboli	2- Tata Siding
	Taloje	3- Adani
Panvel-Karjat	Chowk	4-PFT
	Kelavali	5- Bhushan Steel
Panvel-JNPT section	Jasai	6- Hind Terminal
		7- IOTL
Panvel-Pen	Somatne	8-Naukar Corp Ltd (NCL)
	Jete	9 -Arshiya International
Pen-Thal	Thal	10-PNP
	Thal	11-ISPAT
Pen-Roha	Pen	ETA-freight star

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C:RLY.MB:CSM

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NOTE

LIST OF SIDINGS IN NAVI MUMBAI AREA

Section	Taking off station	Name of the siding
Panvel-Diva	Kalamboli	1-In logistic
	Kalamboli	2- Tata Siding
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		7- IOTL
Panvel-Pen	Somatne	8-Naukar Corp Ltd (NCL)
	Jete	9 -Arshiya International
Pen-Thal	Thal	10-PNP
	Thal	11-ISPAT
Pen-Roha	Pen	ETA freight star

**Govt. of India
Ministry of Railways
(Railway Board)**


No. 2006/PL /6/7 Pt. II

New Delhi, 12th December 2008

Managing Director
DFCCIL, 5TH Floor, Pragati Maidan
Metro Station Building Complex
New Delhi -110 001
Fax: 23454701

Sub: Western Dedicated Freight Corridor Project – Vitai Links

Please find enclosed a copy of letter number TW/DFC/144 dated 17.10.2008 on the above subject received from COM/Central regarding alignment of Western DFC over Central Railway. It is requested that the remarks of DFCCIL may kindly be furnished for further action.


(Priya Ranjan Parhi)
Jt. Director (Transport Planning)
Tel/Fax: 23388858

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S.no-136

S.N/36

Y2

CENTRAL RAILWAY
Chief Operations Manager's Office
Chhatrapati Shivaji Terminus,
Mumbai- 400001
Tele. Rly : 54200

No. TW/DFC/144

Date : 17/10/2008

✓ Advisor Infrastructure,
Railway Board,
New Delhi

112

Sub: Western Dedicated Freight Corridor project- Vital Links
---X---

1. Introduction : The alignment of Western DFC over this Railway, originating from JNPT, has been planned with inter-corridor transfer facility between existing corridor and DFC only at one location on it's entire route viz, near Kharbao, where it is planned to develop a new Vasai Road station. This is the extreme end of the corridor on this Railway.

Please study & direct

Am
G.M.

2. Need for Integrated Compatible Planning and important issues need to be addressed : The alignment of DFC has been planned in isolation taking into consideration the traffic requirements of JNPT only. This has left some important issues mentioned herein un-addressed, which are vital for smooth operation of traffic from Operations point of view :

~~SOPD~~

DTL
Revised up
11/10/08

(a) Connectivity of Rewas port taking-off from Hamrapur on Panvel-Pen section to DFC and its electrification alongwith that of Panvel-Pen section : The planned connectivity of Rewas port to Hamrapur station on Panvel-Pen section will generate considerable container traffic requiring movement on existing network and consequently result in congestion at Panvel station, which itself is a bottleneck with the present traffic levels. There is, therefore, an imminent need to plan a direct link from Hamrapur to the DFC corridor at the nearest feasible location.

In order to finalize the alignment of such proposal, necessary survey work needs to be sanctioned on priority.

Further, in view of the fact that Western Dedicated Freight Corridor is now planned to be constructed with electric traction, it is desirable to undertake electrification of Panvel-Pen-Roha section along with electrification of Rewas - Hamrapur link to avoid problems of traction change at Panvel and consequent detention to rolling stock.

(b) Connectivity / Corridor transfer facility & Standard of construction of private sidings in Navi Mumbai area : The EXIM traffic from a number of private sidings under development in Panvel / Navi Mumbai area (list enclosed) for DFC route

25

JMC
R.B.
S. Narayan

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will require inter-corridor transfer from existing alignment to DFC at one more nearest feasible location on the existing alignment to ease the congestion on existing system.

This will require Survey for ascertaining such location and policy guidelines for Private sidings to adopt technical specifications in respect of track, bridge, vertical clearances etc. as per DFC requirements.

(c) Provision of junction station at Nilaje : In order to facilitate inter-corridor transfer of traffic between DFC and existing network as mentioned above, It is suggested that Nilaje station on Diva-Panvel section may be converted into a junction station. This will also help in evacuation of goods traffic from the proposed logistic park in the nearby area.

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In view of the above, it is requested that Board may take a holistic view in respect of these issues and convey necessary directives in respect of the same.


(VINAY MITTAL)
COM

J-no - 135/1 Total 4 pages Pg. ①

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

No. 2005/PL/6/7 Pt.II

New Delhi, dated 31.10.08

General Manager,
Central Railway,
Mumbai.

Managing Director,
DFCCIL,
Pragati Maidan,
New Delhi.

Sub:- Connectivity of Rewas Port to the Western DFC.

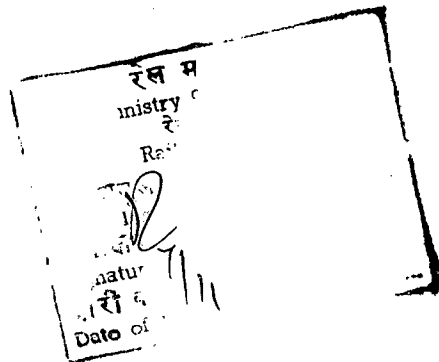
Enclosed herewith is a copy of a reply from Chairman, Railway Board, to Chief Secretary Maharashtra on the above subject. A copy of the letter received earlier from Chief Secretary, Maharashtra, in this regard is also enclosed for ready reference.

It has been indicated in the CRB's reply that Rewas port authorities should commission a survey for connectivity to the nearest feasible point on the DFC and they may be provided necessary information/assistance, if any, in this regard.

or
(Girish Pillai)
Exec.Dir.(Perspective Planning),
Railway Board.
Tel/Fax: 23389101

✓ Copy to :- Chief Executive Officer, Rewas Port Limited, Jai Towers, Plot No.68, Sector-15, CBD Belapur, Navi Mumbai – 400614 (Fax No.9522-27583550)

Dr. Issue fair
3/11/08



7/11/08



सत्यमेव जयते

K.C. Jena

अध्यक्ष, रेलवे बोर्ड

एवं

पदेन प्रमुख सचिव, भारत सरकार

रेल मंत्रालय

नई दिल्ली-११० ००१

CHAIRMAN, RAILWAY BOARD

&

EX-OFFICIO PRINCIPAL SECRETARY,
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
NEW DELHI-110001

D.O. No.2005/PL/6/7/Pt-II

24th Oct, 2008

Dear Shri Joseph,

Kindly refer to your D.O. Letter No.PDE-0108/CR-23/PRT-II regarding rail connectivity for the Rewas Port wherein it was requested that the dedicated freight corridor(DFC) be extended from Panvel to Hamrapur and the Hamrapur-Rewas port link be implemented through the SPV route.

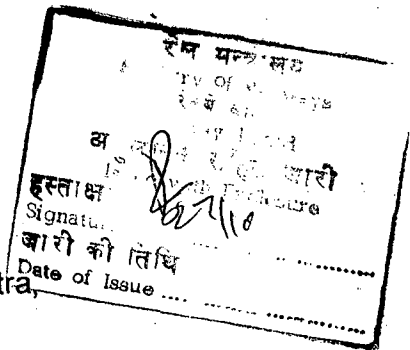
A number of meetings and discussions have taken place on the modalities of providing efficient rail connectivity to Rewas Port including from the DFC. The alignment of the DFC in Mumbai area (JNPT to Vasai Road) is under finalization in consultation with CIDCO and the State Government and is expected to be completed soon. The Rewas port authorities have already had a survey done for the link from Rewas port to Hamrapur. We are also in the process of taking a final decision on the modalities of implementing this rail connectivity project through SPV and its structure etc.

As regards extension of the DFC to Hamrapur, there are a large number of such requests for extension of the DFC to potential industrial regions and ports. It has, therefore, been decided that the DFC origin-destination points would not be changed and the DFC would not be extended to any new point. The traffic from points away from the DFC could be moved through feeder routes joining the DFC at suitable locations. In the case of the Rewas link also, it would be desirable if the rail link joins the DFC at the nearest feasible point through an independent new line. It is, therefore, suggested that the Rewas Port Project authorities commission an engineering survey at the earliest to extend the Rewas-Hamrapur link to join the DFC at a suitable location. Any assistance required in this regard from Central Railways or from DFCCIL would be made available to the project authorities.

With regards

Yours sincerely

Shri Johny Joseph,
Chief Secretary,
Government of Maharashtra,
Mantralaya
Mumbai



K.C. Jena
(K.C. Jena)



JOHNY JOSEPH
Chief Secretary

D.O No.PDE-0108/ CR-23/PRT-2
Chief Secretary's Office,
Mantralaya,Mumbai-400 032.
Dated 7th February, 2008

Subject:- Rewas Port Project - Rail Connectivity thereof.

Dear Shri Jena,

The development of the Rewas-Aware Port at Rewas near Mumbai through public private participation. M/s. Rewas ports Limited is the SPV for this project. The port in the initial phase is designed for a capacity to handle 60 million tonnes of cargo with a draft of 14.5m CD, with world class facilities and state-of-the art handling equipments will cater to vessels which presently cannot call on any of the Indian ports due to draft restrictions. The port will not only serve the hinterland but will also meet the requirements of northern hinterland. In the ultimate phase, the port will have a draft of 20m CD with facilities developed to handle traffic of 170 million tonnes.

As you are aware, the efficiency of a port largely depends on the connectivity of the port to the hinterland. The existing Major Ports are also upgrading / enhancing the rail and road facilities for ensuring speedy evacuation of cargo. Rewas port has planned for an efficient rail and road connectivity. The rail link is planned from Hamrapur with a route length of 26 km upto the port.

The port project is being implemented with stringent timelines. It is therefore essential that this rail link should be implemented on priority and completed prior to commissioning of the port by year 2011. M/s. Rewas Ports Limited has been directed to adopt a suitable model for speedy implementation of the rail link. I strongly believe that this rail connectivity project can come up in a timely manner only through the SPV route,with Railways participation. The SPV route will help Rewas Port in availing the expertise of Railways for such project.

-: 2 :-


The rail bound traffic is considered as a huge revenue potential for the Railways. The rail bound cargo volumes will also increase once the Delhi Mumbai (JNP) DFC is operational. The traffic projections for the port and share of rail bound cargo to hinterland justify the rail link from Hamrapur to Rewas port to be double line to DFC standards. Railways should consider extending the DFC from Panvel upto Hamrapur, which will enable Rewas Port rail traffic to northern hinterland move over the DFC.

I therefore request as under-

1. M/s. Rewas Port Limited's proposal for implementing the Hamrapur Rewas port line is approved for implementation under the SPV route.
2. The Delhi Mumbai (JNP) DFC is extended from Panvel upto Hamrapur to cater to Rewas Port traffic.

With regards,

Yours sincerely,


(Johny Joseph)

✓
Shri.K.C.Jena,
Chairman,
Railway Board,
Government of India,
Rail Bhawan,
New Delhi-110 001.

Encl: M/s. Rewas Port Ltd. proposal

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सत्यमेव जयते

K.C. Jena

S.N 135

अध्यक्ष, रेलवे बोर्ड

एवं

पदेन प्रमुख सचिव, भारत सरकार

रेल मंत्रालय

नई दिल्ली-990 009

CHAIRMAN, RAILWAY BOARD

&

EX-OFFICIO PRINCIPAL SECRETARY,

GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

NEW DELHI-110001

D.O. No.2005/PL/6/7/Pt-II

24th Oct, 2008

Dear Shri Joseph,

Kindly refer to your D.O. Letter No.PDE-0108/CR-23/PRT-II regarding rail connectivity for the Rewas Port wherein it was requested that the dedicated freight corridor(DFC) be extended from Panvel to Hamrapur and the Hamrapur-Rewas port link be implemented through the SPV-route.

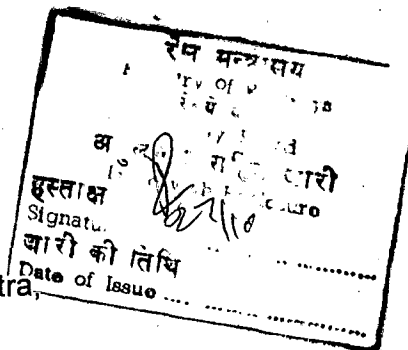
A number of meetings and discussions have taken place on the modalities of providing efficient rail connectivity to Rewas Port including from the DFC. The alignment of the DFC in Mumbai area (JNPT to Vasai Road) is under finalization in consultation with CIDCO and the State Government and is expected to be completed soon. The Rewas port authorities have already had a survey done for the link from Rewas port to Hamrapur. We are also in the process of taking a final decision on the modalities of implementing this rail connectivity project through SPV and its structure etc.

As regards extension of the DFC to Hamrapur, there are a large number of such requests for extension of the DFC to potential industrial regions and ports. It has, therefore, been decided that the DFC origin-destination points would not be changed and the DFC would not be extended to any new point. The traffic from points away from the DFC could be moved through feeder routes joining the DFC at suitable locations. In the case of the Rewas link also, it would be desirable if the rail link joins the DFC at the nearest feasible point through an independent new line. It is, therefore, suggested that the Rewas Port Project authorities commission an engineering survey at the earliest to extend the Rewas-Hamrapur link to join the DFC at a suitable location. Any assistance required in this regard from Central Railways or from DFCCIL would be made available to the project authorities.

With regards

Yours sincerely

Shri Johny Joseph,
Chief Secretary,
Government of Maharashtra,
Mantralaya
Mumbai



K.C. Jena
(K.C. Jena)

K.C. Jena

D.O.No.2005/PL/6/7 Pt.II

Dt: 23.10.2008

Dear Shri Joseph,

Kindly refer to your D.O. letter No. PDE-0108/CR-23/PRT-II regarding rail connectivity for the Rewas Port wherein it was requested that the dedicated freight corridor (DFC) be extended from Panvel to Hamrapur and the Hamrapur-Rewas port link be implemented through the SPV route.

A number of meetings and discussions have taken place on the modalities of providing efficient rail connectivity to Rewas Port including from the DFC. The alignment of the DFC in Mumbai area (JNPT to Vasai Road) is under finalization in consultation with CIDCO and the State Government and is expected to be completed soon. The Rewas port authorities have already had a survey done for the link from Rewas port to Hamrapur. We are also in the process of taking a final decision on the modalities of implementing this rail connectivity project through SPV and its structure, etc.

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Regards,

Yours sincerely,

(K.C. Jena)

Mr. Johnny Joseph,
Chief Secretary,
Chief Secretary's Office,
Mantralaya, Mumbai-400 032

CENTRAL RAILWAY
 Chief Operations Manager's Office
 Chhatrapati Shivaji Terminus,
 Mumbai- 400001
 Tele. Rly : 54200

S.N. 134

Y2

No. TW/DFC/144

Date : 17/10/2008

Advisor Infrastructure,
 Railway Board,
 New Delhi

112

Sub: Western Dedicated Freight Corridor project- Vital Links

---X---

1. Introduction : The alignment of Western DFC over this Railway, originating from JNPT, has been planned with inter-corridor transfer facility between existing corridor and DFC only at one location on it's entire route viz, near Kharbao, where it is planned to develop a new Vasai Road station. This is the extreme end of the corridor on this Railway.

2. Need for Integrated Compatible Planning and important issues need to be addressed : The alignment of DFC has been planned in isolation taking into consideration the traffic requirements of JNPT only. This has left some important issues mentioned herein un-addressed, which are vital for smooth operation of traffic from Operations point of view :

(a) Connectivity of Rewas port taking-off from Hamrapur on Panvel-Pen section to DFC and its electrification alongwith that of Panvel-Pen section : The planned connectivity of Rewas port to Hamrapur station on Panvel-Pen section will generate considerable container traffic requiring movement on existing network and consequently result in congestion at Panvel station, which itself is a bottleneck with the present traffic levels. There is, therefore, an imminent need to plan a direct link from Hamrapur to the DFC corridor at the nearest feasible location.

In order to finalize the alignment of such proposal, necessary survey work needs to be sanctioned on priority.

Further, in view of the fact that Western Dedicated Freight Corridor is now planned to be constructed with electric traction, it is desirable to undertake electrification of Panvel-Pen-Roha section along with electrification of Rewas - Hamrapur link to avoid problems of traction change at Panvel and consequent detention to rolling stock.

(b) Connectivity / Corridor transfer facility & Standard of construction of private sidings in Navi Mumbai area : The EXIM traffic from a number of private sidings under development in Panvel / Navi Mumbai area (list enclosed) for DFC route

Please discuss after study

20/10

ED/PP

42

will require inter-corridor transfer from existing alignment to DFC at one more nearest feasible location on the existing alignment to ease the congestion on existing system.

This will require Survey for ascertaining such location and policy guidelines for Private sidings to adopt technical specifications in respect of track, bridge, vertical clearances etc. as per DFC requirements.

(c) Provision of junction station at Nilaje : In order to facilitate inter-corridor transfer of traffic between DFC and existing network as mentioned above, It is suggested that Nilaje station on Diva-Panvel section may be converted into a junction station. This will also help in evacuation of goods traffic from the proposed logistic park in the nearby area.

(d) Strengthening of feeder routes on Central Railway to DFC standards : Following routes on this Railway have been identified as feeder routes for DFC :

a) Mumbai Port-Wadala-Kurla-Vasai Road.

b) Trombay-Kurla.

c) Thal-Panvel-Diva (Thal-Pen being a private siding of RCF).

d) Panvel-Pen-Roha.

The existing standard of construction of these routes planned for 25 tonne axle load does not match the standard of construction of DFC, which has been planned for 32.5 tonne axle load. It will not be possible to ensure seamless and unhindered transfer of double stack containers between DFC and these routes unless they are upgraded. It is, therefore, necessary to upgrade the standard of these feeder routes to that of DFC.

Similarly, in case of sanctioned works of new lines / doubling along the feeder routes, it will be preferable to adopt Standard of construction suitable for 32.5 tons axle loads during execution of these projects.

(e) Dighi port : The traffic from Dighi Port being developed on Konkan Railway system will also need to be transferred to Western DFC after traversing over Konkan & Central Railways. This can be merged with the above suggested link of DFC to alignment of Rewas port.

In view of the above, it is requested that Board may take a holistic view in respect of these issues and convey necessary directives in respect of the same.


(VINAY MITTAL)
COM

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt.II

Dated: 30.09.2008

Managing Director
DFCCIL
New Delhi
Fax: 24122949

Managing Director
Rail Vikas Nigam Ltd.,
August Kranti Bhawan,
Bhikaji Kama Palace,
New Delhi.
Fax: 26182932/26182957

P1-Issue done
30.9.08
Sub: Connectivity of Bharuch - Dahej line with DFC

Ref: i.DFCCIL's letter no. HQ/Dir(Ops)/Port connection dtd. 18.9.08
ii. RVNL's letter no. PP&D/BH-DHF/2005/Vol.III dated 09.9.08

With reference to the above letters, it is advised that Railway Board has approved the connectivity of DFC Western Corridor with Dahej-Bharuch line near Dayadra and Dahej - Bharuch line will be a feeder route to DFC. Necessary action may be taken by DFCCIL and RVNL in this regard.

Φ/c

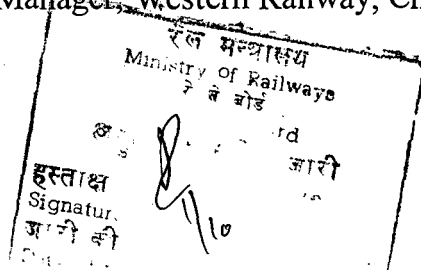
P_r

(P. R. Parhi)

Jt. Director Transport Planning

Copy to:

General Manager, Western Railway, Churchgate, Mumbai.



S.N.133

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt.II

Dated: 30.09.2008

Managing Director
DFCCIL
New Delhi
Fax: 24122949

Managing Director
Rail Vikas Nigam Ltd.,
August Kranti Bhawan,
Bhikaji Kama Palace,
New Delhi.
Fax: 26182932/26182957

Sub: Connectivity of Bharuch - Dahej line with DFC

Ref: i. DFCCIL's letter no. HQ/Dir(Ops)/Port connection dtd. 18.9.08
ii. RVNL's letter no. PP&D/BH-DHF/2005/Vol.III dated 09.9.08

With reference to the above letters, it is advised that Railway Board has approved the connectivity of DFC Western Corridor with Dahej-Bharuch line near Dayadra and Dahej – Bharuch line will be a feeder route to DFC. Necessary action may be taken by DFCCIL and RVNL in this regard.



(P. R. Parhi)

Jt. Director Transport Planning

Copy to:

General Manager, Western Railway, Churchgate, Mumbai.

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt.II

Dated: 21.7.2008

Managing Director
DFCCIL
New Delhi
Fax: 24122949

**Sub: Letter from Chief Secretary, Maharashtra Government about
Rail Connectivity of Rewas Port**

Please find enclosed herewith a letter from Chief Secretary, Maharashtra Government on the above subject. The case may be examined and remarks of DFCCIL may kindly be sent urgently so that the reply can be sent.

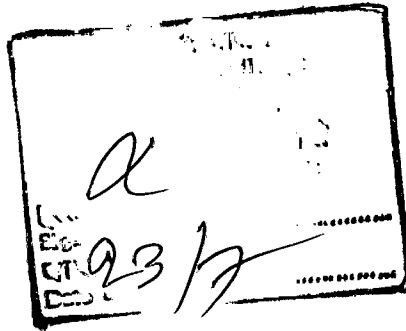
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P

(P. R. Parhi)

Jt. Director Transport Planning

Encl: As above.



S.N. 131

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt.II

Dated: 29.09.2008

Managing Director
DFCCIL
New Delhi
Fax: 24122949

Managing Director
Rail Vikas Nigam Ltd.,
August Kranti Bhawan,
Bhikaji Kama Palace,
New Delhi.
Fax: 26182932/26182957

Sub: Connectivity of Bharuch - Dahej line with DFC

- Ref: i. DFCCIL's letter no. HQ/Dir(Ops)/Port connection dated 18th Sept'08
ii. RVNL's letter no. PP&D/BH-DHF/2005/Vol.III dated 9th Sept'08

With reference to the above letters, it is advised that Railway Board has approved the connectivity of DFC Western Corridor with Dahej-Bharuch line near Dayadra ^{Ans. this line} which will be a feeder route to DFC. Necessary action may be taken by DFCCIL and RVNL in this regard.

(P. R. Parhi)
Jt. Director Transport Planning

Copy to WR



Sat 19/9

डेडीकेटेड फ्रेट कोरीडोर कॉर्पोरेशन ऑफ इण्डिया लि.
(भारत सरकार का उपक्रम)
Dedicated Freight Corridor Corporation of India Ltd.
(A Government of India Enterprise)

V.K. KAUL
MANAGING DIRECTOR

D.O. No. HQ/Dir(Opns)/Port Connec.

18th Sept, 2008

Dear Shri Jena,

Sub: Connectivity of Dahej-Bharuch Railway line with DFCC

During meeting with Gujarat Government officials on 10.9.08 at Ahmedabad, MD, GIDC mentioned that port connectivity for Bharuch-Dahej line is under implementation through an SPV with RVNL, where GIDC and others will be equity holders. MD, GIDC further briefed about the logistic need of Petroleum Chemical & Petrochemicals Investment Region (PCPIR) near Dahej Port spread over 45,000 hectares land with huge investment of Rs. 2 lakh crores.

Gujarat Govt. officials advised that the Dahej-Bharuch connectivity through SPV is in advance stage and wanted following issues to be addressed:

i) Technical specifications of Dahej-Bharuch connectivity should be of DFC standards so as to have seamless movement of traffic from Dahej Port using DFC on end to end basis;

ii) Connectivity of Dahej Port to DFC at the nearest location in view of very high volume of traffic involved from this industrial complex;

Board may consider issue of suitable instructions to address these issues.

With kind regards,

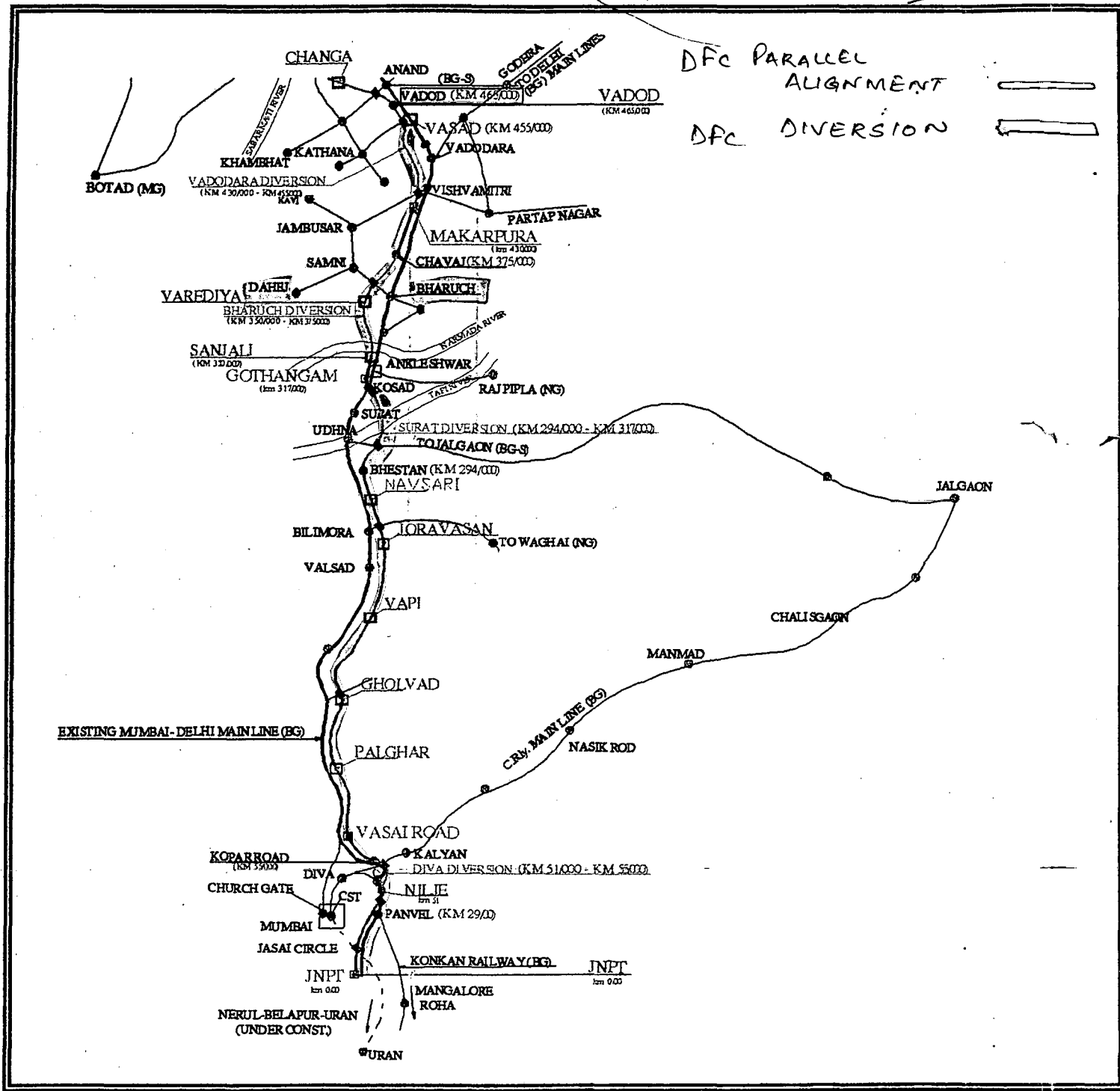
Yours sincerely,


(V.K. KAUL)

Shri K.C. Jena,
Chairman,
Railway Board,
New Delhi.

THE ROUTE BETWEEN JNT 1 AND VADOD IS SHOWN IN BROKEN LINE AS BELOW.

S. N/28



lines coming on the route of DFC), 15 flyovers are over branch lines falling on the route of DFC. Balance 9 flyovers are required for avoiding surface crossings in junction arrangements. These flyovers are detailed below: -

Green Text shows: Flyovers where DFC is crossing Branch Line
 Red Text shows: Flyovers where DFC is crossing Main Line
 Blue Text shows: Flyovers required for avoiding surface crossing in Junction arrangement

Sl. No.	Location	Existing/Proposed lines to be crossed	Electrified (N) /Non-Electrified (NE)
1	Near Panvel	Divya-Mangalore (Kokan Railway) BG main line (double Line) of Central Railway	E
2	Near Diva	Divya-Kalyan BG main line (Six Lines) of Central Railway	E
3	Near Kaman	Single Line of DFC for connecting junction yard with existing Kaman station crosses existing Divya-Vasai Road BG main line (double line) of Central Railway for Vasai Road Junction Station	E
4	Near Kaman	Single Line of DFC for connecting junction yard with existing Kaman station crosses main line (double line) of DFC for Vasai Road Junction station of Central Railway	NE
5	Near Udhna	Udhna Jn-Jalgaon BG branch line (single line) of Western Railway	E
6	Near Gothangam	Mumbai-Delhi BG main line (double line) of Western Railway and single DFC line	E
7	Near Bharuch	Bharuch Jn. - Dahej NG branch line (single line) of Western Railway	NE
8	Near Makarpura	Single Line of DFC crosses main line (double line) of DFC for Makarpura Junction Station of Western Railways and Single DFC line for Makarpura Junction	NE
9	Near Makarpura	Single Line of DFC crosses Mumbai-Delhi main line (double line) of Western Railway	E
10	Near Vishvamitri	Vadodara-Kavi NG branch line (single line) of Western Railway	NE
11	Near Vasad	Vasad-Kathana BG branch line (single line) of Western Railway	NE
12	Near Anand	Anand-Khambhat BG branch line (single line) of Western Railway	NE
13	Near Deva (flag) station on Nadiad-Petlad line.	Nadiad-Petlad NG branch line (single line) of western Railway, which is presently non-operational	NE

रंजन कुमार जैन
निदेशक/परिचालन

Ranjan Kumar Jain
Director/Operations



S.N. 128
रेल विकास निगम लिमिटेड

(भारत सरकार का उपक्रम)

बी-ब्लॉक, प्रथम मंज, अगस्त क्रांति भवन,
भीकजी कामा प्लेस, नई दिल्ली-110066

Rail Vikas Nigam Limited

(A Government of India Enterprise)

B-Block, 1st Floor, August Kranti Bhavan,
Bhikaji Cama Place, New Delhi - 110066.

No.PP&D/BH-DHF/2005/Vol.III

September 9, 2008

Executive Director (Perspective Plg.)
Railway Board,
Rail Bhawan,
New Delhi.

Sub: Connectivity to Bharuch-Dahej line with DFC.

RVNL is implementing Bharuch-Dahej Gauge Conversion project through project specific SPV. The project will be commissioned by December, 2009, synchronous with commissioning of Dahej Port. The DFC will be flying over this line at a location about 12 kms from Bharuch towards Samni. No connectivity has been planned with Dahej Port line.

2. We have planned block stations at km 8.5 (Than) and km 16.33 (Dayadra) from Bharuch towards Samni. As DFC is generally elevated in this stretch, connectivity with Dahej line will require construction of a fly over taking of from Dayadra station and meeting the DFC at elevated level. It is suggested that such connectivity may be incorporated in the scope of the work of DFC right at this stage.

Dr. J
[Signature]

[Signature]
(Ranjan K. Jain)
Director (Operations)

S.N. 127



डेडीकेटेड फ्रेट कोरीडोर क. परिशान ऑफ इण्डिया लि.
(भारत सरकार का उपक्रम)
Dedicated Freight Corridor Corporation of India Ltd.
(A Government of India Enterprise)

No. HQ/Dir (Opns)/Ports/27

Date : 18.08.2008

Dear Sh. Bhatnagar

Sub:- Rail Connectivity to Rewas Port.

Ref: 1. Your D.O. No. 2005/PL/6/7 Pt.II

2. Chief Secretary, Maharashtra D. O. No. PDE-0108/CR-23 PRT-2 dtd.
7/1/08

Kindly refer to above mentioned letter forwarding the request from Chief Secretary, Maharashtra to extend the DFC to Hamrapur to cater to the traffic from Rewas Port.

The matter has been examined by DFCCIL regarding feasibility of extending the DFC to Hamrapur. The proposed connectivity will need to survey about 50 Kms of alignment which is very treacherous terrain due to existence of hills, creeks, Mangroves and reserved forest. This study is estimated to cost Rs 13.80 lakhs.

Board may please convey approval for conducting the feasibility study by Engineering Survey for connectivity of DFC to Rewas Port.

P. N. Shukla
(P. N. Shukla)
Director (OP & BD)

Sh. Pradeep Bhatnagar
Adviser (Infrastructure)
Railway Board
New Delhi

SOP
for
11/8/08

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PC *port* *up* *v*

S.N.126

No. 2005/PL/6/7/Pt.II

Sub: Meeting on Rail connectivity to Rewas Port

A meeting will be held to discuss issues regarding connectivity of DFC with Rewas Port and related modalities on 25th Aug'08 in the Chamber of Advisor/Infrastructure at 12.00 hrs., Railway Board. You are requested to make it convenient to attend.

P_{re}
(P.R. Parhi)
JDTP
20.08.2008

EDT(PPP)

EDPP

COM/Central Railway

Dir/Operations/ RVNL

Dir/O&BD/DFCCIL

S.N.125

No. 2005/PL/6/7/Pt.II

Sub: Rail connectivity to Rewas Port

In order to discuss the modalities of connectivity of Rewas Port to the Western DFC, Adv/Infra will hold a meeting at 12.00 hrs on 22.08.2008 in the Committee Room, Rail Bhavan. It is requested that you may kindly make it convenient to attend.

P
(P.R. Parhi)
JDTP
18.08.2008

EDT(PPP)

EDP

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EDW(P)

COM/Central Railway

Dir/Operations/ RVNL

MD/DFCCIL

Copy to

US/G: Requested to kindly book Committee Room for the above meeting.



P.N. SHUKLA
DIRECTOR(OPNS. & BD)

D.O.No. HQ/Dir(Opns)/Ports/27

7.8.2008

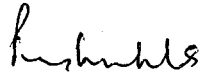
My dear Pradeep,

Please refer to D.O. letter No. 2005/PL/6/7.Pt.II dated 4.8.2008 addressed to MD/DFCCIL enclosing therewith request of Chief Secretary, Maharashtra for extension of DFC to Hamrapur to cater to traffic from Rewas Port.

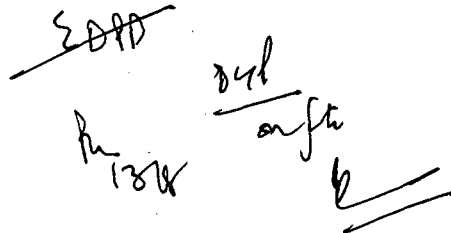
The matter is under examination as it involves field survey to check its technical feasibility. The likely alignment passes through SEZ marshy area and built up area. As such, it will take some time to confirm the technical feasibility of the connectivity of DFC from Hamrapur. We will soon revert back to you on receipt of report of technical feasibility of the proposal.

With regards,

Yours sincerely,


(P.N. SHUKLA)

73
218
✓
Shri Pradeep Bhatnagar,
Adviser(Infrastructure),
Ministry of Railways,
Railway Board,
New Delhi



S.N. Shukla



डेडीकेटेड फ्रेट कोरीडोर कॉर्पोरेशन ऑफ इण्डिया लि.
(भारत सरकार का उपक्रम)
Dedicated Freight Corridor Corporation of India Ltd.
(A Government of India Enterprise)

P.N. SHUKLA
DIRECTOR(OPNS. & BD)

D.O.No. HQ/Dir(Opns)/Ports/27

7.8.2008

My dear Pradeep,

Please refer to D.O. letter No. 2005/PL/6/7.Pt.II dated 4.8.2008 addressed to MD/DFCCIL enclosing therewith request of Chief Secretary, Maharashtra for extension of DFC to Hamrapur to cater to traffic from Rewas Port.

The matter is under examination as it involves field survey to check its technical feasibility. The likely alignment passes through SEZ marshy area and built up area. As such, it will take some time to confirm the technical feasibility of the connectivity of DFC from Hamrapur. We will soon revert back to you on receipt of report of technical feasibility of the proposal.

With regards,

Yours sincerely,

P.N. Shukla
(P.N. SHUKLA)

Shri Pradeep Bhatnagar,
Adviser(Infrastructure),
Ministry of Railways,
Railway Board,
New Delhi

S.N. Shukla
8/8/08

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सत्यमेव जयते

Pradeep Bhatnagar
Adviser (Infrastructure)

S.N. 124

भारत सरकार
रेल मंत्रालय, (रेलवे बोर्ड)
नई दिल्ली-११० ००९
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

D.O. No.2005/PL/6/7 Pt.II

New Delhi, dated 4.8.2008

Dear Shri Kaul,

Sub : Rail Connectivity to Rewas Port

Chief Secretary, Maharashtra, has requested Ministry of Railways for extension of the DFC to Hamrapur to cater to the traffic from Rewas Port. The link from Hamrapur to Rewas Port is being planned separately. This matter is also being directly pursued by the Rewas Port authorities. A very high volume of traffic, which could go on the DFC to the Northern part of the country, has been projected from Rewas Port.

2. The letter from Chief Secretary, Maharashtra, has already been forwarded to DFCCIL and I am enclosing a copy for your ready reference. It is requested that connectivity of the Rewas port at a suitable point on the DFC be examined. I would be grateful for an early feedback on the issue.

With regards,

Encl : a.a.

Yours sincerely,


(Pradeep Bhatnagar)

DL: ssone
4/8/08
Shri V.K.Kaul
Managing Director
DFCCIL
Palika Bhawan, R.K.Puram
New Delhi

रेल मंत्रालय Ministry of Railways
नई दिल्ली New Delhi
हस्ताक्षर Signature
वारी की तिथि Date of Issue

S.N. 123

भारत सरकार

रेल मंत्रालय, (रेलवे बोर्ड)

नई दिल्ली-११० ००१

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

Pradeep Bhatnagar
Adviser (Infrastructure)

D.O. No.2005/PL/6/7 Pt.II

New Delhi, dated 4.8.2008

Dear Shri Kaul,

Sub : Rail Connectivity to Rewas Port


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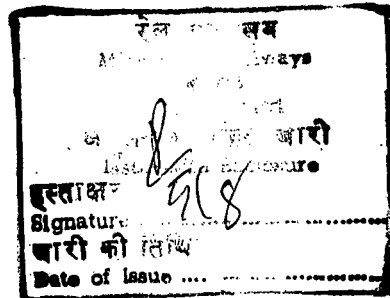
With regards,

Encl : a.a.

Yours sincerely,


(Pradeep Bhatnagar)

Shri V.K.Kaul
Managing Director
DFCCIL
Palika Bhawan, R.K.Puram
New Delhi



S.N.122

D.O.No.2005/PL/6/7 Pt.II

Dt:8.08

Dear Shri Kaul,

Sub:- Rail Connectivity to Rewas Port.

Chief Secretary, Maharashtra, has requested Ministry of Railways for extension of the DFC to Hamrapur to cater to the traffic from Rewas Port. The link from Hamrapur to Rewas Port is being planned separately. This matter is also being directly pursued by the Rewas Port authorities. A very high volume of traffic, which could go on the DFC to the Northern part of the country, has been projected from Rewas Port.

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Regards,

Yours sincerely,



(Pradeep Bhatnagar)

Shri V.K. Kaul,
Managing Director,
DFCCIL,
R.K. Puram,
New Delhi.

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt.II

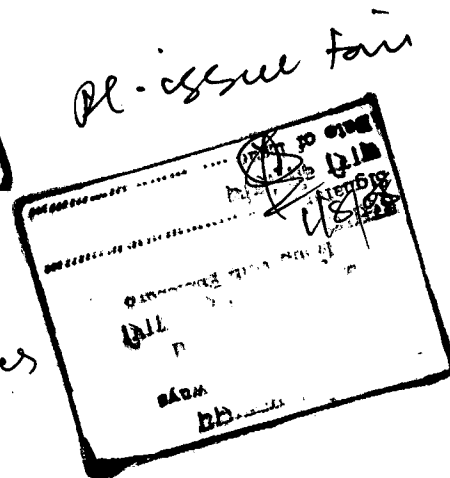
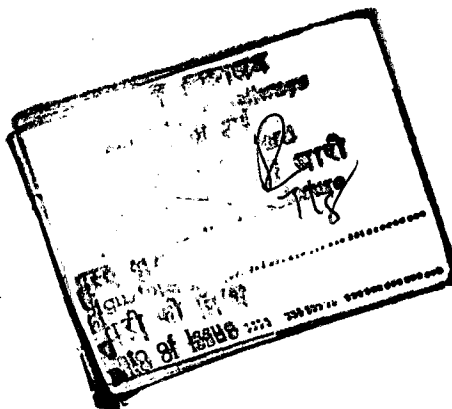
Dated: 31.7.2008

Managing Director
DFCCIL
New Delhi
Fax: 24122949

**Sub: Letter from Chief Secretary, Maharashtra Government about
Rail Connectivity of Rewas Port**

Kindly refer to Board's letter of even number dated 21.7.2008 on the above subject. You are requested to kindly expedite the reply so that the case can be put up to Board.

Pe
(P. R. Parhi)
Jt. Director Transport Planning



*Two letters sent
on single cover
other letter*

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2007/Infra/6/4 Pt.II

Dated: 12.03.2008

Managing Director
DFCCIL
New Delhi
Fax: 24122949

Sub: Request for providing Rail linkage through DFC by M/s
Geetapuram Port Services Ltd.

Please find enclosed the request form M/s Geetapuram Port Services Ltd.
for providing Rail Linkage through DFC. This is for your kind information and
necessary action.

Encl: As above.

De
D
(P. R. Parhi)
Jt. Director Transport Planning
Tele fax: 23388858

Pr. issue tan

12/3/08

*letter sent along with
other letters*



GEETAPURAM PORT SERVICES LTD.

GEETAPURAM, DOLVI - 402 107, TALUKA - PEN, DIST. RAIGAD, MAHARASHTRA (INDIA)
PHONE : (+91-2143) 277501 TO 277510 FAX : (+91-2143) 277612

To

7 March 2008

Advisor (Infrastructure),
Railway Board
New Delhi

Sub: Request for providing Rail linkage through DFC (Dedicated Freight Corridor) project

Geetapuram Port Services Limited is the first privately maintained port at Dharmatar Creek in Maharashtra with a major role to contribute in Ispat's success as it handled more than 5 million tonnes material during the year. The Capacity expansion plan of the Steel Plant at Dolvi envisages an increase in the volume of material being handled through the jetty to the tune of 40 MTPA gradually in the next 7 years.

The existing capacity of the terminal with 415 meters berth generates revenue of Rs. 9 crores for MMB. Considering the increased demand, the handling capacity of the said jetty is planned for expansion by extending its length to 1850 meters in a phased manner. This extension of further 1385 meters will facilitate installation of *new generation handling equipments for handling bulk as well as Containerized cargo*. The port is planned with facilities earmarked separately for all types of materials from bulk cargo to container yard. The port has to be developed as a privately managed and developed, highly modern, high tech port, fully equipped with latest infrastructure measuring up to International Standard for Bulk / Liquid and Container Handling.

The jetty with 1850 meters width will be in a situation to handle a variety of cargo as per the requirement of the trade wherein the infrastructure is being created to handle the cargo efficiently. We are planning to have **multi mode transport for movement of material** to as per the requirement of the trade which is going to be a major challenge to ensure a smooth operation of the port for regular storage and movement of the cargo without any hassles. As per estimation and information a large portion of the cargo is in and around the DFC wherein a rail linkage will be a lot of benefit to the port, as the cargo will be called to the port due to connectivity of the port to DFC and also benefit to the trade in view of the quality service and timely receipt of the material as per their schedule.

As the Dedicated Freight Corridor (DFC) will be much help for the trade connectivity to the same will be an effective tool for development activities of the port, we request you to pursue the Rail linkage to this DFC from our port facilities between PEN and DHARMATAR. In regards to the area Dharamatar port from JNPT is about 30 Nautical Miles (By Road 80 KM) and the Rawas port is about 13.30 Nautical Miles (By Road 25 KM) which is proposed to be developed by Reliance Group. The projected rail traffic likely to be handled on Dharamatar port in terms of rakes per day is estimated to 10 to 15 rakes per day.

Thanking you and looking forward to your favourable decision in the matter.

Very truly yours
For Geetapuram Port Services Ltd

Authorized Signatory

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**


No. 2005/PL/6/7 Pt.II

Dated: 31.7.2008

Managing Director
DFCCIL
New Delhi
Fax: 24122949

**Sub: Letter from Chief Secretary, Maharashtra Government about
Rail Connectivity of Rewas Port**

Kindly refer to Board's letter of even number dated 21.7.2008 on the above subject. You are requested to kindly expedite the reply so that the case can be put up to Board.


(P. R. Parhi)
Jt. Director Transport Planning

FAX No. 011-2338910

CENTRAL RAILWAY

Headquarters Office
Operating branch
Mumbai CST**Z.A.SIDDIQUI**
CTPM

No. TW/NDIL-SDG/182

Dt: 21.7.08

My dear Girish,Sub : Request from M/s Geetapuram Port Services Ltd.
Ref : Your letter No. 205/PL/6/7/Pt.II dt 28.5.08.

M/s Geetapuram Port Services have not approached this office so far for any railway siding or line for their jetty near Dharamtar creek area.

Presently, jetties near Dharamtar creek are without any rail connectivity. Nearest rail head is Nagothane /Pen which is about 20 kms as the crow flies.


Even today(21.7.08) the loading is being done of imported fertilizer from Nagothane although the ship is berthed in Dharamtar creek.

I will like to confirm that there is no plan to provide connectivity to minor ports/terminals on Mumbai division.

Except for the letter addressed to Advisor(Infrastructure), Railway Board in their correspondence by M/s Geetapuram Port services Ltd no other is available in this office.


With best wishes,

Yours sincerely,


(Z.A.Siddiqui)

Shri Girish Pillai
Executive Director (Perspective Planning)
Railway Board
New Delhi.

DTP
Re: 18/7


21/7

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**


No. 2005/PL/6/7 Pt.II

Dated: 21.7.2008

Managing Director
DFCCIL
New Delhi
Fax: 24122949

**Sub: Letter from Chief Secretary, Maharashtra Government about
Rail Connectivity of Rewas Port**

Please find enclosed herewith a letter from Chief Secretary, Maharashtra Government on the above subject. The case may be examined and remarks of DFCCIL may kindly be sent urgently so that the reply can be sent.


(P. R. Parhi)
Jt. Director Transport Planning

Encl: As above.



D.O No.PDE-0108/ CR-23/PRT-2
Chief Secretary's Office,
Mantralaya, Mumbai-400 032.
Dated 7th February, 2008

JOHNY JOSEPH
Chief Secretary

Subject:- Rewas Port Project - Rail Connectivity thereof.

Dear Shri Jena,

The development of the Rewas-Aware Port at Rewas near Mumbai through public private participation. M/s. Rewas ports Limited is the SPV for this project. The port in the initial phase is designed for a capacity to handle 60 million tonnes of cargo with a draft of 14.5m CD, with world class facilities and state-of the art handling equipments will cater to vessels which presently cannot call on any of the Indian ports due to draft restrictions. The port will not only serve the hinterland but will also meet the requirements of northern hinterland. In the ultimate phase, the port will have a draft of 20m CD with facilities developed to handle traffic of 170 million tonnes.

As you are aware, the efficiency of a port largely depends on the connectivity of the port to the hinterland. The existing Major Ports are also upgrading / enhancing the rail and road facilities for ensuring speedy evacuation of cargo. Rewas port has planned for an efficient rail and road connectivity. The rail link is planned from Hamrapur with a route length of 26 km upto the port.

The port project is being implemented with stringent timelines. It is therefore essential that this rail link should be implemented on priority and completed prior to commissioning of the port by year 2011. M/s. Rewas Ports Limited has been directed to adopt a suitable model for speedy implementation of the rail link. I strongly believe that this rail connectivity project can come up in a timely manner only through the SPV route, with Railways participation. The SPV route will help Rewas Port in availing the expertise of Railways for such project.

10/11

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EPP

I think instead of DFC getting extended, the SPV should extend their line upto PNL. They should also foot the additional cost.

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Pz

The model of concession agreement has been finalized and communicated to PNL as far as connectivity to DFC is concerned. EPP may kindly see.

17/14

Per put +2
17/14


The rail bound traffic is considered as a huge revenue potential for the Railways. The rail bound cargo volumes will also increase once the Delhi Mumbai (JNP) DFC is operational. The traffic projections for the port and share of rail bound cargo to hinterland justify the rail link from Hamrapur to Rewas port to be double line to DFC standards. Railways should consider extending the DFC from panvel upto Hamrapur, which will enable Rewas Port rail traffic to northern hinterland move over the DFC.

I therefore request as under-

1. M/s. Rewas Port Limited's proposal for implementing the Hamrapur Rewas port line is approved for implementation under the SPV route.
2. The Delhi Mumbai (JNP) DFC is extended from Panvel upto Hamrapur to cater to Rewas Port traffic.

With regards,

Yours sincerely,


(Johny Joseph)

Shri.K.C.Jena,
Chairman,
Railway Board,
Government of India,
Rail Bhawan,
New Delhi-110 001.

Encl: M/s. Rewas Port Ltd. proposal



Final
S. N. 116
PL

Girish Pillai
Exec.Dir.(Perspective Planning)

S. N. 116

भारत सरकार
रेल मंत्रालय, (रेलवे बोर्ड)
नई दिल्ली-११० ००९
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

D.O.No.2005/PL/6/7/Pt.II

Dt: 28.5.2008

Dear Shri Siddiqui,

Kindly recall telecon of date.

I am enclosing herewith copy of the letter from M/s Geetapuram Port Services Ltd. regarding their plans for expansion and their request for connectivity to the DFC.

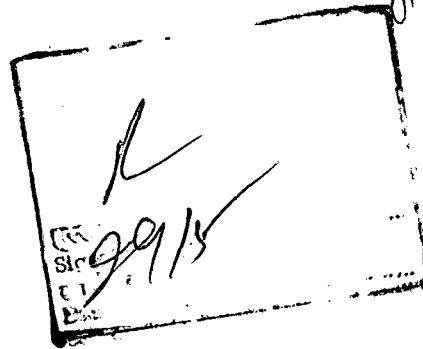
May I request an early feedback on whether the Company has sought a railway siding or a line to their port terminal and whether there are any other plans/requests to provide connectivity from Pen to minor ports/terminals in Dharamtar creek area.

With warm regards,

Yours sincerely,


(Girish Pillai)

Shri Z.A. Siddiqui,
CTPM,
Central Railway,
Mumbai.
Fax: 9522-22612354



Faxed



सत्यमेव जयते

Girish Pillai
Exec.Dir.(Perspective Planning)

भारत सरकार
रेल मंत्रालय, (रेलवे बोर्ड)
नई दिल्ली-११० ००९
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

D.O.No.2005/PL/6/7/Pt.II

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With warm regards,

Yours sincerely,

(Girish Pillai)

Shri Z.A. Siddiqui,
CTPM,
Central Railway,
Mumbai.
Fax: 9522-22612354

S.N-115



GEETAPURAM PORT SERVICES LTD.

GEETAPURAM, DOLVI - 402 107, TALUKA - PEN, DIST. RAIGAD, MAHARASHTRA (INDIA)
PHONE : (+91-2143) 277501 TO 277510 FAX : (+91-2143) 277612

प्राप्त किया
RECEIVED

To

7 March 2008

Advisor (Infrastructure),
Railway Board
New Delhi

कृते रेल बोर्ड
For Secretary, Railway Board

Sub: Request for providing Rail linkage through DFC (Dedicated Freight Corridor) project

Geetapuram Port Services Limited is the first privately maintained port at Dharmatar Creek in Maharashtra with a major role to contribute in Ispat's success as it handled more than 5 million tonnes material during the year. The Capacity expansion plan of the Steel Plant at Dolvi envisages an increase in the volume of material being handled through the jetty to the tune of 40 MTPA gradually in the next 7 years.

The existing capacity of the terminal with 415 meters berth generates revenue of Rs. 9 crores for MMB. Considering the increased demand, the handling capacity of the said jetty is planned for expansion by extending its length to 1850 meters in a phased manner. This extension of further 1385 meters will facilitate installation of *new generation handling equipments for handling bulk as well as Containerized cargo*. The port is planned with facilities earmarked separately for all types of materials from bulk cargo to container yard. The port has to be developed as a privately managed and developed, highly modern, high tech port, fully equipped with latest infrastructure measuring up to International Standard for Bulk / Liquid and Container Handling.

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Thanking you and looking forward to your favourable decision in the matter.

Very truly yours
For Geetapuram Port Services Ltd

Authorized Signatory

DPL
PC 10/4

5/5/08

113/08



D.O No.PDE-0108/ CR-23/PRT-2
Chief Secretary's Office,
Mantralaya,Mumbai-400 032.
Dated 7th February, 2008

JOHNY JOSEPH
Chief Secretary

Subject:- Rewas Port Project - Rail Connectivity thereof.

Dear Shri Jena,

The development of the Rewas-Aware Port at Rewas near Mumbai through public private participation. M/s. Rewas ports Limited is the SPV for this project. The port in the initial phase is designed for a capacity to handle 60 million tonnes of cargo with a draft of 14.5m CD, with world class facilities and state-of the art handling equipments will cater to vessels which presently cannot call on any of the Indian ports due to draft restrictions. The port will not only serve the hinterland but will also meet the requirements of northern hinterland. In the ultimate phase, the port will have a draft of 20m CD with facilities developed to handle traffic of 170 million tonnes.

As you are aware, the efficiency of a port largely depends on the connectivity of the port to the hinterland. The existing Major Ports are also upgrading / enhancing the rail and road facilities for ensuring speedy evacuation of cargo. Rewas port has planned for an efficient rail and road connectivity. The rail link is planned from Hamrapur with a route length of 26 km upto the port.

The port project is being implemented with stringent timelines. It is therefore essential that this rail link should be implemented on priority and completed prior to commissioning of the port by year 2011. M/s. Rewas Ports Limited has been directed to adopt a suitable model for speedy implementation of the rail link. I strongly believe that this rail connectivity project can come up in a timely manner only through the SPV route,with Railways participation. The SPV route will help Rewas Port in availing the expertise of Railways for such project.

1044

[Handwritten signature]
CRB

Majl 18/3
A/P
EPP

I think instead of SPV getting extended, the Gov should extend their line upto PNL. They should also foot the additional cost.

Per
14 Est

EDP
EDPP/T.

6/8
Pa

The model of concession Agreemnt has been finalized and communicated to RWRL. As far as connectivity to DFC is concerned EDP may kindly see.

17/4

Per 42
Dy P 17/4

The rail bound traffic is considered as a huge revenue potential for the Railways. The rail bound cargo volumes will also increase once the Delhi Mumbai (JNP) DFC is operational. The traffic projections for the port and share of rail bound cargo to hinterland justify the rail link from Hamrapur to Rewas port to be double line to DFC standards. Railways should consider extending the DFC from panvel upto Hamrapur, which will enable Rewas Port rail traffic to northern hinterland move over the DFC.

I therefore request as under-

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2. The Delhi Mumbai (JNP) DFC is extended from Panvel upto Hamrapur to cater to Rewas Port traffic.

With regards,

Yours sincerely,


(Johny Joseph)

✓
Shri.K.C.Jena,
Chairman,
Railway Board,
Government of India,
Rail Bhawan,
New Delhi-110 001.

Encl: M/s. Rewas Port Ltd. proposal

REWAS PORTS LIMITED

Jai Towers, Plot No. 68, Sector - 15, CBD Belapur, Navi Mumbai - 400 614, INDIA.
Tel: +91 22 2758 3000 Fax: +91 22 2758 3550

RPL/ 214

26.12.2007

To,
Managing Director,
Rail Vikas Nigam Ltd,
August Kranti Bhawan,
Bhikaji Cama Place, R.K.Puram,
New Delhi - 110 066.

Sir,

Sub : Rail connectivity to Rewas Port.

Ref : Presentation / meeting held in RVNL office on 17.12.2007.

We would like to thank you and entire RVNL Board for allowing us to make a presentation on Rail Connectivity for Rewas Port.

The modalities for implementing the rail project under the SPV route were deliberated and accordingly, we hereby submit the proposal for implementing the rail project through an SPV with RVNL/ MoR. The Feasibility Study Report and the Financial Analysis Report are being submitted herewith.

We request your kind approval for implementing the rail project through the SPV route and suggest the way forward. We would be glad to provide any further information/ clarification required in this regard.

Thanking you,

Yours faithfully,

For Rewas Ports Ltd.


Authorized Signatory.

HAMRAPUR REWAS PORT LINE (HRPL) PROPOSAL FOR IMPLEMENTATION

Background –

Shipping plays an important role in the Indian economy. Approximately 95% of India's international trade by volume and 70% by value is seaborne. Ports are perhaps the most crucial link in the transportation chain of a country's trade. Continental economies such as India have found that globalisation of trade is the key to the development of the economy. Since this trade is carried primarily by sea-borne vessels, development of ports gains strategic importance as holding the key to national development.

Economic liberalisation in the country, since 1992, has given a boost to economic activities resulting in an average annual compounded growth of 8.28% in the traffic handled by ports. The economy is expected to grow at a rate of at least 8% in the next 10 to 15 years. This would correspondingly result in a faster growth of international trade and consequent demands on ports, of the order of 10% growth per annum. At present, the sea borne trade is catered by 12 Major ports and over 185 Non major ports of our country. The total volume of cargo handled by all these ports in 2006-07 was 580 million tonnes as compared to 368 million tonnes handled in 2000-01. The traffic projections undertaken by RITES for the Ministry of Shipping GoI (Vision 2020 report), reveals that the traffic will grow upto 869 million tonnes by 2011-12 and 1273 million tonnes by 2019-20.

The present port capacity of the country is inadequate to meet the futuristic traffic demands of the trade. Many of the existing Major ports are operating beyond their capacity. It is therefore imperative to undertake expansion programs to enhance the existing port capacity. The operational efficiency also needs to be enhanced to meet international standards. Green field port project are required urgently for increasing the port capacity of the country.

The Rewas Port is being developed as a green field port by M/s Rewas Ports Limited under a concession agreement with Maharashtra Maritime Board, GoM. The port, located on the Rewas headland comprising of over 1000 ha of intertidal land, will be a growth centre near the island city of Mumbai. The port with world class infrastructure facilities, deep draft and state-of-the-art handling equipments coupled with latest management technology will meet the trade requirements of this century.



In the initial stage 9 berths comprising of container berths (4 nos), general cargo berths (2 nos) and 1 berth each for liquid cargo, dry bulk cargo and car carriers have been planned, based on the traffic study done by TransCare.

The Rail project –

Rewas port has planned for adequate rail infrastructure for movement of rail bound cargo. The salient features on the HRPL, based on the feasibility study done by BARSYL, is as under –

- Take off station – Hamrapur/ Pen on the Panvel Pen section of CR.
- Double line rail link from Hamrapur/ Pen to Rewas Port (26 km route length) on DFC standards with Automatic signaling.
- The Panvel Pen section is non electrified section and hence the project line will also be on Diesel traction.
- Estimated cost of project – Rs 368 cr including IDC.
- Track structure – 60kg rail over PSC sleepers with sleeper density of 1660 nos per km.
- Construction period – 3 years including period required for land acquisition.
- The terminals have been planned with adequate facilities considering the free time available under the Engine on Load concept.
- The rail lines and terminals within the port will be owned by the Rewas Port and will be leased to the project company under a service agreement.

The rail project will need 490 Ha of land spread over 21 villages. This includes the land required for holding yard, future expansion as well as a provision for service road alongside the line.

The rail bound cargo movement to/ from the hinterland has been worked out. The hinterland for container cargo is NCR, Punjab, UP, Rajasthan, Gujarat, MP and Maharashtra (lead varying from 500km to 1500 km) and for coal cargo is central Maharashtra (lead of 600km). Likewise the average rail share for container cargo varies from 42% to 44% while for coal cargo it is considered as 60%. Please refer the traffic study report for projected traffic.

The revenue to the project line will be the rail haulage charges for container cargo and rail freight tariff for bulk cargo on through basis apportioned over the project



distance. The operation and maintenance of this line will be done by railways and the O & M charges will be paid to Railways on actuals. The financial analysis for the project has been done by BARSYL, reveals that the project has an Equity IRR of 16% + over a period of 30 years. Beyond Hamrapur, the port cargo will move over the IR network thereby generating business to Railways.

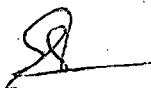
Proposal for implementation –

The GoI is committed to provide connectivity to Major Ports. This has been emphasized in the NMDP as well as in the Rashtriya Rail Vikas Yojana. The Rail Vikas Nigam Ltd has been entrusted with the responsibility of implementing the PPP projects of IR. Many of the port connectivity projects are also being undertaken through the PPP route.

Rewas Port intends to undertake this project under the PPP route. This route will enable availing of the railway expertise available with RVNL/ MoR, resulting in speedy implementation of the project as well as will facilitate land acquisition for the project.

It is proposed to implement the rail link project through an SPV on the following terms to be mutually agreed.

1. The project will be financed with a Debt Equity ration of 2:1.
2. The RVNL/ MoR would have an Equity participation (with / without any other financial obligation as may be stipulated by project lenders) as per mutually agreed terms and the Rewas port promoters would arrange for the remaining Equity.
3. The entire responsibility of arranging the Debt and of achieving the financial closure would rest with the Rewas port promoters.
4. The Project will be designed, planned, funded, implemented & maintained by the SPV.
5. The SPV would enter into O & M contract with Railways for operation and maintenance of the project line.
6. Likewise, service agreements will be entered into with the Rewas Port for usage of internal rail lines of port and the port terminals.
7. The Equity of Rewas Promoter will get transferred to Railways (at Railways option) at par once 14% IRR on Equity is achieved.



S.N

113

**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt.II

16th April 2008

General Managers
ER / ECR / SER

Sub: Identification of additional feeder routes on Eastern Corridor.

Board has approved the following additional feeder routes for Eastern Dedicated Freight Corridor taking into account the decision on extension of the eastern corridor from Sonnagar to Dankuni.

No.	Route
1.	Gomoh-Chandrapura-Bokaro-Muri-Chandil-Sini-Chakradhapur
2.	Tatanagar-Chandil
3.	Chandil-Bhojidih-Mohuda-Gomoh
4.	Dhanbad-Katrasgarh-Jamuniatar-Chandrapura
5.	Dankuni-Andul-Panskura-Haldia
6.	Dankuni-DumDum Junction - Ballygunj Junction - Diamond Harbour Ballygunj Junction -Budge Budge

Suitable action may kindly be taken for their upgradation and proposals for the same may be included in the Works Programme.

D₂

(P. R. Parhi)

Jt. Director Transport Planning

Tele fax: 23388858

Copy to: Managing Director/DFCCIL, AM (W)

<p>रेल मन्त्रालय Ministry of Railways रेल बोर्ड Railway Board अनुलग्नक सहित जारी Issue with Enclosure</p>
<p>हस्ताक्षर Signature</p>
<p>जारी की तिथि Date of Issue</p>

Pr. Issue for

17/4/08

18

112

NORTHERN RAILWAY

Headquarters Office,
Baroda House,
New Delhi.

No. 86-T/Freight Corridor/TGP

March 27, 2008

✓ Director Planning
Railway Board,
New Delhi

PL
↙

Sub: Freight Corridor.

Ref:: Letter of Western U.P.Chamber of Commerce & Industry.(Meerut) Dated: 3.3.08.

.....
Please find enclosed herewith the representation received from Western U.P. Chamber of Commerce & Industry (Meerut) wherein they have requested the linkage of Meerut with Freight Corridor, for necessary action.

You are also requested to advise this office the action taken for replying back to the party.

DA:As above. ✓

Miraj Kany
21/03
Dy. C.O.M.(Plg)

रेल मन्त्रालय (रेलवे बोर्ड)
(Railway Board)
28 MAR 2008
फाइल नं./C.R. No.....
अनुभाग कायरी नं.
Section Diary No.....
वर्गीकरण/Classification....



WESTERN U.P. CHAMBER OF COMMERCE & INDUSTRY

P.O. BOX No. : 12, BOMBAY BAZAR, MEERUT CANTT-250 001 (INDIA)

PHONES : 2661238, 2661177, FAX No. : 0091-121-2661685

E.mail : wupcc@rediffmail.com

पत्रांक:सी0डी0/2007-08/एफ-1014/5248

3-3-2008

श्री श्रीप्रकाश
जनरल मैनेजर
नार्दन रेलवे
बडौदा हाऊस
नई दिल्ली ।

CTM
COM
CA/C
13/3/08
AS/CM

आदरणीय महोदय,

हमें विदित हुआ है कि फ्रेट कोरीडोर बनाने के लिए रेलवे विभाग सर्वे करा रहा है एवं इस बारे में आजकल मेरठ में सर्वे चल रहा है । जिस भूमि पर रेलवे लाईन डालने के लिए सर्वे किया गया है वहाँ पर यदि रेलवे लाईन डाली जाती है तो उस हालत में कम से कम 9 स्थानों पर रेलवे फाटक रेलवे को बनाने होंगे जिसमें रेलवे का अनावश्यक खर्चा बढ़ेगा व दूसरी ओर सड़क पर फाटक लगने के कारण आवागमन में ट्रैफिक को बाधा उत्पन्न होगी ।

इस चैम्बर का यह निश्चित मत है कि रेलवे को जहाँ भी नई लाईनें डालनी हो तो उन्हें इस प्रकार से डाला जाना चाहिए जिसके कारण सड़क यातायात में फाटक लगने के कारण बाधा उत्पन्न न हो । अतएव हमारा सुझाव है कि फ्रेट कोरीडोर के लिए रेलवे लाईन या तो पुरानी स्थित लाईन के (समानान्तर) साथ डाली जाये या मेरठ में प्रस्तावित आउटर रिंग रोड के साथ-साथ यह लाईन डाली जाये । इससे रेलवे को व नगरवासियों को दोनों को लाभ होगा । सड़को पर कोई रेल के कारण यातायात में बाधा उत्पन्न नहीं होगी एवं रेलवे की प्रोजेक्ट में खर्चा भी कम आयेगा एवं काम जल्द निपटारा होगा ।

हम आशा करते हैं कि आप हमारे अनुरोध पर उचित गौर करेंगे एवं फ्रेट कोरीडोर के मामले में जनहित में उचित निर्णय लेंगे ।

सधन्यवाद,

भवतीरा

**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt.II

16th April 2008


General Managers
ER / ECR / SER

Sub: Identification of additional feeder routes on Eastern Corridor.

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4.	Dhanbad-Katrasgarh-Jamuniatar-Chandrapura
5.	Dankuni-Andul-Panskura-Haldia
6.	Dankuni-DumDum Junction - Ballygunj Junction - Diamond Harbour Ballygunj Junction -Budge Budge

Suitable action may kindly be taken for their upgradation and proposals for the same may be included in the Works Programme.


(P. R. Parhi)
Jt. Director Transport Planning
Tele fax: 23388858

Copy to: Managing Director/DFCCIL, AM (W)

TRANSMISSION VERIFICATION REPORT

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FAX :
TEL :

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MODE	STANDARD ECM

S. no. 110

5.3.9 Dankuni Terminal

5.3.9.1 **Dankuni:** Dankuni is the terminal of the proposed DFC at Howrah end. This is the junction point of three routes

- a. The Howrah-Barddahman Chord line (HBC),
- b. Freight traffic from South Eastern Railway via Andul-Bhattanagar.
- c. The line to DumDum Junction, on way to Kolkata port and other terminals in Kolkata and its suburbs.

5.3.9.2 There are flyovers connecting the HB Chord to the line going to SE Railway as well as the line going to DumDum Junction. To facilitate smooth and seamless movement of traffic to the proposed DFC, the connectivity to DFC will be at Andal end of the present Dankuni yard.

5.3.9.3 Double line

In case the proposed freight corridor is a double line between Dankuni and Andal, the following connectivity arrangement have to be under:

- Down DFC line will be directly connected to the existing Down line.
- The Up existing line will be connected to the DFC with a flyover across the Dn existing line.
- In the terminal DFC yard at Dankuni, there will be 2 Up lines and 2 down lines.

5.3.9.4 Single Line

If the DFC from Dankuni to Andal is a single line, then,

- In the Down direction, DFC will be connected to the existing Dn line directly and existing up line will be connected with a flyover to the DFC across the existing down line.
- The yard will total 4 lines (3 loops + 1 main line)

5.4 Axle Load and Heavy Haul Operation

5.4.1 The current standard axle load of 20.32 on IR, with a limited payload per wagon, results in increased number of trains per million tonnes of traffic transported. This limitation is sought to be corrected by building the DFC and induction of 25/30 tonne axle wagons. Running of trains with heavier axle wagons will not only result in increased throughput per wagon and per train, leading to reduction in unit cost of operation, but will also result in reduced rolling stock requirements through achievement of commercial speed of about 50 kmph.

5.4.2 The current physical infrastructure will not permit running of 15000 tonne trains. Even for running trains with heavy axle wagons, capable of being accommodated in standard 686 metre loops, not only the connecting routes, but also the loading and unloading terminals will have to be suitably upgraded.

5.5 Upgradation of Feeder Routes

5.5.1 Since the traffic to the DFC will be fed from a number of connected routes, it will be necessary to upgrade the major feeder routes carrying bulk of the incremental traffic like coal, steel, containers etc. to carry 25 tonne axle load wagons. The following table indicates these routes.

No.	Route
1	Gomoh-Chandrapura-Bokaro-Muri-Chandil-Sini-Chakradharpur-
2	Tatanagar-Chandil
3	Chandrapura-Gomoh
4	Chandil-Bhojidih-Mohuda-Gomoh
5	Dhanbad-Katrasgarh-Jamuniatar-Chandrapura
6	Katrasgarh-Nichitpur Link
7	Kusunda-Tetulmari Link
8	Patherdih-Pradhankanta
9	Pakur-Sainthia-Andal-Asansol-Gomoh
10	Dankuni-Andul-Panskura-Haldia
11	Dankuni-DumDum Junction-Ballygunj Junction-Diamond Harbour Ballygunj Junction-Budge Budge
	Total

With upgradation of the above feeder routes to 25 tonne axle load standards, it will be possible to take care of almost 90 to 95% of the traffic of this corridor which will use the DFC. However, for some volume of traffic originating at points outside the junction stations like ISP's steel traffic, the existing route will also need to be upgraded gradually. With commissioning of the three new lines namely Ranchi-Hazaribagh-Koderma, Koderma-Tiliaya and Koderma-Giridih which are being constructed to 25tonne axle load standard, upgradation of the existing route between Gomoh-Sonnagar may also be required. Further, it is important for the sake of provision of an alternate route in case of dislocation on the DFC like major accident, affecting through movement on it.

5.6 Choice of Traction

5.6.1 The existing route as well as the feeder routes, bringing in the main traffic, coal and steel, to this route, are totally electrified. Dieselization of the proposed DFC at this stage would inevitably mean fresh introduction of all the inefficiencies connected with mixed traction, namely, change of traction in both directions with resultant detentions, increase in turn-round and consequent operational inefficiencies. Under the circumstances, it is almost inevitable that the proposed DFC between Sonnagar and Dankuni should have electric traction.

5.7 Double Stack Container Operation

5.7.1 Under the current MMD parameters, it is not possible to conduct double stack operation under electric traction. However, with higher MMD parameters of the DFC, it would be possible to move double stack containers, loaded in 30 tonne axle load, 915 mm wheel diameter, well type wagon. Even though the present level of traffic does not justify running double stack containers, the option may be considered once the proposed DFC comes up and there is large increase in north-bound container traffic due to commissioning of the Diamond Harbour terminal and diversion of north bound traffic from JNPT to the new terminal.

5.8 Single Line or Double Line

5.8.1 Assuming that the proposed Dedicated Freight Corridor will deal with only the incremental trains as brought out in table 4.29 in Chapter-4, the additional trains with 25 tonne axle load work out as under in the horizon year 2023-24.

J. no. 109

**Government of India
Ministry of Railways
(Railway Board)**

No. 2008/Infra/6/2

Dated: 18th February, 2008

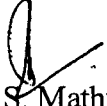
Managing Director
DFCCIL
New Delhi.
Fax: 24122949

Sub: Feeder Routes of DFC

Board had approved the following additional feeder route on the Western DFC:

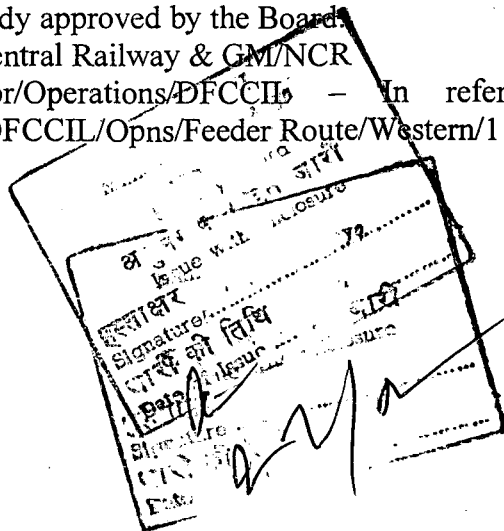
1. Panvel-Pen-Roha (75 km)

Necessary action in this regard may kindly be taken.


(M. S. Mathur)
Director Transport Planning
Phone: 23388858

Copy to:

- ✓ 1. AM Works – Apart from the above, necessary action on upgradation of Tundla-Yamuna Bridge section on NCR may kindly be taken for upgradation which will be part of Tundla-Agra-Jaipur-Phulera which is already approved by the Board.
- ✓ 2. GM/Central Railway & GM/NCR
- × 3. Director/Operations/DFCCIL – In reference to your letter 2007/DFCCIL/Opns/Feeder Route/Western/1 dated 5.2.2008.



**Government of India
Ministry of Railways
(Railway Board)**

No. 2008/Infra/6/2

Dated: 18th February, 2008


Managing Director
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New Delhi.
Fax: 24122949

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TRANSMISSION VERIFICATION REPORT

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डेडीकेटेड फ्रेट कोरीडोर कॉर्पोरेशन

डेडीकेटेड फ्रेट कोरीडोर कॉर्पोरेशन ऑफ इण्डिया लि.
(भारत सरकार का उपक्रम)
Dedicated Freight Corridor Corporation of India Ltd.
(A Government of India Enterprise)

P.N. Shukla
Director (Operations & Business Development)

D.O.No. 2007/DFCCIL/Opns/Feeder Route/Western/1

5.2.08

My dear Pradeep,

Sub: Feeder routes of DFC - review of the routes & their strengthening

Feeder Routes were identified with a view to upgrade these routes to the higher standards of DFCs for ensuring seamless transfer of freight traffic from the existing network to DFCs and vice versa. These routes were identified in such a way that the major share of freight traffic moving on the DFC originate/terminate on these routes.

In our view, upgradation of following routes to DFC standards will be useful for seamless movement:

- i) The doubling of **Tundla-Jamuna Bridge Section** on North Central Railway sanctioned in 1995-96 may be necessary for East to West DFC movement and vice versa.
- ii) Presently, the Feeder Route of Western DFC does not include the section beyond Panvel on Central Railway, which will act as feeder route for the traffic moving to/from the proposed Rewas and Dighl Ports. The detail of sanctioned works on these sections is as under:

Railway	Plan	Year of Inclusion in Budget	Project	Kms
Central Railway	Doubling	2006-07	Panvel-Pen	35
Central Railway	Doubling	2007-08	Pen-Roha	40

Kindly undertake the review of the above feeder routes so that the process of upgradation of such sections could be tackled at initial stage itself.

With regards,

Yours sincerely,

P.N. Shukla
(P.N. Shukla)

Shri Pradeep Bhatnagar
Shri Pradeep Bhatnagar,
Advisor(Infrastructure),
Railway Board,
New Delhi.

Government of India
Ministry of Railways
(Railway Board)


No. 2005/PL/6/7 Pt. II

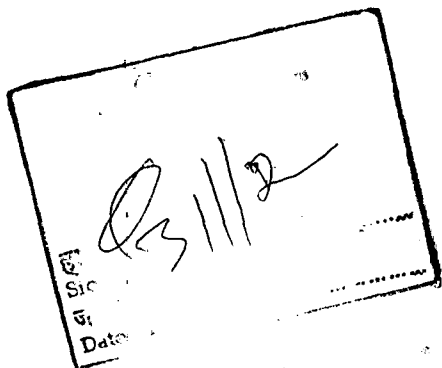
28th December 2007

President,
The Gandhidham Chamber of Commerce & Industry,
Chamber Bhavan,
Plot no. 71, Sector 8 Post Box No. 58,
Gandhidham
Kuchchh 370 201
Gujarat

Ref: Your letter no. GCCI/718 dated 13th November 2007.

Kindly refer to your letter dated 13th November 2007 addressed to Chairman/ Railway Board suggesting to encompass Gandhidham/Kandla with the DFC project. It is advised that connectivity to Gandhidham/Kandla will be provided with the Western corridor by upgrading the feeder routes on existing IR network, which will be adequate for handling the level of traffic projected from this region.


(Mukul Saran Mathur)
Director/Transport Planning
Tele/Fax:011-2338858



S/2008

Government of India
Ministry of Railways
(Railway Board)

No. 2005/PL/6/7 Pt. II

28th December 2007

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The Gandhidham Chamber of Commerce & Industry,
Chamber Bhavan,
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(Mukul Saran Mathur)
Director/Transport Planning
Tele/Fax:011-2338858

President,
The Gandhidham Chamber of Commerce & Industry,
Chamber Bhavan,
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Kuchchh 370 201
Gujarat

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(Mukul Saran Mathur)
Director/Transport Planning
Tele/Fax:011-2338858

DFA

Mukul Saran Mathur,
Director Tpt. Planning

No. 2005/PL/6/7 Pt. II

New Delhi, Dt., December 2007

Dear Sir,

Kindly refer to your letter dated 13th November 2007 addressed to Chairman Railway Board suggesting to encompass Gandhidham/Kandla with the DFC project. It is advised that connectivity to Gandhidham/Kandla will be provided with the western corridor by upgrading the feeder routes on existing IR network, which will be adequate for handling the level of traffic projected from this region.

Thanking you,

Yours sincerely,

President,
The Gandhidham Chamber of Commerce & Industry,
Chamber Bhavan,
Plot no. 71, Sector 8 Post Box No. 58,
Gandhidham
Kuchchh 370 201
Gujarat



THE GANDHIDHAM CHAMBER OF COMMERCE & INDUSTRY

"CHAMBER BHAVAN", Plot No. 71, Sector 8, Post Box No. 58.
GANDHIDHAM - Kachchh - 370 201.
Phone : +91-2836-220977, 220735 Mobile : 99250 37814 Fax : 220888
e-mail : info@gccikandla.com / gcci1953@yahoo.co.in Website : www.gccikandla.com

PARASMAL NAHTA
President
(M) 98252 25181

No. GCCI / 718

Date: 13.11.2007

Shri K.C. Jena
Chairman
Railway Board
Rail Bhavan, Rafi Marg
New Delhi - 110 001

Sub : Extension of Dedicated Freight Corridor to Kandla Port

Dear Sir,

We are immensely happy to learn that the Ministry of Railways has mooted a new concept of a Dedicated Freight Corridor between Mumbai - Delhi linking Ahmedabad - Palanpur - Jaipur. Indeed this proposition is laudable for the swift movement of cargo. It is also heartening to note that the Japan International Co-operation Agency (JICA) has presented to you a final report on DFC, confirming that the project is economically feasible.

As you are aware, Gandhidham Section of the Western Railway occupies very important place, so far as revenue generation from goods traffic is concerned. Gandhidham is near to the major Port of Kandla and has fathomless potentialities. There is enormous increase in exim cargo at Kandla Port, which serves vast hinterland of the country.

In post earthquake period, the region has witnessed fast growth and large number of industries are set up in the District. The demand of raw materials has increased from the new industries, which solely depend on Railways, for catering their needs. If the proposed DFC project covers Kandla Port also, the same will be beneficial to the users and the Railways, as easy connectivity of the Port is very favourable and inductive to the trade, commerce and industry.

The port of Mundra has also emerged as port of importance. A modern container Terminal is established there to cater the needs of importers / exporters. Adanis, who manage the port have plans to set up Special Economic Zone, and the initial work for the same is in offing.

DINESH GUPTA
Vice President
(M) 98252 25892

VIDYUT V. BUCH
Hon. Secretary
(M) 98252 25826

JAYESH V. ANAM
Hon. Jt. Secretary
(M) 98251 83105

REWA R. KALWANI
Treasurer
(M) 98252 89004

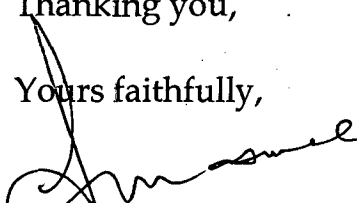
: 2 :

It is therefore our considered view that if Gandhidham / Kandla is encompassed in the DFC project, it will be one more feather in Railway's cap. The Port of Kandla handles 55 million M.T. of exim cargo, which is likely to be doubled in next 2/3 years, looking to the trends prevailing. Being an all weather port for the vast granaries of Punjab and Haryana, useful purpose will be served if the project covers Kandla / Gandhidham. Obviously it will provide permanent traffic to the Railway's throughout the year. Again, Lion's share of production of edible / industrial salt is produced from this belt and as such inclusion of Kandla / Gandhidham in DFC will ensure easy movement of salt to various destinations of the country.

We therefore urge you to kindly have this matter examined in right earnest for the progress and prosperity of this region in particular and nation in general.

Thanking you,

Yours faithfully,


Parasmal Nahta
President

S/6/06

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt. II

New Delhi, dated 15.11.2007

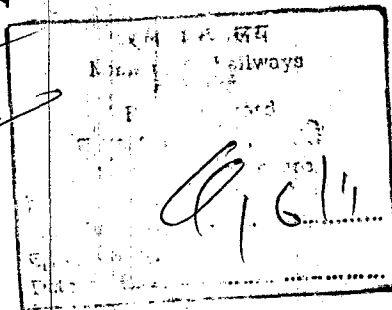
Lt. Col. Amit Khokhran
Offg. Director (Ops. & Plg.)
Directorate General of Operational Logistics
General Staff Branch
Integrated HQ of MoD (Army)
DHQ PO, New Delhi-110 011
Fax: 23015016

In reference to your letter no. 14243/MAINT/DFC-ADG MOV (PLG) dated 13th July & 17th Sept. 2007, the following is submitted:

1. On Western Corridor connectivity between Dedicated Freight Corridor and existing corridor will be possible at Madar (Ajmer). All other locations mentioned do not lie on the Dedicated Freight Corridor. Hissar location can access the western DFC through Rewari-Hissar which will be developed as the feeder route to the Dedicated Freight Corridor.
2. On Eastern Corridor – Gaya and Barkakhana do not fall on the Dedicated Freight Corridor alignment. At Kanpur, Junction arrangements are being provided at Prem Pur and Bhaupur. The Dedicated Freight Corridor alignment is not touching Hathras. Hapur, Saharanpur and Ambala will also not fall on Dedicated Freight Corridor alignment. The Eastern Corridor will terminate short of Ludhiana at Dhandari Kalan. Jalandhar and Amritsar since lie on the north of Dhandari Kalan can utilize the DFC from this point. For Bhatinda junction point at Rajpura can be utilized. Ambala can access Eastern DFC from Kalanaur. Saharanpur can utilize either Kalanaur junction point or can access Eastern DFC from Khurja onwards.
3. Connectivity for traffic going to Parichha have been provided. However, in reverse direction from Jhansi no connectivity on both up and down Dedicated Freight Corridor has been provided. Tuglakabad will be connected by a single line Dedicated Freight Corridor from Pirthala Road on Western Dedicated Freight Corridor.

It is further clarified that DFC is not planned for any passenger movement. Freight trains can utilize the existing junction arrangements being provided for moving from the existing network to the Dedicated Freight Corridor. The list of junction stations have already been furnished vide this Ministry's letter of even number dated 20th June, 2007.

S. 19542 fair
[Signature]



[Signature]
(Mukul Saran Mathur)
Director/Transport Planning
Tel:011-23388858

S. no - 106

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt. II

New Delhi, dated 15.11.2007

Lt. Col. Amit Khokhran
Offg. Director (Ops. & Plg.)
Directorate General of Operational Logistics
General Staff Branch
Integrated HQ of MoD (Army)
DHQ PO, New Delhi-110 011
Fax: 23015016

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3. Connectivity for traffic going to Parichha have been provided. However, in reverse direction from Jhansi no connectivity on both up and down Dedicated Freight Corridor has been provided. Tuglakabad will be connected by a single line Dedicated Freight Corridor from Pirthala Road on Western Dedicated Freight Corridor.

It is further clarified that DFC is not planned for any passenger movement. Freight trains can utilize the existing junction arrangements being provided for moving from the existing network to the Dedicated Freight Corridor. The list of junction stations have already been furnished vide this Ministry's letter of even number dated 20th June, 2007.


(Mukul Saran Mathur)
Director/Transport Planning
Tel:011-23388858

J. no. 105

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt. II

New Delhi, dated 25.09.2007

Lt. Col. Amit Khokhran
Offg. Director (Ops. & Plg.)
Directorate General of Operational Logistics
General Staff Branch
Integrated HQ of MoD (Army)
DHQ PO, New Delhi-110 011

In reference to your letter no. 14243/MAINT/DFC-ADG MOV (PLG) dated 13th July & 17th Sept. 2007, the following is submitted:

1. On Western Corridor connectivity between Dedicated Freight Corridor and existing corridor will be possible at Madar (Ajmer). All other locations mentioned do not lie on the Dedicated Freight Corridor. Hissar location can access the western DFC through Rewari-Hissar which will be developed as the feeder route to the Dedicated Freight Corridor.
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3. Connectivity for traffic going to Parichha have been provided. However, in reverse direction from Jhansi to connectivity on both up and down Dedicated Freight Corridor has been provided. Tuglakabad will be connected by a single line Dedicated Freight Corridor from Pirthala Road on Western Dedicated Freight Corridor.

It is further clarified that DFC is not planned for any passenger movement. Freight trains can utilize the existing junction arrangements being provided for moving from the existing network to the Dedicated Freight Corridor. The list of junction stations have already been furnished vide this Ministry's letter of even number dated 20th June, 2007.

(Mukul Saran Mathur)
Director/Transport Planning
Tel:011-23388858

12104

Tele: 23015016

Directorate General of Operational Logistics
Additional Directorate General Mov/Mov (Plg)
General Staff Branch
Integrated HQ of MoD (Army)
PIN - 900256, C/o 56 APO

14243/Maint/DFC/ADG Mov(Plg)

17 Sep 2007

Shri Mukul Saran Mathur
Director Transport Planning
Railway Board
Rail Bhawan, New Delhi

DEDICATED FREIGHT CORRIDOR (DFC)

1. Please refer following letters :-

- (a) Ref your letter No 2005/PL/6/7 Pt.II dated 20 Jun 2007.
- (b) Our letter No 14243/Maint/DFC/ADG Mov(Plg) dated 13 Jul 2007.
- (c) Our letter No 14243/Maint/DFC/ADG Mov(Plg) dated 07 Sep 07.

2. You are requested to confirm the availability of Ludhiana Jn, the terminus for both the Dedicated Freight Corridors (Western and Eastern) as access/Junction points to Ferozpur, Jalandhar-Amritsar and Jalandhar-Pathankot-Jammu.



(R Raghav)
Maj
GSO-1 (Ops & Plg)
For Offg DGOL

Copy
as file
19/9

9/20/07

Government of India
Ministry of Railways
(Railway Board)

No. 2005/PL/6/7 Pt. II

Dated: 20.09.2007

General Manager/Traffic
DFCCIL
New Delhi
Fax: 26873121/26111038

Please find enclosed a letter dated 17.08.2007 of Hind Terminal Pvt.
Ltd. for your comments.


(Mukul Saran Mathur)
Director/ Transport Planning
Tel/Fax:011-23388858

DA: As above.

HIND TERMINALS

.....Moving India Ahead

HIND TERMINALS PVT. LTD.

301 A, 3rd Floor, Rectangle-I, Plot No-D4, District Centre, Saket, New Delhi-110 017. (INDIA)
Phone : 011-4055 8100 / 2956 1587, Fax : 011- 4265 8228, Email : comm.delhi@hindterminals.com, Website : www.hindterminals.com

August 17, 2007

No. HTPL/DEL/IR/4/06

To

The COM
Northern Railway
Baroda House
Copernicus Marg
New Delhi.

Kind Attn: Shri S.R. Thakur, COM, Northern Railway

Sub: Connection of our proposed ICD, near Palwal, to the proposed Delhi-Mumbai Dedicated Freight Corridor.

Dear Sir,

Vide our letter of even number dated 25.9.2006 (copy enclosed), we had requested the Railway Board to connect our proposed ICD, which is coming up between Asaoti and Palwal, at kilo meter 1486, to the Dedicated Freight Corridor, which will be passing through Prithala Yard, between Asaoti and Ballabgarh. The total distance from our ICD to Prithala Yard will be around 8 kms.

We had also stated in our letter that 3 more ICDs, one for M/s Gateway Distriparks Limited (GDL), one for M/s Adani Logistics and one for M/s ACTL, is also coming up in the same area. Therefore, the Railways will get sufficient container traffic to justify the connection of this complex of the ICDs to the proposed Dedicated Freight Corridor. The projected level of traffic from/to our ICD will go up to about 10 trains per day in the next 10 years.

You are requested to consider our request and apprise us of the decision taken in the matter, at the earliest.

Thanking you,

Yours faithfully
For Hind Terminals Pvt. Ltd.


Dharmendra Saxena
(Authorized Signatory)

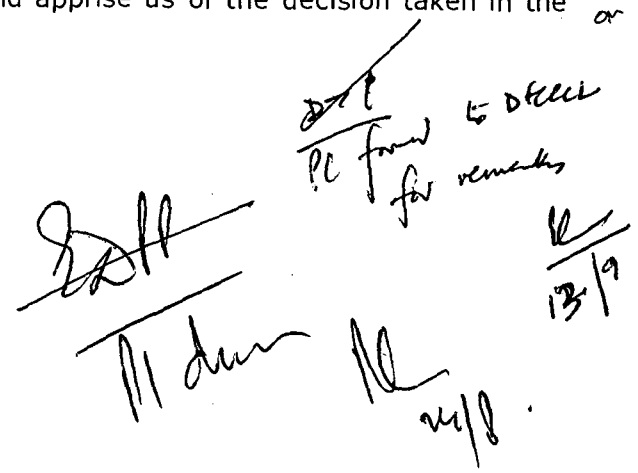
Encl: As above

Copy to:

- ✓ Adviser/Infrastructure, Railway Board, Rail Bhawan, New Delhi - with the above request.
- ED/TT (F), Railway Board, Rail Bhawan, New Delhi - with the above request.

2/2102

be. or file


PC found to office for remarks
13/9

HIND TERMINALS

.....Moving India Ahead

HIND TERMINALS PVT. LTD.

Corp. Off. : 104, Technopolis Knowledge Park, Mahakali Caves Road, Chakala, Andheri (E), Mumbai - 400 093. (INDIA)

September 25, 2006

To

Adviser (Infrastructure)
Infrastructure Directorate
Railway Board
Rail Bhavan
New Delhi.

Sub: Connection of our proposed ICD near Palwal to the Dedicated Freight Corridor between Mumbai and Tughlakabad.

Dear Sir,

We have been accorded 'In Principle Approval' by the Ministry of Railways vide their letter No. 2002/TT-III/15/39 dated 21.2.2006 (copy enclosed), for operation of container trains on the Indian Railways, in Category I. We are planning to develop an ICD with Rail Siding between Asauti and Palwal station, of Northern Railway, near level crossing Gate at KM 1485/6-8. The projected level of traffic from/to this depot will go up to about 10 trains per day in the next 10 years. Some more ICDs are also likely to come up in this area.

We understand that the Dedicated Freight Corridor of the Indian Railways between Mumbai and Delhi is likely to go to Tughlakabad from a location close to the proposed area of our ICD.

We propose to run Double Stack Container Trains also, on the above Freight Corridor. We are also in the process of finalizing a joint venture agreement with CONCOR for the proposed terminal.

We would, therefore, request that our proposed Rail Siding should be connected to the proposed Dedicated Rail Freight Corridor.

Thanking you,

Yours faithfully

For **Hind Terminals Pvt. Ltd.**



Dharmendra Saxena
(Authorized Signatory)

Correspondence Address

4B-4th Floor, Lotus Tower
New Friends Colony
New Delhi - 110 065
Tel: +91-11-66507777
Fax: +91-11-66507770
E-mail : dsaxena@hindterminals.com

**DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD
(A Government of India Undertaking)**

*Regd. Office: Room No. 101A, Rail Bhawan
Railway Board, New Delhi*

No. 2007/DFCCIL/Opns/1

Dated 12.9.2007

Director (Transport Planning),
Ministry of Railways,
Rail Bhavan,
New Delhi

- Sub: DFC – Additional Feeder routes proposed by Ministry of Defence**
- Ref: i. This office letter of even no. dated 1.6.07 & 10.8.2007**
- ii. Railway Board’s letter No. 2005/PL/6/7 Pt II dated 10.9.2007**

Please refer to the earlier letters as indicated above regarding additional feeder routes for DFC as proposed by Ministry of Defence. It was brought out clearly in the earlier letters that both the DFCs have been planned keeping only freight traffic in view. During the entire course of study of the DFC, the aspect of military movement has not been taken into consideration. In the letter of this office of even no. dated 1.6.2007, while responding to the Railway Board’s letter no. 2006/Infra/ 6/11 Pt dated 24.05.2007, a number of issues were brought out, which will come in the way of Military movement over DFC apart from adversely affecting the mobility of freight traffic. All these issues will need to be adequately addressed before considering the Military movement on DFC. In addition, providing connectivity for taking care the needs of the Military movement, with a view to ensure adequate flexibility in operations, has a substantial bearing on the cost as well.

However, comments on the issues raised in the letter of Directorate General of Operational Logistics (No. 14243/Maint/DFC/ADG Mov (Plg) dated 13.7.2007) with regard to feasibility of additional junction points/ stations in response to the Railway Board’s letter referred above, are as under:

On western corridor, Directorate General of Operational Logistics has asked to provide junction points/ stations at Jalandhar, Ludhiana, Amritsar, Bhatinda, Hissar and Ajmer. The western corridor of DFC, as has been planned, traverses from JNPT to Dadri via Ahmedabad, Palanpur and Rewari. DFC alignment runs parallel to goods avoiding line of Ajmer and by-passes Ajmer. No connectivity has been proposed in the PETS Report of RITES at Ajmer. However, in the phasing of execution of Western DFC, the first phase work includes the Palanpur – Ajmer (Madar) sector with a temporary connectivity between DFC and the existing corridor at Madar. This temporary connectivity could be the only possibility of a junction point on western corridor. DFCCIL is also

contemplating connectivity with goods avoiding line of Ajmer for movement of cement traffic from Chittaurgarh area to north India. Since other stations do not fall on the DFC alignment, providing connectivity is also accordingly ruled out.

On Eastern sector, connectivity at Ambala, Saharanpur, Hapur, Hathras, Kanpur, Barka Khana and Gaya has been asked by Directorate General of Operational Logistics. The eastern corridor of DFC starts from Sonnagar in the east to Dhandhari Kalan in north via Mughalsarai- Kanpur- Khurja. Gaya and Barka Khana, therefore does not fall on the DFC alignment. Kanpur and Hathras stations lie on the double line DFC alignment parallel to the existing network. On DFC, junction arrangements have been provided at Prempur and Bhaupur stations on east and west of the Kanpur station respectively with a diversion by-passing Kanpur. The lay out of Prempur will cater to transfer of Up freight traffic for Kanpur area and the corresponding empty flow in the reverse direction. Bhaupur connectivity will facilitate transfer of Dn DFC traffic to the existing network for onward movement towards Lucknow. The diverted alignment across Kanpur also provides connectivity to traffic ex Manikpur – Banda for movement over Up DFC and Up DFC's coal traffic for Parichha can be transferred on Bhimsen – Jhansi section. Existing Hathras Junction has been avoided by DFC in order to negotiate Hathras Jn- Hathras Quilah and Izatnagar – Mathura MG sections in addition to the ROB over state highway from Mathura to Sikandra Rau, which are coming in its way. Paucity of space to provide access of DFC to Hathras Jn and non existence of significant freight traffic for Hathras Jn have also led to the decision of by – passing Hathras Jn. Therefore, no connectivity at Hathras has been planned. Hapur, Saharanpur and Ambala stations of the existing alignment has been avoided by single line section of DFC due to the growth of these towns, non – availability of access to the existing railway yard and moreover, due to non – availability of significant freight traffic streams for these junction stations.

Similarly, on the lateral links, connectivity at Tughlakabad, Hapur and Parichha has been requested. As has been indicated above, provision for movement of Up DFC stream of coal traffic towards Parichha has been planned on eastern DFC, but provision for movement of traffic in reverse direction from Jhansi side for both Up and Dn DFC has not been kept. Single line DFC section has been planned between Pirthala Road and TKD on western DFC for providing DFC connectivity to TKD. The reason for non – provision of connectivity to Hapur has already been brought out above.

As has been brought in the earlier letter of this office, Railway Board's view with regard to Military movement over DFC may be communicated at the earliest, since this will require substantial modifications in the plans of the junction stations on DFC, which are already under advance stage of finalization. The issue of additional cost on this account will need to be addressed.

(Manoj K Akhouri)
General Manager (Operations)

DFCCIL

12/9/07

9/20/07

MOST URGENT

Tele: 23015016

Directorate General of Operational Logistics
Additional Directorate General Mov/Mov (Plg)
General Staff Branch
Integrated HQ of MoD (Army)
PIN – 900256, C/o 56 APO

14243/Maint/DFC/ADG Mov(Plg)

07-Sep 2007

✓
Shri Mukui Saran Mathur
Director Transport Planning
Railway Board
Rail Bhawan, New Delhi

DEDICATED FREIGHT CORRIDOR (DFC)

1. Please refer your letter No 2005/PL/6/7 Pt.II dated 20 Jun 2007 and our letter No 14243/Maint/DFC/ADG Mov(Plg)13 Jul 2007.
2. Your reply on our above quoted letter under ref is still awaited.
3. An early reply is requested.



(R Raghav)
Maj
GSO-1 (Ops & Plg)
For Offg DGOL

Government of India
Ministry of Railways
(Railway Board)

No. 2005/PL/6/7 Pt.II

10th September 2007

General Manager (Operations)
DFCCIL
New Delhi
Fax: 26873121

Sub: DFC – Additional Feeder routes proposed by Ministry of
Defence

Ref: Your letter no. 2007/DFCCIL/Opns/1 dated 10.08.2007

In reference to your letter it is requested that the views of DFCCIL on the feasibility of additional junction points/stations as requested in the letter of Directorate General of Operational Logistics may kindly be communicated.


(Mukul Saran Matthur)
Director/ Transport Planning
Tel/Fax:011-23388858

~~DA: As above.~~

S/2098

Government of India
Ministry of Railways
(Railway Board)

No. 2005/PL/6/7 Pt.II

31st August 2007

OSD
DFCCIL
New Delhi
Fax: 26873121

Sub: Alignment

The letter received from National Capital Region Planning Board is enclosed for necessary action in this regard.



(Mukul Saran Matthur)
Director/ Transport Planning
Tel/Fax:011-23388858

DA: As above.

Government of India
Ministry of Railways
(Railway Board)

No. 2005/PL/6/7 Pt.II

31st August 2007


To

Joint Director/IP
Department of Industries and Commerce
Punjab.

Sub: Eastern Rail Freight Corridor

Ref: Memo No. US/PO/2007/Corridor/3188 dated 28.08.2007

Cabinet Committee on Economic Affairs in its meeting held on 22nd Feb'07 accorded 'in principle' approval to the Dedicated Freight Corridor on Eastern Route i.e. from Ludhiana to Son Nagar at an estimated cost of Rs.11589/- crore.


(Mukul Saran Matthur)
Director/ Transport Planning
Tel/Fax:011-23388858

5/296

From

The Secretary to Govt. of Punjab
Department of Industries & Commerce, Punjab,
Chandigarh.

To

✓ The Director Transport,
Ministry of Railway
Govt. of India
New Delhi.

Memo No. US/PO/2007/Comidori/ 3.188
Dated the Chandigarh 22nd August

Subject:

Extension of Calcutta-Delhi Rail Freight Corridor.

2. It is requested that a copy of the approval granted by the Govt. of India to extend Calcutta-Delhi Rail Freight Corridor upto Ludhiana in Punjab may kindly be sent to this office at the earliest as the same is required by the State Govt.


Joint Director (IF)
for Secretary Industries & Commerce, Punjab

8/295



DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD

(A Government of India Undertaking)

Regd. Office: Room No. 101A, Rail Bhawan
Railway Board, New Delhi

No. 2007/DFCCIL/Opns/1

Dated 10.8.2007

Director (Transport Planning),
Ministry of Railways,
Rail Bhavan, New Delhi

Sub: DFC – Additional Feeder routes proposed by Ministry of Defence

Ref: i. Railway Board's letter No. 2007/Infra/6/3 dated 1.8.2007
ii. MoD's letter No. 14243/Maint/DFC/ADG Mov (Plg) dated 13.7.2007
iii. This office letter of even No. dated 1.6.2007

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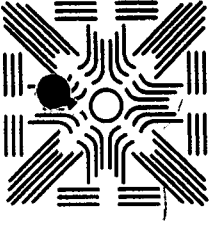
Please refer to the earlier letter of this office of even no. dated 1.6.2007 in which number of issues apart from comments on movement of defence stock on DFC was brought out. In response to the above mentioned letter, this office is in receipt of Railway Board's letter No. 2007/Infra/6/3 dated 1.8.2007.

The letter indicates that the issue of movement of defence stock over DFC has been under discussion in Planning Commission also. The issues raised in the letter referred at S.No. (ii) above, can be examined and comments of DFCCIL on those issues could be offered only when views of Railway Board with regard to movement of defence stocks on DFC is made available to DFCCIL. The issues indicated in this office letter referred at S.No. (iii) above, may also be addressed while firming up the view regarding movement of defence stock on DFC.

The same may be communicated to DFCCIL at the earliest so that the various related issues are examined expeditiously, which may also have substantial cost implications.

Copy of
on feeder route file
N
16/8

(Manoj K Akhouri)
General Manager (Operations)
DFCCIL



राष्ट्रीय राजधानी क्षेत्र योजना बोर्ड

NATIONAL CAPITAL REGION PLANNING BOARD

प्रथम तल, कोर-IV बी/1st Floor, Core - IV B

भारत पर्यावास केन्द्र/India Habitat Centre

लोधी रोड, नई दिल्ली-110003 / Lodhi Road, New Delhi-110 003

शहरी विकास मंत्रालय/Ministry of Urban Development

दूरभाष : 24642284, 24642287, फ़ैक्स : 24642163

Phone : 24642284, 24642287. Fax : 24642163

2/10/07

No.K-14011/33/2006-NCRPB

Dated: 03.08.07

The Advisor, Infrastructure

Room No. 101-A

Rail Bhawan, Raisena Road

New Delhi-110001

Sub.: Alignment of Dedicated Freight Corridor of Indian Railways.

Sir,

The Indian Railways has proposed Dedicated Freight Corridor (DFC) passing through the Rajasthan, Haryana and Uttar Pradesh Sub-regions of National Capital Region (NCR). The Regional Plan – 2021 of National Capital Region had been notified on 17.09.05 and the Sub-regional Plans of Constituent States are under preparation. NCR Planning Board is also conducting a Study on “Integrated Transportation Plan for NCR” which will take into account the passenger as well as Freight demand and their related infrastructure facilities.

For the purpose of preparation of Sub-regional Plans as well as conducting the Study on “Integrated Transportation Plan for NCR”, the Board requires salient features of the project along with the proposed alignment of DFC preferably of Survey of India Toposheets showing physical features identifiable at site.

You are requested to kindly send the above desired information to the Board so that the infrastructure facilities related to Dedicated Freight Corridor & Integrated Freight Complexes can be planned in NCR and land can be reserved for the same.

Yours faithfully,

(Rajeev Malhotra)
Chief Regional Planner

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13/8/07

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13/8/07

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NORTH CENTRAL RAILWAY

Head Quarter Office
Operating Branch
Allahabad

No: T/PL/DFC/36-C/NCR

Dated 12.06.2007

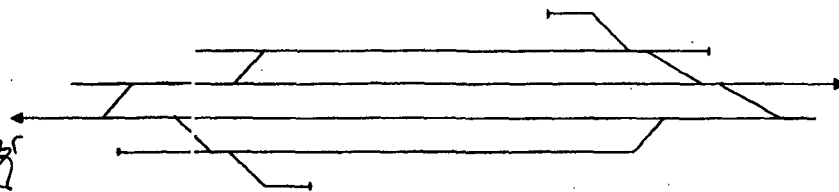
General Manager (Operation)
DFCCIL.

Sub:- Dedicated Freight Corridor (Eastern Sector)-Junction arrangements
in Kanpur- Aligarh section (Bhaupur, Tundla and Daud Khan stations).
Ref:- Your letter No. 2007/DFCIL/Op/Connectivity, Dated 11.05.2007

The plan sent by DFCCIL in respect of junction arrangements at Bhaupur, Tundla and Daud Khan stations have been examined and following comments are offered :-

Bhaupur Station -

1. The junction arrangements at K.M. 1032/150.906 need to be depicted in greater detail. It would be advantageous that the transfer of DN train from DFC to the existing railway alignment takes place somewhere near Sura halt and thereafter this alignment merges with Panki down loop line at Delhi end.
2. Panki-Bhaupur 3rd line has been sanctioned by Board and ESPs for both Panki and Bhaupur yards have been finalized both at Divisional and Zonal level. This 3rd line has been planned adjacent to the UP main line. Thereafter the working would be such that the middle line would be bi-directional and the other two lines shall be directional lines. The existing DN line would remain as such while the new line to be constructed shall be the UP line. The 3rd line between Panki and Bhaupur as also the junction arrangements at Panki and Bhaupur need to be shown in the plan.
3. At DFC yard Bhaupur, there is a over run line at Tundla end but there is no over run line at Kanpur end.
4. The hot axle sidings at both ends of DFC yard Bhaupur have been shown at trailing end i.e. the Brakevan end. This is at variation with Standard layout of Railway yards of having a hot axle siding at engine end adjacent to the loop line.



5. Once the 3rd line arrangement between Panki and Bhaupur are incorporated in the plan, it would require shifting of UP and Down DFC alignment by about 6 meters.

ED/Blng

S.K. Garg
14/6

Anba

over at Howrah end. Thereafter while UP trains from DFC yard Daud Khan to Daud Khan station shall be negotiated easily i.e. without any cross movement in Railway yard, the same is not true for movement of Down trains from Daud Khan station to DFC yard Daud Khan as this movement shall interfere with UP main line movements from Tundla to Aligarh direction. This needs a re-look.

NCR may go in for a 3rd line between TDL and ALJN. Therefore, DFC alignment adjacent to Daud Khan should be located slightly away from existing railway alignment for incorporating TDL - ALJN 3rd line.

S.K. Garg
(S.K. Garg)
CTPM

S.K. Garg
14/6

G2/11

Tundla station :-

1. Tundla station- DFC yard Tundla has been planned by the side of Tundla yard so as to accommodate Etmadpur- Mitawali bypass (a Sanctioned work in progress) and a Rail Flyover at Tundla connecting Etmadpur station directly with Tundla down yard. However the junction arrangements from DFC yard-TDL to Agra line is not clear. Junction arrangements at Kuberpur or a new Block Cabin needs to be depicted.
2. Over run line in the DFC yard - Tundla is not depicted at Agra/Dadri end.
3. The hot axle sidings have once again been planned at the trailing end which would involve complex shunting as and when wagon needs to be detached. These hot axle Sidings may be planned at the engine end adjacent to loop line as shown in the sketch an previous page.
4. The connection from Mitawali station to DFC alignment shall necessitate a Block cabin arrangement. This needs to be shown in the plan.
5. It would be desirable if both the UP lines at DFC Tundla yard could handle traffic both for Dadri as well as Agra directions. This would require one more cross over connecting UP Dadri line to UP Agra line.
6. Transfer of trains from Agra to DFC alignment at TDL via rail fly-over-Keeping in view the constraint at site, the curvature and gradient of Rail fly over may be kept to minimum, so as to facilitate running of heavy haul trains with multiple engines and CC + 6 + 2 Tonnes load over this fly-over.

Daud Khan Station -

1. The hot axle siding should be planned at Delhi end for UP Direction and Howrah end for Down direction trains on similar logic as indicated earlier.
2. Since Harduaganj connection is a single line arrangement, the UP loop line no.2 in DFC yard - Daud Khan has to be a common Loop line.
3. The connection from DFC yard Daud Khan to the existing Daud Khan Railway yard would require some modifications at Daud Khan station, namely an emergency cross over at Howrah end. Thereafter while UP trains from DFC yard Daud Khan to Daud Khan station shall be negotiated easily i.e. without any cross movement in Railway yard, the same is not true for movement of Down trains from Daud Khan station to DFC yard Daud Khan as this movement shall interfere with UP main line movements from Tundla to Aligarh direction. This needs a re-look.

NCR may go in for a 3rd line between TDL and ALJN. Therefore, DFC alignment adjacent to Daud Khan should be located slightly away from existing railway alignment for incorporating TDL -ALJN 3rd line.

S.K. Garg
(S.K. Garg)
CTPM

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

S/192

No.2007/Infra/6/3

New Delhi, dated 01.08.2007.

General Manager (Operations)
DFCCIL,
New Delhi.

**Sub: Minutes of the meeting held in Planning Commission to
review DFC project**

In reference to your letter no. 2007/DFCCIL/OPNS/1 dt. 1.6.07, please find enclosed a letter from ADG/Movement, Ministry of Defence. Suitable comments on the same may kindly be communicated for advising Ministry of Defence.


(Mukul Saran Mathur)
Director/Transport Planning
Tel: 011-23388858

MOST URGENT

Tele: 23015016

Directorate General of Operational Logistics
Additional Directorate General Mov/Mov (Plg)
General Staff Branch
Integrated HQ of MoD (Army)
PIN – 900256, C/o 56 APO

S/291

14243/Maint/DFC/ADG Mov(Plg)

13 Jul 2007

✓
Shri Mukul Saran Mathur
Director Transport Planning
Railway Board
Rail Bhawan, New Delhi

DEDICATED FREIGHT CORRIDOR (DFC)

1. Please refer your letter No 2005/PL/6/7 Pt.II dated 20 Jun 2007.
2. The Railways to provide us access at the Junction points/Stations as below to enable the optimum utilization of the DFC for the Defence requirement:-

Western Corridor

- (i) Jalandhar
- (ii) Ludhiana
- (iii) Amritsar
- (iv) Bhatinda
- (v) Hissar instead of Pirthala
- (vi) Ajmer

Eastern Corridor

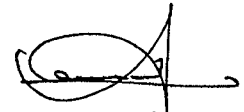
- (i) Ambala
- (ii) Saharanpur
- (iii) Hapur
- (iv) Hathras
- (v) Kanpur
- (vi) Barka Kana
- (vii) Gaya

Lateral Links

- (i) Tuglakabad and Hapur
- (ii) Paricha

3. Feasibility of alternate route via Kandla- Bhildi-Samdri-Jodhpur-Phalodi-Kolayat-Bhatinda-Ludhiana is being examined and the same will be communicated in due course.

S/291
✓



(Amit Khokhran)
Lt Col
Offg Dir (Ops & Pig)
For DGOL

Copy to :-

_____ -
(All HQs Comd)

1. Rly Bd letter under ref is encl.
2. You are requested to analyse the ibid letter and fwd your comments duly approved by the GOC-in-C to reach us earliest but not later than 30 Oct 07.

MOST URGENT

Tele: 23015016

Directorate General of Operational Logistics
 Additional Directorate General Mov/Mov (Plg)
 General Staff Branch
 Integrated HQ of MoD (Army)
 PIN - 900256, C/o 56 APO

14243/Maint/DFC/ADG Mov(Plg)

13 Jul 2007

Shri Mukul Saran Mathur
 Director Transport Planning
 Railway Board
 Rail Bhawan, New Delhi

DEDICATED FREIGHT CORRIDOR (DFC)

- Please refer your letter No 2005/PL/6/7 Pt.II dated 20 Jun 2007.
- The Railways to provide us access at the Junction points/Stations as below to enable the optimum utilization of the DFC for the Defence requirement:-

Western Corridor

- ✓ (i) Jalandhar ✓
- ✓ (ii) Ludhiana
- ✓ (iii) Amritsar ✓
- (iv) Bhatinda *
- ✓ (v) Hissar instead of Pirthala *
- (vi) Ajmer

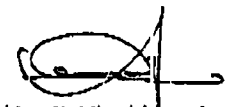
Eastern Corridor

- (i) Ambala ✓
- (ii) Saharanpur ✓
- (iii) Hapur *
- (iv) Hathras *
- (v) Kanpur ✓
- (vi) Barka Kana *
- (vii) Gaya *

Lateral Links

- (i) Tuglakabad and Hapur
- (ii) Paricha

- Feasibility of alternate route via Kandla-Bhildi-Samdri-Jodhpur-Phalodi-Kolaya Bhatinda-Ludhiana is being examined and the same will be communicated in due course



(Amit Khokhiran)
 Lt Col
 Offg Dir (Ops & Plg)
 For DGOL

Copy to :-

(All HQs Comd)

- Rly Bd letter under ref is encl.
- You are requested to analyse the ibid letter and fwd your comments duly approved by the GOC-in-C to reach us earliest but not later than 30 Oct 07.

Copy to Rama
 on file
 17/10

ACTIVITY REPORT

TIME : 04/01/1999 00:00
 NAME :
 FAX :
 TEL :

DATE	TIME	FAX NO./NAME	DURATION	PAGE(S)	RESULT	COMMENT
02/01	00:54	2E183674	35	01	CK	TX ECM
02/01	05:04		01:45	01	CK	RX
02/01	05:55	26856113	01:15	02	CK	TX
03/01	01:50	913330519002	38	01	CK	RX ECM

CV : COVERPAGE
 CA : CALL BACK MSG
 POL : POLLING
 RET : RETRIEVAL

2/290

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt. II

New Delhi, dated 20.06.2007

Maj. Gen. V.K. Jain, AVSM
Addl. Director General of Movements
Addl. Dte Gen of Movements
Directorate General of Operational Logistics
General Staff Branch
Integrated HQ of MoD (Army)
DHQ PO, New Delhi-110 011

In reference to your letter no. 14243/MIANT/ADG MOV (PLG) dated 8th March & 18th May 2007, the following is submitted:

1. Access to Dedicated Freight Corridors (DFC) from the existing network will be allowed at number of junctions/stations. The list of planned Junctions/Stations on Eastern and Western Corridors is enclosed as Annexure. The military freight traffic through these junction points will be able to access the freight corridor. There will be no need for separately upgrading feeder routes serving the Defence establishments.
2. The Feeder routes to DFC are being developed for higher axle load movement on Eastern Corridor and for Double Stack Container Movement on Western Corridor. No heavy axle load movement is planned for Defence purposes.
3. The Dedicated Freight Corridors are not being planned for passenger movement.
4. Regarding the proposal for a railway line connecting Kandla-Gandhidham-Barmer Jaisalmer-Phalodi-Kolayat-Suratgarh-Ludhiana, it may be mentioned that with the gauge conversion of Bhildi-Samdari and the new line from Phalodi-Kolayat an alternate route via Bhildi-Samdri-Jodhpur-Phalodi-Kolayat-Bhatinda would in any case be available.

ac (Mukul Saran Mathur)
Director/Transport Planning
Tel:011-23388858

62/05

Pl. issue fair
[Signature]
26/6/07

Junction/Station Points on Western Corridor

- i) Vasai Road: Traffic to/from Mumbai area other than J.N. Port, Central Railway and Konkan Railway.
- ii) Kosad/ Gothangam: Traffic to/from Hazira Complex and Jalgaon-Udhna Section.
- iii) Makarpura (Vadodara): Traffic to/from Ahmedabad and Vadodara areas as well as Vadodara-Godhra-Ratlam route.
- iv) Amla Road (Sabarmati): Traffic to/from ICD Sabarmati, Viramgam-Sabarmati route and Ahmedabad, Rajkot and Bhavnagar Divisions of Western Railway (including Pipavav Port).
- v) Palanpur: Traffic to/from Kandla and Mundra Ports and Gandhidham area.
- vi) Marwar Jn.: Traffic to/from Jodhpur area (including ICD Jodhpur).
- vii) Phulera: Traffic to/from Jaipur-Tundla and Jaipur Sawai Madhopur routes.
- viii) Rewari: Traffic to/from Rewari-Hissar-Ludhiana/Bathinda route.
- ix) Pirthala: Traffic to/from Tughlakabad and via, including ICD Tughlakabad.

Junction/Station Points on Eastern Corridor

- i) Sonnagar – The Dn DFC is proposed to be connected to the existing rail flyover to transfer trains to the Sonnagar – Garhwa Road branch line. An off-shoot has been planned on the existing rail flyover to join the existing Dn main line to provide connectivity of the DFC to the Sonnagar – Howrah main line.
- ii) Ganjkhwaja – Trains from Patna would join UP DFC at Ganjkhwaja formed with wagons repaired at Mughalsarai would join the Dn DFC line through the connectivity proposed at Gunjkhwaja. UP Train from Patna would also join UP DFC at this station.
- iii) Mughalsarai – Connectivity to the Northern Railway has been provided at the west end of the Mughalsarai yard by providing a rail fly over.
- iv) Jeonathpur – In down direction, Jeonathpur is one station short of Mughalsarai, where the Down traffic from the DFC for the main line of the ECR and the stations on NER are to be off-loaded and transferred. This would move on existing lines to Mughalsarai yard where the facilities for examination of wagons and ROH are available.
- v) Naini/Cheoki – Up trains from Manikpur would merge with the UP DFC line towards Naini side. Surface connection from down DFC to Manikpur and Mughalsarai is being provided.
- vi) Prempur – Connection from DFC to Main lines has been planned at this station for transfer of trains between DFC and main lines.
- vii) Bhaupur – Connection from Manikpur line and Jhansi line to the UP DFC line has been proposed. Transfer of down trains from the DFC to the existing main line has been planned through a rail flyover.
- viii) Tundla – A connection from the UP DFC line to Agra line has been planned. A rail flyover has been planned to transfer trains from Agra line to the Down Corridor line.

- ix) Daudkhan – A rail flyover to transfer trains for Harduagunj Power-house has been proposed at this station which is before Aligarh station.
- x) Khurja – The Khurja – Ludhiana segment of the DFC is planned to take-off here and cross the existing main line through a rail flyover. On north side of the Khurja station, an off-shoot is planned to carry trains for the up-coming power plant at Chola.
- xi) Kalanaur – In addition to the surface connection, a flyover has been provided for connecting the NTPC siding on east side of the Kalanaur Station.
- xii) Rajpura – Traffic for Rajpura–Bhatinda section and for Madhogoindgarh is proposed to be transferred here through surface connection.
- ✓ xiii) Sirhind – The traffic to be transferred from the Corridor at Sirhind is Coal for Ropar powerhouse, Nangaldam fertilisers.
- ✓ xiv) Dhandarikalan. – The Corridor ends here and a connection has been proposed to the existing Dandarikalan Station.

2/290

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt. II

New Delhi, dated 20.06.2007

Maj. Gen. V.K. Jain, AVSM
Addl. Director General of Movements
Addl. Dte Gen of Movements
Directorate General of Operational Logistics
General Staff Branch
Integrated HQ of MoD (Army)
DHQ PO, New Delhi-110 011

In reference to your letter no. 14243/MIANT/ADG MOV (PLG) dated 8th March & 18th May 2007, the following is submitted:

1. Access to Dedicated Freight Corridors (DFC) from the existing network will be allowed at number of junctions/stations. The list of planned Junctions/Stations on Eastern and Western Corridors is enclosed as Annexure. The military freight traffic through these junction points will be able to access the freight corridor. There will be no need for separately upgrading feeder routes serving the Defence establishments.
2. The Feeder routes to DFC are being developed for higher axle load movement on Eastern Corridor and for Double Stack Container Movement on Western Corridor. No heavy axle load movement is planned for Defence purposes.
3. The Dedicated Freight Corridors are not being planned for passenger movement.
4. Regarding the proposal for a railway line connecting Kandla-Gandhidham-Barmer Jaisalmer-Phalodi-Kolayat-Suratgarh-Ludhiana, it may be mentioned that with the gauge conversion of Bhildi-Samdari and the new line from Phalodi-Kolayat an alternate route via Bhildi-Samdri-Jodhpur-Phalodi-Kolayat-Bhatinda would in any case be available.


(Mukul Saran Mathur)
Director/Transport Planning
Tel:011-23388858

Annexure

Junction/Station Points on Western Corridor

- i) Vasai Road: Traffic to/from Mumbai area other than J.N. Port, Central Railway and Konkan Railway.
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**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt. II

New Delhi, dated 20.06.2007

Maj. Gen. V.K. Jain, AVSM
Addl. Director General of Movements
Addl. Dte Gen of Movements
Directorate General of Operational Logistics
General Staff Branch
Integrated HQ of MoD (Army)
DHQ PO, New Delhi-110 011

In reference to your letter no. 14243/MIANT/ADG MOV (PLG) dated 8th March & 18th May 2007, the following is submitted:

1. Access to Dedicated Freight Corridors (DFC) from the existing network will be allowed at number of junctions/stations. The list of planned Junctions/Stations on Eastern and Western Corridors is enclosed as Annexure. The military freight traffic through these junction points will be able to access the freight corridor. There will be no need for separately upgrading feeder routes serving the Defence establishments.
2. The Feeder routes to DFC are being developed for higher axle load movement on Eastern Corridor and for Double Stack Container Movement on Western Corridor. No heavy axle load movement is planned for Defence purposes.
3. The Dedicated Freight Corridors are not being planned for passenger movement.

4. ^{Regard} On the proposal for a railway line connecting Kandla-Gandhidham- Barmer-Jaisalmer-Phalodi-Kolayat-Suratgarh-Ludhiana, the request is being forwarded to the concerned Directorate (Works Directorate). *It may be mentioned that with the large conversion of Bhilai-Sandani and the new line for Phalodi-Kolayat-Suratgarh-Ludhiana, an alternative route via Bhilai-Sandani-Jodhpur-Phalodi-Kolayat would in any case be available.*

(Mukul Saran Mathur)
Director/Transport Planning
Tel:011-23388858

BTi

J. no-8

DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD
(A Government of India Undertaking)

*Regd. Office: Room No. 101A, Rail Bhawan
Railway Board, New Delhi*

No. 2007/DFCCIL/Opns/1

Dated 1.6.2007

Director (Transport Planning),
Ministry of Railways,
Rail Bhavan, New Delhi

Sub: DFC – Additional Feeder routes proposed by Ministry of Defence

Ref: i. No. 2006/Infra/6/11 Pt. dated 24.5.2007
ii. MoD's letter No. 14243/Maint/DFC/ADG Mov (Plg) dated 18.5.2007
iii. MoD's letter No. 14243/Miant/ADG Mov (Plg) dated 8.3.2007

The enclosed references from Directorate General of Operational Logistics, Integrated HQ of Ministry of Defence indicate that a few meetings have already taken place between Ministry of Railways and Directorate General of Operational Logistics. The backgrounds of the discussion on the need of DFC for Defence is however, not clear.

The issues brought out in the Director General of Operational Logistics, Integrated HQ of MoD (Army) with regards to DFC were examined and following are the comments:

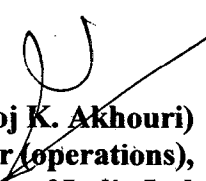
- a. Both the Dedicated Freight Corridors have been conceived to cater to the freight traffic, which are primarily on account of the growth in demand from various sectors of Economy.
- b. The standards of construction have been conceived keeping in view the requirement of freight traffic.
- c. The freight corridors are being planned to accommodate rolling stocks with higher specifications. The speed restrictions which are normally observed for movement of Defence stock normally on existing network may not be there in case if at all the Defence stock are moved on DFCs in emergencies.
- d. Development of Logistic Parks along the DFCs will be based on the development and growth of industries in and around certain region, which may not be suited to the Defence requirement. Therefore, investment for creation of facilities for loading/unloading of Defence stores (Ref iii above) may not be desirable.
- e. The connectivity at the interface with the existing network i.e. the Junction arrangement has been planned keeping in view the flow of freight traffic needs. If this connectivity is planned for movement of Defence stocks in case of emergencies, the lay out of junction arrangements will require suitable modifications. For example, the connectivity at Marwar between existing network

by 2/2
2

and DFC for traffic moving from Ajmer to Jodhpur/ Barmer and vice versa has not been planned. Similarly, traffic from Ahmedabad/ Vadodara side on DFC cannot move towards Gandhidham/ Kutch and also towards Barmer using Palanpur & Bhildi connections of the existing network, as these provisions have not been made.

- f. In case of emergency, the movement of Defence stock gets overriding priority on the existing network. With construction and commissioning of these corridors, the existing network will be relieved of the pressure on account of freight traffic to a very great extent. Therefore, making investment for such Defence movement on DFC, even if Defence is prepared to make such investment, will have very adverse impact over the freight traffic movement over DFC, which is not desirable.
- g. The DFC alignment will not be fit for any kind of passenger movement. Therefore, movement of Defence personnel on DFC will not be possible technically. This will require CRS's sanction for the DFC alignment, which is otherwise not needed.
- h. Strengthening of the Feeder routes are planned based on the flow of freight traffic. The feeder routes indicated by Defence will mean additional connectivity between existing alignment and DFC, which is not in line with the broad policy regarding DFC alignment. It was decided by Railway Board not to puncture DFC at close proximity. These will, if agreed, require additional investments.

Based on the above observations, view may be taken accordingly.


(Manoj K. Akhouri)
General Manager (operations),
Dedicated Freight Corridor Corporation of India Ltd

S.no. 8

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No.2006/Infra/6/11 Pt.

New Delhi, dated 24.05.2007

**General Manager (Traffic),
DFCCIL,
7th Floor,
Pallika Bhawan
New Delhi.**

Sub: DFC- Additional Feeder routes proposed by Ministry of Defence

Please find enclosed the copy of letters received from Directorate General of Operational Logistics, Integrated HQ of Ministry of Defence (Army).

As per Adviser (Infrastructure)'s directives, DFCCIL may kindly examine all the issues related to defence movement & views of Army Headquarters and submit its report at the earliest.



**(Mukul Saran Mathur)
Director/Transport Planning
Tel: 011-23388858**

Encl: As above

Tele: 23015016

MOST URGENT

Directorate General of Operational Logistics
Additional Directorate General Mov/Mov (Plg)
General Staff Branch
Integrated HQ of MoD (Army)
PIN - 900256, C/o 56 APO

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14243/Maint/DFC/ADG Mov(Plg)

18 May 2007

Shri Girish Pillai
Executive Director (PP)
Railway Board
Rail Bhawan, New Delhi
ROOM NO - 1526

DEDICATED FREIGHT CORRIDOR (DFC)

1. Further to our letter No 14243/Maint/DFC/ADG Mov(Plg) 08 Mar 07 and discussions with Maj Gen VK Jain, AVSM, ADG Mov, held in the Railway Board on 17 May 2007.
2. During the discussions, the following was brought to the notice of ADG Mov :-
 - (a) The financial approval for the project has been taken by the railways based on study report of RITES. Besides this Japanese study on the project is under way.
 - (b) Gestation period for the project may be upto 6-7 years.
 - (c) Most of the requirement of Defence for feeder routes are in the Western sector and along meter gauge alignment. The process of upgauging to Broad gauge specifications is already on. As such military specials would be able to access/exit the DFC from the feeder routes, without any problem.
 - (d) The Critical Rolling Stock (CRS) which are custom made, military wagons would have no problem, plying on the DFC, which will have a higher axle specification.
 - (e) Requirement of providing access points to and from the DFC have been noted and there should not be a problem in the same.
3. In addition to the projections already made a proposal has been received at this Directorate for a railway line providing connectivity from Kandla-Gandhidham-Bhabhar-Barmer-Jaisalmer-Phalodi-Kolayat-Suratgarh-Bhatinda-Ludhiana. Sketch of the alignment is at appendix attached.
4. You are requested to examine the proposed alignment and forward your comments/views, alongwith feed back on the Defence proposals for DFC feeder routes, forwarded vide our letter under reference.
5. Your reply is solicited by 25 May 2007.

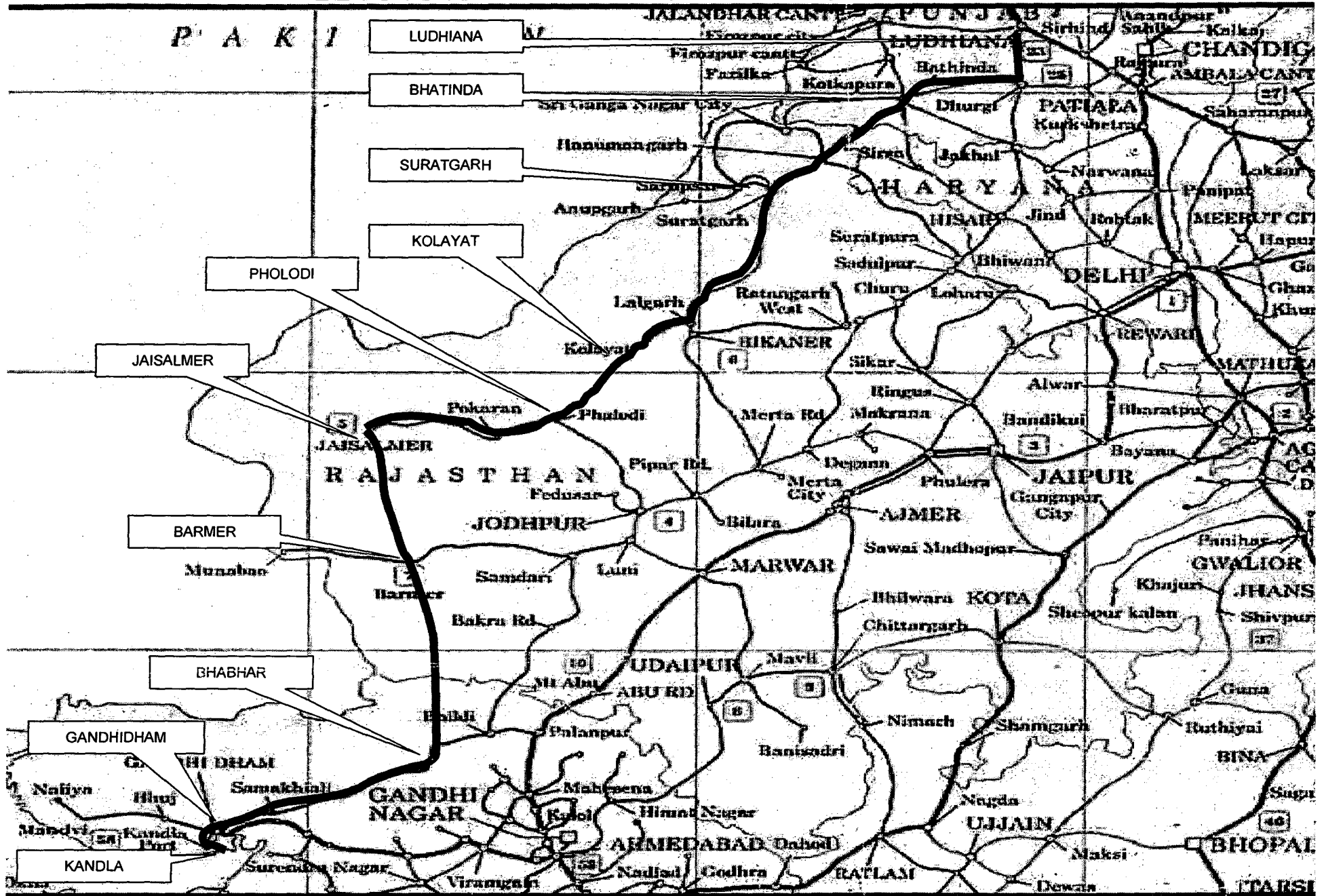
Encl: As above

on feeder route
to be
The 2 letters are
to be replied
18/5

(JS Sandhu)
Col
Dir (Ops & Plg)
For DGOL

PROPOSED ALIGNMENT

Appx
(ref IHQ letter 14243.Maint/DFC/
ADG Mov(Plg) dt 18 May 2007.





Western Route

1. Pipavav- Surendranagar- Viramgam- Mehsana (395 Kms)
2. Kandla Port- Gandhidham- Palanpur (312 Kms)
3. Mundra Port – Gandhidham (66 Kms)
4. Viramgram – Samakhiali (182 Kms)
5. Hazira – Surat (40 Kms)
6. Ludhiana – Hissar – Rewari (348 Kms)
7. Mumbai Port – Wadala – Kurla – Diva with connectivity with DFC (36 Kms)

Total:1379 Kms

Eastern Route

1. Sonnagar- Garwa Road- Barkakana (311 Kms)
2. Patratu- Gomoh including PD Branch Line (128 Kms)
3. Sonnagar-Gaya-Gomoh (249 Kms)
4. Gomoh-Pradhankhuntha (39 Kms) including Kusunda-Tetulmari (4.5Kms), Katrasgarh-Nichitpur, Pradhankhuntha-Pathardih links (24 Kms)
5. Pradhankhuntha-Asansol-Andal including coal branch lines 75 Kms)
6. Andal-Sainthia-Pakur (151 Kms)
7. Chandrapura- Dhanbad (36 Kms)
8. Bhojidih –Mohuda –Gomoh (44 Kms)
9. Aligarh – Harduaganj (15 Kms)
10. Kanpur – Paricha (198 Kms)
11. Mughalsarai – Unchahar via Janghai, Phaphamau (205 Kms)
12. Varanasi-Sultanpur-Utratia –Rosa (558 Kms)
13. Zafrabad – Tanda (99 Kms)
14. Ludhiana –Beas-Govindwal Sahib (112 Kms)
15. Rajpura – Dhuri – Bhatinda (Lehra Mohabbat) (173 Kms)
16. Sirhind – Rupnagar – Nangal Dam (104 Kms)
17. Hissar-Bhatinda-Suratgarh (298 Kms)
18. Suratgarh-Biradhwai (18 kms)

Total: 2841.5 Kms.

Tele:23018331

S.no-86

Addl Dte General of Movement/Mov (Plg)
Directorate General of Operational Logistics
General Staff Branch
Integrated HQ of MoD (Army)
PIN-900256, C/o 56 APO

14243/Miant/ADG Mov (Plg)

08 Mar 2007

Shri Girish Pillai
Executive Director (PP)
Railway Board
Rail Bhawan, New Delhi

DEDICATED FREIGHT CORRIDOR (DFC)

1. Please refer the meeting held on 17 Nov 06 at Rly Bd on Dedicated Freight Corridor. As a follow up to the above meeting, we have obtained detailed projections from the three services on the operational and logistics utility of the proposed DFC.
2. The DFC can play a major role in execution of the Operational Rail Movement Plan, which entails concentration of the National Might at the required place and time, in sync with our National Aim. Incorporation of our projections will enable in reducing the time advantage that is presently available to our adversary on account of the geographical dispersion of our forces.
3. Access to the freight corridors would also significantly enhance our material and stores transportation capability during operations, when priority would be given to our traffic. Down time with regards the availability of stores would decrease, due to faster mov of stores, consequent to increase in speed of trains. In consultation with Railways, spaces within/near logistic parks can be created for the Defence, to enable easy loading/unloading of stores and their movement thereafter.
4. The requirement of the three Services have been analyzed and our projections are placed at Appendix 'A' and 'B'.
5. You are requested incorporate the requirement of the Defence in your plan under consideration and confirm at the earliest.

 Encls: As above


(YS Rawat)
Brig
DDG Mov

Copy to :-
MoD/D(Mov) - for information please.

ADDL FEEDER ROUTESWestern Corridor

- | | | |
|-----|---------------------------------------|---------|
| 1. | JAMMU-PATHANKOT-LUDHIANA/JALANDHAR. | LDM |
| 2. | GURDASPUR-AMRITSAR-JALANDHAR/BEAS. | LMD' |
| 3. | FEROZPUR-LUDHIANA. | LDM |
| 4. | BHATINDA-SRI GANGA NAGAR. | - |
| 5. | HISAR-CHURU-BIKANER. | |
| 6. | SURATGARH-BIKANER-MERTA ROAD-PHULERA. | Phulera |
| 7. | BIKANER-KOLAYAT-PHALODI | |
| 8. | MARWAR-LUNI-BARMER. | MJ |
| 9. | LUNI-JODHPUR-PHALODI-JAISALMER. | MJ |
| 10. | KOTA-CHITTAURGARH-NASIRABAD-AJMER. | AIJ |
| 11. | KOTA-JAIPUR-PHULERA. | PL |

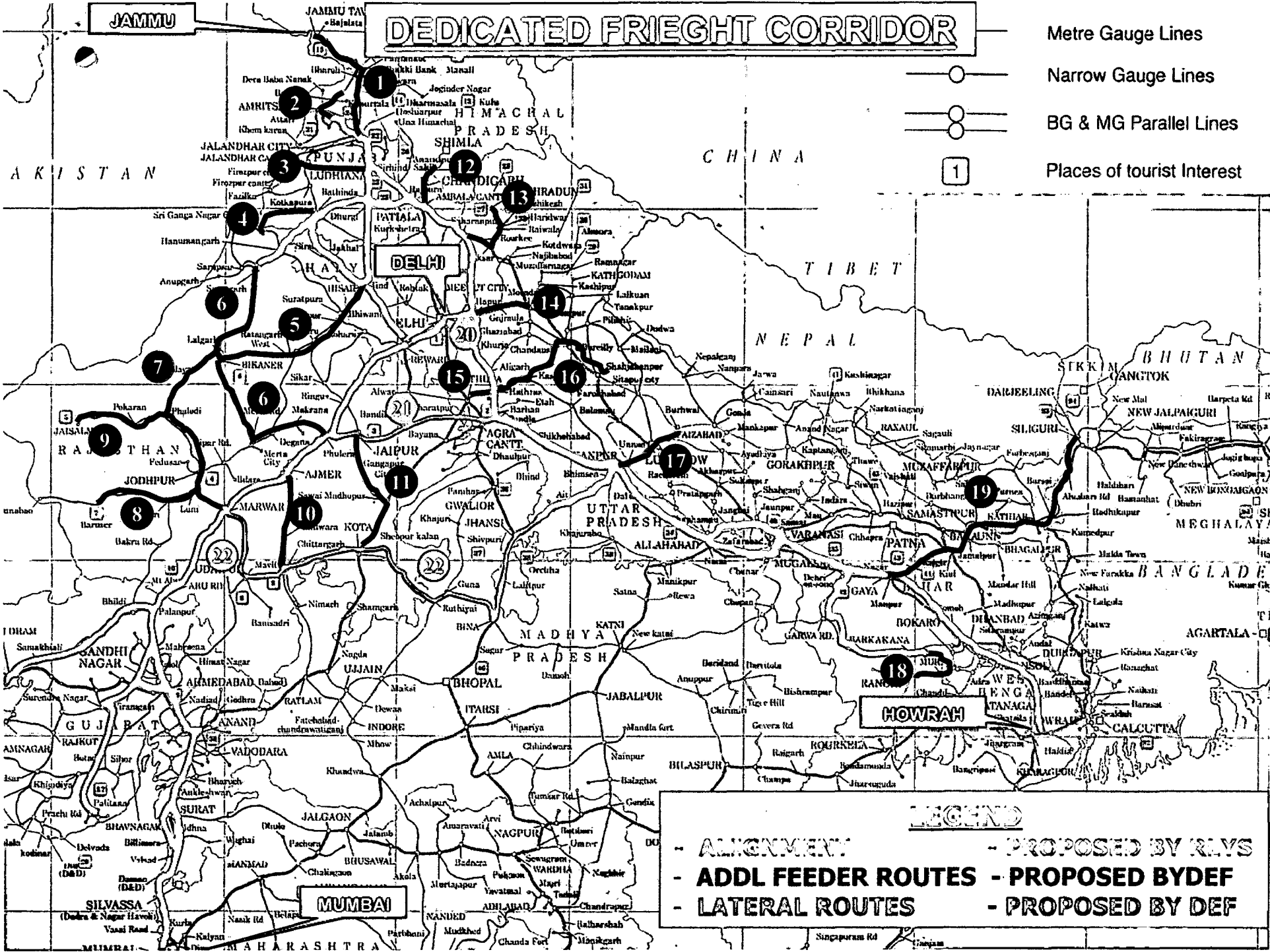
Eastern corridor

12. KALKA-CHANDIGARH-AMBALA.
13. DEHRADUN-ROORKEE-SAHARANPUR.
14. HAPUR-MORADABAD.
15. HATHRAS-MATHURA.
16. HATHRAS-BAREILLY-SHAJAHANPUR.
17. FAIZABAD-LUCKNOW-KANPUR.
18. BARKAKANA-HATIA.
19. SILIGURI-KATIHAR-BARAUNI-GAYA.

LATERAL ROUTES

20. DELHI-HAPUR.
21. PHULERA-JAIPUR-AGRA CANTT-TUNDLA.
22. MARWAR-KOTA-JHANSI-PARICHA.

DEDICATED FRIEGHT CORRIDOR



- Metre Gauge Lines
- Narrow Gauge Lines
- BG & MG Parallel Lines
- 1 Places of tourist Interest

LEGEND

- ALIGNMENT
- ADDL FEEDER ROUTES
- LATERAL ROUTES
- PROPOSED BY RLYS
- PROPOSED BY DEF
- PROPOSED BY DEF



भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

रेल भवन, नई दिल्ली-110001, तिथि
Rail Bhavan, New Delhi-110001, dated

19

No. 2005/PL/6/7 Pt.

1st November 2006

In reference to your letter no. 19553/ADG(Mov)/MR dated 25th October 2006, a meeting has been fixed with Shri Girish Pillai, Exe. Director (PP), Railway Board in Room no. 152C-Rail Bhavan at 15.00 hrs. on 21st November 2006.


(Mukul Saran Mathur)
Director/Transport Planning
Tel:011-23388858

Maj. Gen. V.K. Jain, AVSM
Addl. Director General of Movements
Addl. Dte Gen of Movements
Directorate General of Operational Logistics
General Staff Branch
Integrated HQ of MoD (Army)
DHQ PO, New Delhi-110 011

जेजर जनरल वी के जैन, ए वी एस एम

अतिरिक्त महानिदेशक संचलन

Maj Gen V K Jain, AVSM

Additional Director General Movements

Tele : 2301 1615
2333 5260

S.no. 84

S-13#121

अपर महानिदेशालय संचलन
महानिदेशक संक्रिया संचारिकी
जनरल स्टाफ शाखा
एकीकृत मुख्यालय (सेना)
डी एच क्यू डाक घर, नई दिल्ली-110011

Addl Dte Gen of Movements
Directorate General of Operational Logistics
General Staff Branch
Integrated HQ of MoD (Army)
DHQ PO, New Delhi-110 011

19553/ADG(Mov)/MR

25 Oct 2006

Dear Shri Pillai,

I am writing this letter in reference to the development of Dedicated Freight Corridor by Railway on Mumbai - Delhi and Delhi - Kolkatta routes. Both these corridors may also help in a long way for movement of Defence equipments and troops in a faster and quicker way in the overall interest of National Security.

2. I have been given to understand that Maximum moving Dimension on these routes will be more liberal and comparable to the world standards in order to permit heavier train. This will also help in solving the problem of ODC sanction for the movement of Mil Spl trains. Hence, participation of Defence in these corridors may also be thought off.

3. I would prefer that a meeting may be held at the appropriate level as per the convenience at the earliest preferably in next week to discuss the modalities and futuristic of the corridors for Defence point of view also in the overall interest towards National Security.

With fondest regards

As ever
VU

Shri Girish Pillai
Executive Director (PP)
Ministry of Railways
Railway Board
New Delhi

for kind personal cl
dsk slg

~~ADMC Insp~~

EDPP

DTP

25/10/06

①

②

Pl again Ho
meets -
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presented in
DTC to
New Delhi
25/10

J.no-83

Government of India
Ministry of Railways
(Railway Board)

....

2005/PL//6/7/Pt II

New Delhi dt. February 2, 2007.

Commissioner,
NCR,U.P,
Ghaziabad

Sub: Alignment of Proposed Freight Corridor

Ref: Your Letter No.2954/srp/NCR/2006-07 Dt 13.12.06

The proposed Eastern Dedicated Freight Corridor(DFC) will pass through Saharanpur, Meerut, Hapur, Aligarh, Hathras, Tundla, Eatawah, Kanpur, Allahabad and Mugalsarai.(F/A)

Dadri is the terminal point of DFC.

A new line from Rewari to Dadri via Pirthala (Asaoti) is also proposed.



(MUKUL SARAN MATHUR)
Director(Transport Planning)
Tele Fax. 23388858

A. Issue for
6/2

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J. no-82

दूरभाष/फैक्स सं० (का०) 0120-2791529

कार्यालय आयुक्त,
राष्ट्रीय राजधानी क्षेत्र, उ०प्र०
नगर निगम भवन, द्वितीय तल, नवयुग मार्केट, गाजियाबाद।

पत्रांक: २९५५ / उप क्षेत्र ०/ एन०सी०आर/ 2006-07

दिनांक 13-12-06

सेवा में,

श्री पी०के० सांगी,
अधिसासी निदेशक (वर्क्स)
कमरा नमबर-129,
रेलवे बोर्ड, रेल भवन,
नई दिल्ली।

विषय:—भारतीय रेल विभाग द्वारा प्रस्तावित फ्रेट कॉरीडोर (Freight Corridor) का संरेखण (Alignment) उपलब्ध कराने के सम्बन्ध में।

महोदय,

इस कार्यालय द्वारा राष्ट्रीय राजधानी क्षेत्र (NCR) की क्षेत्रीय योजना-2021 के परिप्रेक्ष्य में उत्तर प्रदेश प्रभाग की उप-क्षेत्रीय योजना-2021 की संरचना का कार्य किया जा रहा है जो कि एक महत्वपूर्ण कार्य है। उ०प्र० उप क्षेत्र में पश्चिमी उत्तर प्रदेश के पांच जिले मेरठ, गाजियाबाद, गौतमबुद्ध नगर, बागपत तथा बुलन्दशहर सम्मिलित हैं। रेलवे विभाग द्वारा इस वर्ष अखिल भारतीय स्तर पर एक फ्रेट कॉरीडोर (Freight Corridor) परियोजना तैयार की गई है। उपक्षेत्रीय योजना में भारतीय रेल विभाग द्वारा प्रस्तावित उक्त फ्रेट कॉरीडोर (Freight Corridor) के संरेखण को चिन्हित किया जाना आवश्यक है। उक्त परियोजना में सम्भवतः Dedicated Freight Route, मुख्य नगरों में Bye-pass Rail Route, Container डिपो आदि के प्रस्ताव सम्मिलित होंगे, जिन सभी को उप क्षेत्रीय योजना का भाग बनाया जाना है, जिससे उन स्थलों पर अन्य कोई प्रस्ताव निर्धारित न किया जाये तथा रेलवे विभाग के उक्त प्रस्तावों का क्षेत्रीय विकास के सन्दर्भ में आंकलन कर योजना की संरचना की जा सके।

अतः आपसे अनुरोध है कि उक्त फ्रेट रूट (Freight Corridor) परियोजना में पश्चिमी उत्तर प्रदेश के पांच जिलों (मेरठ, गाजियाबाद, गौतमबुद्ध नगर, बागपत तथा बुलन्दशहर) से सम्बन्धित विस्तृत प्रस्ताव एन०सी०आर० कार्यालय को उपलब्ध कराने का कष्ट करें ताकि उपक्षेत्रीय योजना में उक्त प्रस्तावों को सम्मिलित किया जा सके तथा उ०प्र० उप-क्षेत्रीय योजना-2021 की संरचना का कार्य समयबद्ध कार्यक्रम के अनुसार सम्पन्न किया जा सके।

[Handwritten signature]

भवदीय,
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राजमाल कौशिक
सहयुक्त नियोजक

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Fax
J. no - 81

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7/Pt.II

New Delhi, dated 20.12.2006

*Chief Operations Manager,
Western Railway,
Mumbai.*

**Sub:- Feeder routes and Junction Stations for Dedicated Freight
Corridors (DFC)**

Ref: WR's Letter No.T597/7/18 dated 09.11.2006

Board (ME, MT & CRB) had approved Mehasana on Western Railway as a Junction Station between existing network and proposed Dedicated Freight Corridor. Board had further approved that sanctioned works of Mehasana-Patan Gauge Conversion and Patan-Bhildi New Line should be fit for running Double Stack Container trains.


(Mukul Saran Mathur)
Director/Transport Planning
Telefax: 011-23388858

Copy to:

- 1. MD, RITES, Gurgaon – Mehasana may be added as a Junction Point in the ongoing PETS for DFC**
- 2. ED (Planning), Railway Board, New Delhi.**
- 3. ED (Works), Railway Board, New Delhi.- Mehasana-Patan Gauge Conversion and Patan-Bhildi New Line should be de-frozen as per the Board's instruction**

S.no-87

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7/Pt.II

New Delhi, dated 20.12.2006

**Chief Operations Manager,
Western Railway,
Mumbai.**

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o/c
(Mukul Saran Mathur)
Director/Transport Planning
Telefax: 011-23388858

Copy to:

1. MD, RITES, Gurgaon – *Mehasana may be added as a Junction Point in the ongoing PETS for DFC*

2. ED (Planning), Railway Board, New Delhi.

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Ran
20/12

2/18/06

MINUTES OF MEETING
(held on 29th June 2006.)

Minutes of the meeting held on 29th June 2006 in the chamber of Shri Ashok Gupta, Adviser/Traffic regarding load exchange points and connectivities on the proposed DFCs.

Present

1. Mr. Ashok Gupta, Adviser/Traffic
2. Mr. Shri Prakash, Adviser/Infrastructure
3. Mr. R.N.Verma, COM Central Railway
4. Mr. V.S. Murthy, COM Western Railway
5. Mr. V.K.Roy, COM North Western Railway
6. Mr. H.K. Phadhee, COM Eastern Railway
7. Mr. Pandey, COM East Central Railway
8. Mr. N.Jayaram, GGM/RITES
9. Mr. Krishan Lal, Adviser/RITES
10. Mr. R.K. Bansal, Adviser/RITES
11. Mr. K.K. Saxena, COM/NCR

The following decisions were taken:-

1. **JN Port:**
DFC should start from the Nahva Sheva Holding Yard between JN Port and Jasai Yard. For this purpose, existing and additional lines should be of 1500m CSR.
2. **Vasai**
Trains to and from Mumbai area [other than JN Port] shall be exchanged between DFC and Diva-Vasai mainline at an exchange yard suitably located between Diva and Virar. However, there shall be no surface crossing on the existing line or the DFC. There shall also be no traction change at this location and trains to/from Mumbai area will be operated on diesel traction only.
3. **Udhna**
No interconnectivity between Udhna-Jalgaon line and DFC need be provided at the initial stage. Exchange of trains between the two streams will be done through exchange facilities provided at Gothangam. However, the alignment should permit provision of such a facility in future.

4. **Kosad/Gothamgam**
This interconnectivity point should have facility not only for exchange of loads between DFC and Hazira line but also between main line and DFC in both directions, viz Delhi side and Mumbai side, without any surface crossing.
5. **Makarpura**
Inter connectivity should be provided between the DFC and main line in both directions. Similarly, connectivity between a future logistics park around Vadodara and DFC should be possible in both directions.
6. **Anand**
Exchange points at Anand is not required.
7. **Sabarmati**
Connectivity between DFC and the existing rail network should be for movement in all four directions, viz to/from Sabarmati, to/from Viramgam, to/from Mumbai and to/from Delhi.
8. **Mahesana**
Inter connectivity at Mahesana should be eliminated.
9. **Palanpur**
Inter connectivity is necessary. Facilities developed should take into account future doubling of Gandhidham-Palanpur line.
10. **Marwar Jn**
Proposed connectivity is in order. In view of limited exchange of traffic, surface crossings can be provided.
11. **Phulera**
Inter connectivity is necessary. It should also provide connectivity for movement of traffic between Delhi/Rewari and Ajmer/Jodhpur.
12. **Rewari**
Inter connectivity through a chord line linking DFC with Rewari-Hissar section is necessary. Facilities should be planned in a manner that traffic between DFC and Rewari-Hissar section does not pass through existing Rewari yard.

13. **Tughlakabad**

Tughlakabad-Dadri rail link project that was to be executed by RVNL has been dropped in view of construction of DFC. Alignment for the link has to be done by RITES.

Decisions pertaining to Eastern DFC

1. On Sone river, four lines are considered adequate for movement of traffic on Freight Corridor as well as existing lines i.e one set of two for the corridor traffic and one set of two for the existing lines. RITES should provide for bridge over the river accordingly.
2. The remodeling plan of Sonenagar Yard prepared in the context of provision of third line between Sonenagar and Dehri-on-Sone should be revised integrating the requirements of the DFC project For this purpose, RITES may advise ECR about the proposed method of connectivity between DFC and the existing lines.
3. Maintenance of BOXN and BRN wagons will be undertaken at Mughalsarai. The facilities required for this purpose may be planned by RITES. Necessary flyovers may be provided to avoid surface crossing of main running lines.
4. The coal traffic to Unchhar power house will be diverted from the corridor to the existing lines at Mughalsarai itself.
5. The coal traffic from NCL and SECL fields, the steel traffic from Bhilai and other sources and cement traffic arriving at Katni for the destinations on Kanpur-Ghaziabad section and for Sharanpur-Ludhiana and beyond route will be routed via Katni-Manikpur-Kanpur and will move over the corridor from Kanpur. For this purpose, Katni-Manikpur-Kanpur route will be strengthened. Also the possibility of connecting the Katni-Manikpur-Kanpur route directly to the corridor in the up direction should be explored. Otherwise, necessary connectivity may be provided between the existing lines and the corridor.
6. No connectivity is required between the corridor and the existing lines at Tundla.

7. At Aligarh, a suitable fly over may be provided from the up line of the corridor to facilitate transfer of traffic to Harduaganj power house on Aligarh-Chandausi section.
8. The route Khurja-Hapur-Meerut-Sharanpur-Rajpura may be doubled.
9. At Sahranpur surface crossing between the DFC and the existing lines may be provided.
10. No connectivity is required between the corridor and the existing lines at Ambala.
11. At Sirhind a suitable fly over may be provided from the up line of the corridor to facilitate transfer of traffic to Ropar power house and others on Sirhind-Una section.
12. The corridor may be terminated at Dhandarikalan.

FAX No. 011-23388858

2/11/06 (1)

2/11/06

WESTERN RAILWAY

Headquarters office,
Churchgate,
Mumbai- 400020
November 9, 2006

T.5977/18

Director Transport Planning
Railway Board,
NEW DELHI.

- Sub: Identification of Feeder routes for running of trains on Dedicated Freight Corridor with 25 tonne axle load.
- Ref: (i). Your letter No. 2006/PL/6/7 dt. 4.04.2006.
(ii). Minutes of meeting held in the chamber of Adviser/Traffic Railway Board on 29.06.2006 with COM-CCG.
(iii). Telecon on 06.11.2006.

.....

1. Feeder Routes were identified by Railway Board for Dedicated Freight Corridor and Double Stack Container movement for 25 tonne axle load trains, which were first circulated to Railways in March 2006.

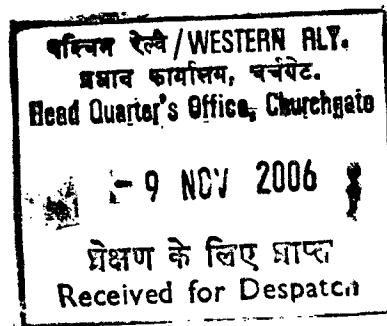
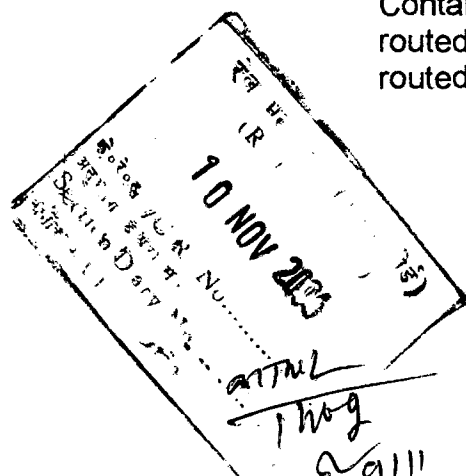
These were later modified vide ref. (i) above and are as under over the Western Railway:

1. Pipavav-Surendranagar-Viramgam- Mahesana (395 kms)
2. Kandla Port- Gandhidham-Palanpur (312 kms)
3. Mundra Port- Gandhidham (66kms)
4. Viramgam- Samakhiali (182 kms)
5. Hazira- Surat (40 kms)

2. Following routes are required to be included in the list of Feeder Routes:-

- a) Sanand to Sabarmati/ Khodiyar

Container traffic between JNPT and Sabarmati/ Khodiyar will be routed through DFC upto Sanand station from where it will be routed over Viramgam- Sabarmati section to Sabarmati/ Khodiyar.





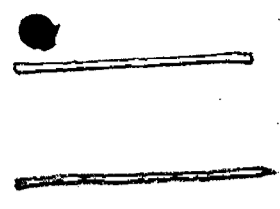
b) Mahesana to Palanpur

Traffic from Pipavav Port to North India moves via Surendranagar-Viramgam- Mahesana- Palanpur. In the absence of inter connectivity at Mahesana to DFC vide ref. (ii) above, Mahesana-Palanpur section will have to be also included as a Feeder Route. Alternatively, inter connectivity at Mahesana to DFC may be provided.

- 3 At present Surat- Hazira rail connectivity is not available. RVNL is trying to sort out matters with M/S KRIBHCO. Gothangam is the nearest point where inter connectivity with DFC has been planned on the West side of Gothangam. RVNL is being advised to provide a direct link from this inter connectivity point to Hazira Port.

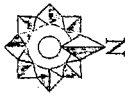
CTPM-CCG

C/- Adviser Traffic, Railway Board, New Delhi.
C/ - Adviser Infrastructure, Railway Board, New Delhi.
C/- CBE, W.R., CCG



Freight Corridor Alignment
Proposed feeder routes





GUJARAT



SYSTEM MAP OF AHMEDABAD DIVISION

LEGEND

- BRDAD GAUGE
- METRE GAUGE
- NARROW GAUGE
- FOREIGN RAILWAY
- DOUBLE LINE
- LINE UNDER CONSTRUCTION
- CONVERSION M.G. INTO B.G.
- ELECTRIFIED SECTION
- DIVISIONAL HEAD QUARTER
- HEAD QUARTER OFFICE



SANAND

ARABIAN SEA

TO AJMER

MUNDRA PORT 57.094
MUNDRA PORT (PRIVATE SIDING)

(KDL) KANDLA
SHIRVA 310.38
SRVA
KANDLA PORI 312.49

NALIYA 159.39 (NLV)
NALYACANT 153.44(NLC)
KOTHARA 140.52(QTR)
DHAWALA 131.32(DHVR)
MOTHALA 121.90(MTLA)
MOTHALA HALT 118.90 (MTHH)
SONASARA 111.53(SNSR)
SUKHPUR ROHA 98.70(SRHA)
DESALPUR 86.91(DSLP)
SUKHPUR BHUJ 58.246(SUKP)
NEW BHUJ 57.90(NBVJ)
MADHAPUR RD 53.66(MADP)
KUKMA 46.29 (KEMA)
RATNAL 32.19 (RUT)

ANJAR 16.17(AJE)
ADIPUR 8.96(AI)
GOPALPUR 3.189 (GPPR)

GANDHIDHAM JN.0.00 PNU 300.81 F.CCG 795.91(GIM)
GANDHIDHAM CABIN 298.13(GIMC)
BHIMASAR 286.88 F.PNU.F.CCG 782.02 (BMSR)
CHIRAI 276.81,772.01(CII)
BHACHAU 263.69,758.89(BCO)
VONDH 254.58, 749.81(VON)
SAMAKHIALI JN.247.73,742.93(SIOB)

LAKADIYA 239.17(LKZ)
SHIVALAKHA 231.87(SIA)
CHITROD 224.54 (COE)
KIDIYANAGAR 214.14 (KYG)
PADAMPUR 206.23(PDF)
BHUTAKIYA BHIMASAR 198.43 (BUBR)
ADESAR 189.02 (AAR)
LAKHPAT 182.72(LAA)

PIPRALA 172.52(PFL)
GARMADI 164.03(GM)
SANTALPUR.156.44(SNLR)

CHHANSARA 146.93(CASA)
VAGHPURA 138.55(VU)
VARAHI 130.07(VRX)
PIPLEE 121.70(PL)

RADHANPUR 113.43(RDHP)
DEVGAM 100.75(DVGM)
BHABHAR 88.93(BAH)
MITHA 81.53(MITA)
DIYODAR 71.74 (DEOR)
DHANAKWADA 64.84(DKW)
JASALI 56.10(JSI)

BHILDI JN 45.50 (BLDI)
LORWADA 36.16(LW)
DISA 27.54(DISA)

RASANA 19.54(RSNA)
CHANDISAR 13.34(CDS)
CHADOTAR 7.27(CDQ)

PALANPUR JN. (PNU)
F.R.E. 652.25

NALIYA MIYANA JN. 702.75 (NALB)
WADHARVA 694.08(WDHR)
KHAHIRECHI 685.70(KHXB)
DEVALIYA 675.31(DV)
DHANALA 668.11(DAHL)
HALVAD 657.65(HVD)
SUKHPUR 651.75(SUK)
CHULI 641.18 (CUL)
DHRANGADHRA JN.626.39(DHG)
F.SUNR 34.4B(FVD)
KUDA 33.00(KUDA)

VASADVA 610.84(VSV)
JATPIPLI 599.42(JTX)
BAJANA 591.15(BAJN)
SADALA 582.17(SADI)
KHARAGHODA 576.56(KOD)
JHUIND 573.65(JN)
VIRAMGAM 560.75(VG)

AMLIYASAR JN. 560.75 (AMLI)
KODINAR 550.78 (KODN)
F.R.E. 500.78
F.R.E. 179.63

AMLIYASAR JN. 548.95 (AMLI)
MAHESANA JN. 548.95 (MAH)
VJAPUR (VJ)
HIMATNAGAR 320.99 (HMTN)
F.R.E. 408.24

AMLIYASAR JN. 483.00 (AMLI)
AHMEDABAD 483.00 (AHM)
F.CCG 495.36
F.R.E. 186.13
F.R.E. 408.24

MAHESANA JN. 734.78 (MAH)
TARANGA HILL
TARANGA HILL
F.W. 561.56
F.W. 561.56

Projects under BOT Schemes

- ❖ Utratia - Chandrauli and Sultanpur - Bandhua Kalan : Doubling (Track, ballast and signalling works)
- ❖ Viramgam - Mahesana : Gauge Conversion (Track, ballast and signalling works)- Financial Closure achieved. Physical work in progress.
- ❖ Amroha - Kankather : Doubling (Doubling Track, ballast and signalling works)

Remote Area Rail Sampark Yojana

- New Scheme to complete Works for connecting remote and backward regions with Rail Network
- Scheme for completing projects taken up on Socio-economic considerations
- Involves an additional outlay of Rs. 20,000 crores
- Works to be completed next five years

Remote Area Rail Sampark Yojana

	New Lines	Gauge Conversion	Total
No. of Projects	42	16	58
Kilometers to be added	5000	3340	8340
Approx. balance Cost for completion with Inflation (Rs. Cr.)	14000	6000	20000
Completion Period	5 Years	5 Years	

SAFETY CORPORATE PLAN

- Plan for the Period 2003-13
- Total investment of Rs. 31,835 Crores for safety related works in 10 year period
- Plan Prioritizes Safety Related Works, indicates Broad Time Frame for Completion and required Financial Investments
- Aims at continuous reduction in Risk Level to its Customers, Better Safety Culture and Enhancement of Asset Reliability

SAFETY CORPORATE PLAN - OBJECTIVES

- Reduction in rate of Accidents Per Million Kilometers from 0.44 to 0.117 by year 2013
- Implement measures to reduce chances of passenger fatality
- Focus on development of manpower
- Achieve Safety Culture on all fronts including Maintenance Depots, Work Sites, Stations etc.
- Prioritization of Safety related Projects
- Accelerated implementation of RSRC Recommendations

Special Railway Safety Fund (SRSF)

- ❖ Created in 2001-02 on the recommendation of Khanna Committee Report.
- ❖ Non-Lapsable Fund of Rs. 17000 Crores
 - Dividend free grant from General Exchequer Rs. 12000 Cr.
 - Rs. 5000 Cr. to be generated by Ministry of Railways by levy of Safety Surcharge.
- ❖ To liquidate the accumulated arrears of renewal of assets upto 01.04.2001.

TOTAL CONTAINER TRAFFIC AND RAIL SHARE OF PORTS IN WESTERN REGION

(Traffic Figures in '000 TEUs)

Year	J.N. Port	Mumbai Port	Kandla Port	Mundra Port	Pipavav Port	Hazira Port	Total
2003-2004							
Total Traffic	2269	197	170	48	25	-	2709
Rail Share	614	02	02	16	09	-	643
%age Rail Share	27%	1%	1%	33%	36%	-	23.7%
2006-2007							
Total Traffic	2980	300	250	750	450	-	4730
Rail Share	894	15	37	262	180	-	1388
%age Rail Share	30%	5%	15%	35%	40%	-	29.3%
2011-2012							
Total Traffic	4944	800	500	1250	750	800	9044
Rail Share	1582	150	125	500	300	240	2897
%age Rail Share	32%	19%	25%	40%	40%	30%	32.0%
2016-2017							
Total Traffic	6700	1200	750	1700	1125	1500	12975
Rail Share	2278	360	225	680	450	525	4518
%age Rail Share	34%	30%	30%	40%	40%	35%	34.8%
2021-2022							
Total Traffic	7500	1500	1000	2000	1500	2000	15500
Rail Share	2625	525	350	900	675	800	5875
%age Rail Share	35%	35%	35%	45%	45%	40%	37.9%

Strengthening of Golden Quadrilateral and its Diagonals

- 16% of the network carries 65% of freight and 55% of passenger traffic
- Augmentation of capacity and reduction in speed differential of freight and passenger trains to be done by:
 - Doubling / Electrification / Signalling / Grade Separation and other such options
 - Induction of improved rolling stock
 - Modification of Terminal/Junction Stations

Port / Hinterland Connectivity

- ❖ Works include Port as well as Hinterland connectivity
- ❖ Some of the projects will be executed through Public-Private Partnership
- ❖ RVNL will liaise with the Port Authorities and stakeholders to prepare project reports

Mega Bridges

- ❖ Construction of 4 Bridges – 2 over Ganga at Patna and Munger, 1 over Brahmaputra and 1 over Kosi River
- ❖ Total cost Rs. 3636 crores, throw-forward as on 01.04.03 is Rs. 3492 crores
- ❖ All 4 Bridges have social and economic significance, however they are not financially viable

Funding of NRVY

- ❖ Rs. 1500 Cr. Budgetary Support (as equity)
- ❖ Rs. 1500 Cr. as loan from ADB (loan is US \$ 313.6 million as equity)
- ❖ Rs. 8000 Cr. to be raised by RVNL from domestic / international financial institutions/banks etc. and public-private partnerships etc.
- ❖ World Bank approached for funding of Mega Bridges and other railway projects.

Rail Vikas Nigam Limited (RVNL)

- ❖ RVNL incorporated on 24.01.03 as a public limited company to execute the GQ Strengthening and other bankable projects under NRVY
- ❖ Will undertake project development, execution of works, resource mobilisation and commercialisation of projects if required

Status of RVNL works

- 18 projects assigned for preparation of Bankability Report
- 4 projects financially viable and can be taken through BOT.
- 5 projects bankable and can be implemented through SPV.
- 8 projects found financially unviable.

COMPUTATION OF PORTWISE NUMBER OF CONTAINER TRAINS ON THE PROPOSED DFC

(Figures in 000 TEUs)

Port	2003-04 Actuals	2006-07	2011-12	2016-17	2021-22
J.N. Ports					
Rail-borne traffic	614	894	1582	2278	2625
%age share of DFC	89%	88%	85%	83%	82%
Mumbai Port					
Rail-borne traffic	02	15	150	360	525
%age share of DFC	40%	40%	45%	50%	55%
Kandla Port					
Rail-borne traffic	02	37	125	225	350
%age share of DFC	40%	40%	45%	50%	55%
Mundra Port					
Rail-borne traffic	16	262	500	680	900
%age share of DFC	45%	50%	55%	55%	60%
Pipavav Port					
Rail-borne traffic	09	180	300	450	675
%age share of DFC	45%	50%	55%	55%	60%
Hazira Port					
Rail-borne traffic	-	-	240	525	800
%age share of DFC	-	-	60%	65%	65%
Total Container Trains Per Day	9.6	17.6	35.25	53.9	70.2

- Notes : 1.Except in case of J.N. Port where actual 0-Ds are available, figures for other ports are rough estimates.
2.Most Exim containers at Mumbai and Kandla Ports are stuffed/stripped at portside CFSs, resulting in low rail share.

Railway Public Sector Units

- Rail India Technical & Economic Services Ltd. (RITES)
- IRCON International Limited (IRCON)
- Indian Railway Finance Corporation Ltd. (IRFC)
- CONCOR
- Konkan Railway Corporation Limited (KRC)
- Center for Railway Information Systems (CRIS)
- Indian Railway Catering and Tourism Corporation Ltd. (IRCTC)
- Rail TelCorporation of India Limited (RCIL)
- Rail Vikas Nigam Limited (RVNL)

RITES – COMPANY PROFILE

Consultants, Engineers, Project Managers
30 Years of experience in more than **55 countries**
 Current operations in **12 countries**
 High net worth and profitable since inception – oldest railway PSU.
 Registered with World Bank, ADB, AfDB, UNDP, UNIDO, Kuwait Fund for Arab Economic Development, etc.
 Joint Working Experience: PBI, PCI, JARTS, CPCS, Swede Rail, DeLew Cather, Atkins, Jarvis, Ara Rail Corp, Etc.

RITES-Sectors of Operations

- Railways
- Roads & Highways
- Airports
- Ports & Harbours
- Urban Transport
- Urban Development
- Export & Leasing of railway equipment
- Privatization & Concessioning
- Quality Control & assurance
- Procurement Management
- Information Technology
- Environmental Engineering

IRCON – COMPANY PROFILE

- Turnkey contractor in Railways, Highways, Metro and infrastructure sectors.
- Experience of working in more than 15 countries.
- Presently working in Malaysia, Indonesia, Bangladesh, Iran, Syria, U.K. and Ireland

Performance

	Originating Passengers (mill)	Passenger Revenue (in crores)	Freight (Million Ton)	Freight Revenue (in crores)
2002-03	4967.9	12656.6	518.74	26231.45
2003-04	5114.37	13450.7	557.39	27646.15
% Improvement	2.95	6.27	7.45	5.39

Railways Buoyancy

- Growth in GDP for 2003-04 from other than services estimated to be about 4%
- Railways freight loading increased by 7% in 2003-04 due to
 - improved marketing by Railways
 - better efficiency in operations
 - NTKM improved by 7.9% in 2003-04

JNPort-Palanpur-Phulera->Ringus->Rewari Route - Projection of Freight Trains With 25 Tonne Axle Load

Section	2004-05		2006-07		2011-12		2016-17		2021-22	
	Cont ainer	Total	Cont ainer	Total	Cont ainer	Total	Cont ainer	Total	Cont ainer	Total
Panvel-JNPort	6	6	13	13	25	25	38	38	45	45
Vasai Road-Panvel	5	8	12	15	23	26	34	38	41	45
Udhna-Vasai Road	4	8	11	14	20	24	31	34	36	41
Vadodara-Udhna	4	16	11	23	23	38	37	55	46	67
Ahmedabad-Vadodara	5	15	10	22	23	32	37	41	47	61
Ahmedabad-Palanpur	4	15	11	23	24	34	39	45	51	64
Palanpur-Marwar	5	15	15	27	33	43	51	58	68	83
Marwar-Madar	5	14	15	25	32	41	50	56	66	80
Madar-Phulera	5	13	15	25	32	40	50	55	66	80
Phulera-Rewari	5	12	15	23	31	38	49	53	65	77
Rewari-Delhi	5	11	13	21	26	34	40	47	51	63

Note : 50% of the containers between the ports and Tughlakabad/Dadri are assumed to be double stacked.

Tentative Targets- 2004-05

o Freight Traffic

- 570 MT of Originating Loading with 3.6 % increase over the Target (RE) of 2003-04
- 381 BTKM of Transport Output with 2.2% increase over the Target(RE) of 2003-04

o Passenger Traffic

- 5370.85 million Originating Pass. with increase of 3.2% over the target(RE) of 2003-04
- 548.6 Billion Passenger Kms. with increase of 3.6% over the target(RE) of 2003-04

Tentative Targets- 2004-05

- o New Lines - 230 Kms
- o Gauge Conversion - 800 Kms
- o Doubling - 300 Kms
- o Track Renewals - 4000 Kms
- o Rolling Stock
 - Electric Loco - 86
 - Diesel Loco - 105
 - Coaches - 1785 Conventional
228 EMU, DMU,
MEMU
 - Wagons - 19680 FWUs

Alternative Financing of Railway Projects

- o Railway has a large number of sanctioned projects with a throw-forward of about Rs.44,000 Crores.
- o Apart from Budgetary Support, Railways have devolved new ways to fund projects
 - Public Private Partnership (PPP).
 - Special Purpose Vehicle (SPV)
 - Joint Venture with State Governments.
 - Cost Sharing with other Ministries.
 - Funds for National Projects from General Exchequer in addition to budgetary support.
 - Non-Budgetary Support for certain Railway Projects under National Rail Vikas Yojana (NRVY).

Public-Private Partnership

- o Generated almost Rs. 4,000 Cr. from Projects with cost sharing in States of Jharkhand, Karnataka, Maharashtra, Gujarat, Tamil Nadu, West Bengal and Andhra Pradesh.
- o Formed Joint Ventures in Maharashtra, Karnataka and Gujarat.
 - K-RIDE formed in Karnataka.
 - HMRDC formed in Karnataka for Hassan-Mangalore GC Project.
 - Kutch Railway Company in Gujarat for Gandhidham -Palanpur GC Project.

Private Participation

- ❖ Surendra Nagar – Pipavav Gauge Conversion Project (267 Kms.) - implemented through Joint Venture with Gujarat Pipavav Port Limited
- ❖ M/s. Gujarat Adani Port Limited has constructed a 54 Km line between Adipur to Mundra at their cost.
- ❖ Gandhidham – Palanpur (313 kms.) Gauge Conversion project is being executed through SPV route. (Project Cost Rs. 464 Crores) - Kandla Port, Mundra Port, Govt. of Gujarat and RVNL are the equity holders.

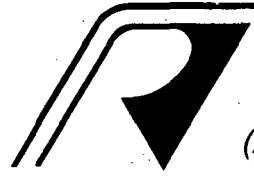
NATIONAL RAIL VIKAS YOJANA

- o Largely Non-budgetary Investment initiative of Rs.15,000 crores to remove capacity bottlenecks.
- o Components include:
 - Strengthening of Golden Quadrilateral and its Diagonals (Rs. 8000 Crores)
 - Port/Hinterland Connectivity works (Rs. 3000 Crores)
 - Mega Bridges (Rs. 3500 Crores)
- o Works to be completed in next 5 years (except Mega Bridges)

Delhi->>Rewari->Ringus->Phulera-Palanpur->>JNPort Route - Projections of Freight Trains With 25 Tonne Axle Load

Section	2004-05		2006-07		2011-12		2016-17		2021-22	
	Cont ainer	Total	Cont ainer	Total	Cont ainer	Total	Cont ainer	Total	Cont ainer	Total
Rewari-Delhi	5	7	13	16	23	26	33	37	42	45
Phulera-Rewari	5	8	15	17	26	30	38	41	48	52
Madar-Phulera	5	8	15	18	27	30	38	42	49	53
Marwar-Madar	5	9	15	19	27	31	38	43	49	54
Palanpur-MJ	5	9	15	19	28	32	40	45	50	56
Ahmedabad-Palanpur	4	7	11	14	19	22	27	31	33	37
Ahmedabad-Vadodara	5	11	10	16	17	24	24	32	27	36
Vadodara-Udhna	7	14	13	19	24	32	37	46	44	53
Udhna-Vasai Road	7	11	12	16	24	28	37	42	44	49
Vasai Road-Panvel	7	11	12	17	24	29	37	43	44	50
Panvel-JNPort	7	8	12	13	22	22	32	33	36	36

Note : 50% of the containers between the ports and Tughlakabad/Dadri are assumed to be double stacked.



रेल विकास निगम लिमिटेड
Rail Vikas Nigam Limited
(A Government of India Enterprise)

No.2004/TKD-DER/PP&D

November 8, 2006

Shri M.S. Mathur
Director (Transport Planning)
Railway Board
Rail Bhawan
New Delhi

Subject : Implementation of Tughlakabad – Dadri New Railway Line project
Reference : Railway Board letter No.2005/PL/6/7 Pt.II dated 07.11.2006

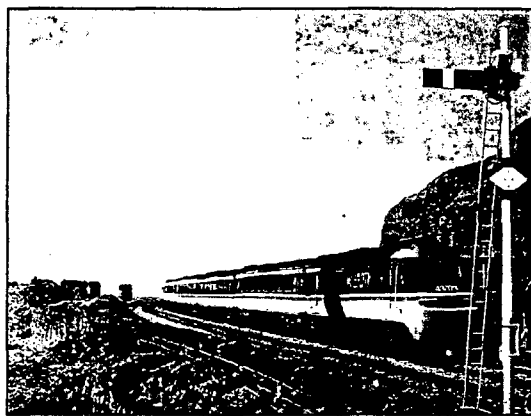
As desired vide your above mentioned letter, we enclose a copy of the supplementary report submitted by M/s. Feedback Ventures P. Ltd. in March 2006.

(Sanjiv Garg)
Executive Director (PP&D)

Enclosed : as above.

RAIL VIKAS NIGAM LIMITED

Tughlakabad Dadri New Line Project



Supplementary Report

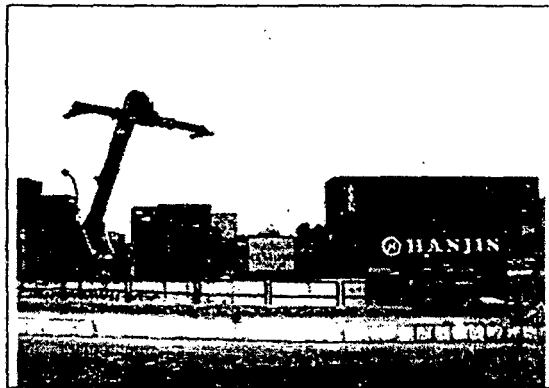
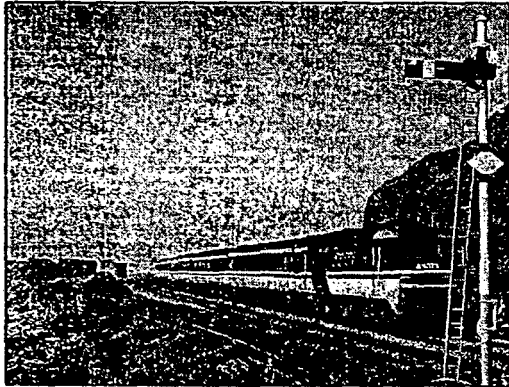
**FEEDBACK
VENTURES**

Making Infrastructure Happen

8th March 2006

RAIL VIKAS NIGAM LIMITED

Tughlakabad Dadri New Line Project



Supplementary Report

**FEEDBACK
VENTURES**

Making Infrastructure Happen

8th March 2006

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1.0 BACKGROUND

1.1 INTRODUCTION

The Government of India launched the National Rail Vikas Yojana (NRVY) in December 2002 with the objective of achieving a significant improvement in transport capacity on the congested golden quadrilateral and diagonals and port connectivity through up gradation in the country's rail infrastructure.

Rail Vikas Nigam Limited (RVNL), a special purpose vehicle (SPV) was accordingly floated to with specific mandate for:

- Expedite the development and implementation of these projects and
- Mobilize resources for the same.

In this context, RVNL has the mandate for identification of commercially viable projects and developing them through Public-Private Partnerships (PPP). RVNL has retained the services of M/s Feedback Ventures Pvt. Ltd (FVL) for providing Financial Advisory on the first set of bankable projects identified by them. The key elements of the Financial Advisory mandate to Feedback as per the TOR includes the following main tasks:

- Phase I: Reviewing of Project Feasibility and Structuring
- Phase I (cont): Preparation of Project Information Memorandum
- Phase II: Documentation for setting up of SPV and related contracts
- Phase III: Assistance with Financial Closure

Tughlakabad Dadri New Rail Line Project is a part of the Corridor to Hinterland connectivity and is one of the bankable projects, which has been short listed by Rail Vikas Nigam Ltd for further development in PPP mode. A Technical Marketing and Financial Report for the subject project was prepared by RITES Ltd in November 2004. The present report is in the nature of a **Supplementary Report** to the RITES report and as per the TOR for Phase I; the following tasks were undertaken as a part of the exercise.

- Realistic review of the RITES Report to arrive at the financial viability of the project including the extent of Government support needed and suggesting optimal project structuring option.
- Independent due diligence on various aspects of the project including the traffic, analysis of both hard and soft cost of the project, constraints of line capacity of existing lines, etc.
- A review of the O&M cost structure as proposed by RITES has been done and it has been brought in tune with the Fixed and Variable Cost model used by

Railway Board in other SPVs e.g. PRCL, HMRDC etc. An optimal scheme has also been presented to ensure that the same is acceptable to the prospective O & M operator.

Feedback Ventures (P) Ltd has also carried out the following tasks in addition for capturing the changes in the project development scenario.

- Updating the project cost of the project based on the results of the Final Location Survey of the Project undertaken by RVNL. The cost estimates in the earlier report of RITES were based on PET report. As such the present capital cost estimates present a more accurate and current picture.
- Change in the project implementation schedule (reduced from five years to four years). This has been done based on discussions with RVNL and four year target is considered achievable keeping in view the recent trend in rail construction time schedule in the country.
- The year of commencement of construction work has been changed to 2006-07 from 2004-05 as originally envisaged in the RITES report as we are already entering 2006-07 now.
- During the intervening period between RITES report and this Supplementary Report, rates of freight haulage for certain commodities by Indian Railways including container haulage charges have been revised. The report has factored such revisions.

1.2 THE PROJECT

The new broad gauge line proposed under this project connects Tughlakabad via NOIDA and Greater NOIDA to Dadri/Boraki with Y connections at either end. The original RITES Technical, Marketing and Financial Report for this line was made for a double line project. However, the Final Location Survey done by RVNL is for single line and RVNL & Ministry of Railways are likely to take a final decision as to whether it will be a single or double line project.

Tughlakabad is a major goods yard of the Northern Railways located on the electrified Delhi/New Delhi – Mathura – Agra trunk route connecting Delhi with important cities and trade centers on the way to Mumbai and Chennai. Bulk commodities like POL products, cement, fertilizers and iron & steel for the states of Delhi, Punjab, Haryana, and Jammu & Kashmir are passed through this station. In addition, it serves the ICD and domestic container terminals of CONCOR and coal to Badarpur thermal power plant.

Dadri is located on the electrified Delhi – Ghaziabad – Aligarh – Mughalsarai – Howrah trunk route. Dadri station feeds CONCOR's Inland Container Depot (ICD), which is a full-fledged depot, planned to operate with 7 train handling lines. The ICD is already functional with container trains being routed through the National Thermal Corporation's rail siding to serve the Dadri Thermal Power Station.

The traffic presently is routed through via Tilak Bridge, Ghaziabad and Sahibabad. The line capacity utilization of the sub section between Ghaziabad and Sahibabad is already over saturated and was 163% and same is the case between Tilak Bridge - B Panel and between B Panel and Sahibabad, where capacity utilization was 162% and 160% respectively by the end of year 2004-05. As is clearly discernable from above the existing route is therefore over saturated and requires capacity augmentation on an urgent basis. In fact some of the traffic presently running on this line legitimately belongs to the additional line which needs to be constructed for capacity augmentation.

The proposed new line will also provide a shorter route, which will avoid the congested Ghaziabad–Sahibabad–B Panel–Goods Avoiding Line–Hazrat Nizamuddin Section.

1.3 SALIENT FEATURES OF THE PROJECT

Key Project parameter based on Final Location Survey are as follows:

Tughlakabad Dadri New Rail Project Parameters

Sl. No.	Characteristics	Specification
1	Length of section (Km)	Tughlakabad to Dadri/Boraki: 35 Km
2	Single line / Double line	Single Line
3	Mode of Traction	Electric – 25 KV AC
4	No. of Block stations	7
6	No. of Bridges	Minor: extn-02, new RCC slab-07, new hume pipe: 13 Major: new PSC girder-05 RUB: extn-01, new-02 FOB-05, ROB-02
7	Type of signaling and inter - locking	MACLS, absolute block working, Central Panel, point operation by electric point machine, DC track circuit at all stations
8	Sectional speed	100 Kmph
9	Ruling Gradient	1 in 150

2.0 PROJECT COST

The total construction cost of the project has been taken as that worked out by Rail Vikas Nigam Ltd based on the Final Location Survey carried out recently for a single line. A provision of contingency at 3% of the construction cost has also been provided and the gross project costs are as follows:

Tughlakabad Dadri New Rail Project Construction Cost (2005-06 price level)

Description	Amount in Rupees Crores (Single Line)
Construction Cost of Project	516.17
Provision for Contingency	15.49
Gross Cost of Project	531.66

The component wise breakup of the construction cost is as follows:

Description	Amount in Rupees Crores
Total Civil	456.52
Electrical Engg	39.29
S&T Engg	20.36
Total Construction Cost	516.17

The financial analysis in this report has been carried out for the single line project. However, analysis for the double line scenario is also incorporated treating approximate additional cost of construction for double line as Rs. 100 Crores based on discussions with RVNL. As such the approx. cost of double line has been assumed at Rs. 616.17 Crores.

2.1 IMPLEMENTATION

The project implementation period for the 35.800 Km Tughlakabad Dadri New Rail Line is envisaged as four years from the year zero (2006-07). The project phasing in financial terms has been proposed as 15%, 35%, 35% and 15% for the first, second, third and fourth years of construction respectively.

As per RITES report it was estimated that the construction will start in 2004-05 and will be completed over a period of five years. M/s Feedback has realistically estimated that the construction of the project can now be started only in 2006-07. However, the recent experience of constructing railway projects suggests that the 35.800 Km section can be completed in four years even after taking into account the difficulties in construction in the NCR region including the task of building the bridge across river Yamuna, provided funds is not a constraint.

3.0 PROJECT TRAFFIC

3.1 FREIGHT TRAFFIC MOVEMENT

RITES Ltd in the earlier report took into consideration a double line scenario and estimated the traffic for the project rail corridor. Feedback has reviewed the same for the double line scenario and has found the same to be realistic.

Movement of cargo on the project rail link shall largely be a function of the traffic expected to be generated by the ICDs at Tughlakabad and Dadri, coal for thermal power plants, POL products from the refineries at Mathura & Panipat and the industries falling in the catchment area of the project rail corridor. The estimated total freight traffic on the corridor for a double line scenario is as follows:

Tughlakabad Dadri New Rail Project: Freight Traffic (Double Line)

Commodity	Traffic Volume In Million Tonnes		
	2008	2012	2017
Containers International *	256.96	373.76	513.92
Containers Domestic *	64.24	93.44	128.48
Total Container Traffic*	321.2	467.2	642.4
Iron & steel	0.85	0.85	0.85
Coal	17.19	22.10	22.10
POL	3.375	3.375	3.375
TOTAL Non Container Traffic	21.41	26.32	26.32

* Container traffic in '000 TEUs
(Basis: RITES Report & Feedback Review)

To arrive at the single line traffic, the traffic estimated for double line scenario has been moderated keeping in mind the line capacity constraints of a single line (22 trains per day per direction).. It may be noted that the actual traffic available on this section is much more that what a single line can handle. These moderations were carried out after consultations with RVNL and CONCOR. It is also to be noted that bulk of the traffic for the project shall be the container freight traffic from the ICDs at Tughlakabad and Dadri. The line can also carry additional diverted freight traffic for coal based thermal power plants and POL traffic to refineries at Mathura & Aonla to utilize left over capacity after materialization of container traffic. However the same has been rightfully considered as new traffic because the existing sections are already over saturated and any incremental loss of traffic to them is only notional. The current line capacity utilization of the sub section between Ghaziabad and Sahibabad was 163% and same is the case between Tilak Bridge - B Panel and between B Panel and Sahibabad, where capacity utilization was 162% and 160% respectively by the end of the current year.

As per the rationale discussed above, the traffic for the single line scenario has been estimated for 2 scenarios:

- (i) With limited diverted coal traffic to existing power plants and new coal traffic to proposed new thermal power plants
- (ii) With diverted coal traffic to existing power plants and diverted POL traffic to refineries at Mathura and Aonla

The details of the same are discussed later in the chapter.

Freight Traffic: Single Line – Limited Diverted Traffic

Commodity	Traffic Volume In Million Tonnes		
	2008	2012	2017
Containers International *	256.96	373.76	513.92
Containers Domestic *	64.24	93.44	128.48
Total Container Traffic*	321.2	467.2	642.4
Iron & steel	0.85	0.85	0.85
Coal	7.98	10.44	7.45
POL	0.000	0.000	0.000
TOTAL Non Container Traffic	8.83	11.28	8.30

*Container traffic in '000 TEUs

(Basis: RITES Report & Feedback Reconfirmation)

Freight Traffic: Single Line – With Diverted Traffic

Commodity	Traffic Volume In Million Tonnes		
	2008	2012	2017
Containers International *	256.96	373.76	513.92
Containers Domestic *	64.24	93.44	128.48
Total Container Traffic*	321.2	467.2	642.4
Iron & steel	0.85	0.85	0.85
Coal	10.28	7.34	2.57
POL	3.375	3.375	3.375
TOTAL Non Container Traffic	14.50	11.56	6.79

*Container traffic in '000 TEUs

(Basis: RITES Report & Feedback Reconfirmation)

CONTAINER TRAFFIC TO SEAPORTS

Both the ICDs, namely Tughlakabad and Dadri cater to the traffic being generated in NCR region and the northern hinterland. It is expected that the traffic at Tughlakabad ICD will stabilize at 4 lakh TEU per annum. The balance traffic of the region is likely to shift to Dadri ICD, which has a present capacity to handle 5 lakh TEU in the first phase and shall have 10 lakh TEU capacity in the subsequent phase.

An analysis by Feedback & discussions with CONCOR executives confirmed that the containerized export and import traffic generated in NOIDA/Greater NOIDA will immediately shift to Dadri. The CONCOR officials have confirmed that they also expect the container traffic from the catchment area of Ghaziabad, Sahibabad, Meerut, Muzzafamagar, Aligarh, etc will also patronize the facility.

The total loaded container traffic based on the RITES bankability for the project has been taken as:

Loaded Container Traffic

Year	Container traffic (in '000 TEUs)
2007-08	256.96
2012-13	373.76
2017-18	513.92

However it is to be noted that in past ten years all the predictions on rate of growth of container traffic from northern hinterland have grossly underestimated the real picture. In the present scenario of high GDP growth rate, a thrust on the trade which even in the medium term has target of US \$ 150 Billion merchandize trade by 2008 and present low level of containerization indicates that the above assumptions of the container traffic remain on the prudent and conservative side and are not overly optimistic.

EMPTY CONTAINER TRAFFIC

For the purpose of estimation of empty domestic container traffic, 20% of the loaded container traffic has been considered. Trains carrying domestic container traffic are presently operated between Delhi and Kolkata, Haldia, Kanpur etc. Past trends and pattern of domestic container traffic offer no firm indications regarding future developments and a conservative estimation of domestic container traffic has been presented in the previous section. The empty container traffic is shown in the table below.

Empty Container Traffic

Year	Container traffic in '000 TEUs
2007-08	64.24
2012-13	93.44
2017-18	128.48

OTHER FREIGHT TRAINS

Following the construction of the new Tughlakabad Dadri new rail link, coal for the existing thermal power plants located at Badarpur, Bhatinda, Panipat and also for the proposed plant at Bhivani, Hissar and Narela is expected to switch over from the Dadri – Ghaziabad – Sahibabad – Tilak Bridge – Nizamuddin/Tughlakabad section to the new rail link. Coal for other users, namely NFL Panipat and brick kiln owners will also shift to the new rail link. The traffic estimates have been taken from the RITES report in consultation with RVNL on the line capacity.

POL from Mathura and Panipat for Dadri power plant and other destinations located between Dadri and Kanpur will divert to the new rail link.

Iron and steel from steel plants booked to SAIL stockyard at Ballabgarh is also expected to be routed via the proposed rail link.

As a single line is capable of carrying 22 trains per day per direction; freight traffic estimates for single line scenario were suitably moderated to limit the maximum number of trains per day to 22. The non-container traffic (iron & steel, coal and POL) for the project rail corridor has been taken for the double line and single line separately as follows:

Non-Container Freight Traffic (Single Line: Limited Diverted Traffic)

Commodity	Traffic in Million Tonnes		
	2008	2012	2017
IRON & STEEL			
Bokaro – Ballabgarh	0.85	0.85	0.85
COAL: Existing traffic to be diverted			
Garhwa Road – Badarpur Th P Stn	5.53	5.53	2.54
COAL: New traffic			
Garhwa Road – Bhlwani Th P Stn	0.00	2.46	2.46
Garhwa Road – Hissar Th P Stn	2.46	2.46	2.46
TOTAL	8.83	11.28	8.30

Non-Container Freight Traffic (Single Line: With Diverted Traffic)

Commodity	Traffic in Million Tonnes		
	2008	2012	2017
IRON & STEEL			
Bokaro – Ballabgarh	0.85	0.85	0.85
COAL: Existing traffic to be diverted			
Garhwa Road – Panipat Th P Stn	2.55	1.27	
Garhwa Road – Bathinda Th P Stn	2.21	2.21	
Garhwa Road – Badarpur Th P Stn	5.53	3.86	2.57
POL			
IOC/ONGC-MS/HSD Mathura - Aligarh	2.437	2.437	2.437
IOC/ONGC-LPG Panipat - Aonla	0.938	0.938	0.938
TOTAL	14.50	11.56	6.79

Non-Container Freight Traffic (Double Line)

Commodity	Traffic in Million Tonnes		
	2008	2012	2017
IRON & STEEL			
Bokaro – Ballabgarh	0.85	0.85	0.85
COAL: Existing traffic to be diverted			
Garhwa Road – Panipat Th P Stn	7.00	7.00	7.00
Garhwa Road – Bathinda Th P Stn	2.21	2.21	2.21
Garhwa Road – Badarpur Th P Stn	5.53	5.53	5.53
COAL: New traffic			

Commodity	Traffic in Million Tonnes		
	2008	2012	2017
Garhwa Road – Bhiwani Th P Stn	0.00	2.46	2.46
Garhwa Road – Hissar Th P Stn	2.46	2.46	2.46
Garhwa Road – Narela Th P Stn	0.00	2.46	2.46
POL			
IOC/ONGC-MS/HSD Mathura – Aligarh	2.437	2.437	2.437
IOC/ONGC-LPG Panipat - Aonla	0.938	0.938	0.938
TOTAL	21.41	26.32	26.32

3.2 COMMUTER PASSENGER TRAFFIC

Based on field studies, sale of railway tickets and interaction with NOIDA/ Greater NOIDA authorities, RITES had carried out passenger traffic estimates. Feedback has examined and validated the same and has found the passenger traffic as projected by RITES Ltd in the earlier report as realistic. It will be as follows:

Passenger Traffic

Year	No. of trains per day each way
2007-08	4
2012-13	5
2017-18	7

4.0 PROJECT REVENUE

The project revenue will be a derivative of the traffic estimated on the section. Variations in the project revenue from the earlier report by RITES Ltd have resulted because of the following:

- More realistic estimation of traffic keeping in mind the capacity constraints of a single line section
- Revision in freight charges since the submission of the earlier report,
- Revision of Tariff escalation rate at 3%.

Freight Revenue: Single Line Scenario – Limited Diverted Traffic

Commodity	Gross earnings in Rs Million		
	2008	2012	2017
Containers International	65.42	95.15	130.84
Containers Domestic	10.63	15.46	21.26
Total Container Traffic	76.05	110.62	152.10
Iron & steel	28.40	28.40	28.40
Coal	213.15	279.71	200.34
POL	-	-	-
TOTAL Non Container Traffic	241.54	308.11	228.73

Freight Revenue: Single Line Scenario – With Diverted Traffic

Commodity	Gross earnings in Rs Million		
	2008	2012	2017
Containers International	65.42	95.15	130.84
Containers Domestic	10.63	15.46	21.26
Total Container Traffic	76.05	110.62	152.10
Iron & steel	28.40	28.40	28.40
Coal	276.18	197.18	68.34
POL	169.16	169.16	169.16
TOTAL Non Container Traffic	473.73	394.73	265.90

Freight Revenue: Double Line Scenario

Commodity	Gross earnings in Rs Million		
	2008	2012	2017
Containers International	65.42	95.15	130.84
Containers Domestic	10.63	15.46	21.26
Total Container Traffic	76.05	110.62	152.10
Iron & steel	28.40	28.40	28.40
Coal	463.53	596.13	596.13
POL	169.16	169.16	169.16
TOTAL Non Container Traffic	661.08	793.68	793.68

4.1 VARIATIONS IN PROJECT REVENUE

The main changes in traffic revenue on account of the factors mentioned above are discussed below:

- **Container Haulage Charge:** The Ministry of Railway, Government of India has increased the haulage charges for container freight with effect from 1/11/04 for the new distance specific table of telescopic rates. The Rates Advice No.10 of October 2004 of Northern Railway has been used for calculation of container haulage charges. Due to this policy level change the revenue estimate for container traffic has gone up.

Container revenue projections

	Rs/TEU/Km	Container Revenue Projection Rs.Mn (Double Line)			
		2008	2010	2012	2017
Previous Estimate (RITES Ltd)	6.70	62.0	--	90.2	124.0
Revised Estimate (FVL)	7.07	--	65.42	95.15	130.84

- **Freight charges for Empty Containers:** The Rates Advice No. 10 of October 2004 of Northern Railway has been used to compute the revenue from haulage charges on empty containers, which works out to Rs. 7290 per TEU or Rs. 4.59 per TEU/km. RITES in their earlier report had used Rs. 5.75 per TEU/km, but as per the Rates Advice No. 10 for charges applicable from onwards, it stipulates a rate of Rs. 7290 per TEU for a haulage distance of 1500-1600 km.

Empty container revenue projections

	Rs. Per TEU/Km	Empty Container Revenue Projection Rs.Mn (Double Line)			
		2008	2010	2012	2017
Previous Estimate (RITES Ltd)	5.75	13.3	--	19.3	26.6
Revised Estimate (FVL)	4.59	--	10.63	15.46	21.26

4.2 CONSOLIDATED REVENUE PROJECTION

The revised Revenue projections for the new scenario are as indicated as follows. The Revenue projections for single line are:

Revenue (in Rs. Million)

Revised Revenue Projections (Single Line) With Limited Diverted Traffic			
Year	Freight	Coaching	Total
2010-11	318	34	352
2012-13	419	34	453
2017-18	381	34	415

Revenue (in Rs. Million)

Revised Revenue Projections (Single Line) Without EOP			
Year	Freight	Coaching	Total
2010-11	550	34	584
2012-13	505	34	540
2017-18	418	34	452

The Revenue projections for double line are:

Revenue (in Rs. Million)

Revised Revenue Projections (Double Line)			
Year	Freight	Coaching	Total
2010-11	737	34	771
2012-13	904	41	945
2017-18	946	57	1003

There has been a reduction in the total revenues expected to be generated from the project over its operations period on account of reduction in number of trains planned to be run on the basis of discussion with RVNL on line capacity and on account of the increase in terminal charges for non container traffic which has been deducted from the gross earnings before apportionment of the net earnings to the project section. Reduction in tariff escalation rate to 3% to be made more realistic from the earlier 3.5% in the RITES report has also contributed to lesser increase in the real freight earnings over the project period. The details of revenue projections for the single and double line scenarios are presented in Annexure 3.

5.0 PROJECT O&M COST

RITES had estimated O&M cost as per their internal model. Feedback has made revised estimates of the project O&M cost as per the best practices for SPV model originally formulated for KRCL and subsequently used and refined for other projects on SPV mode like HMRDC and PRCL. The main reasons for changes in O&M costs are:

- Change in the model for estimation of O&M cost
- Revision in the project start date to 2006-07 from the earlier estimate of 2004-05 and
- Revision in inflation rate to 3% from the earlier estimate of 3.5%

The main changes have been discussed in the following sections. RITES report had estimated O&M cost for double line scenario, while Feedback has considered both single line and double line scenarios for comparison.

5.1 VARIATIONS IN O&M COST

- Material Cost: Revised Material Cost has been calculated as per the latest rates and material requirements for both single and double line scenarios.

Material cost estimates

Material cost (RITES Report) Rs. Mn			Material cost (Single-Line: With Diverted Traffic) Rs. Mn			Material cost (Double Line) Rs. Mn		
2008	2012	2017	2010	2012	2017	2010	2012	2017
27.2	28.6	28.6	18.3	18.3	18.3	22.4	22.4	22.4

- Loco Hire Charges: While calculating loco hire charges the FVL analysis has used the Loco Hire Charges from the Railway Board latest circular dated 27/Oct/2004 as applicable to the non-government railway, which stipulates the charges from 1/Nov/2004, including interest and depreciation component. Hence the Loco Hire charges have been revised to Rs 958.38/engine/hour from Rs 731.25/engine/hour taken in the RITES report resulting in significant variation. The comparisons are done at 2004 price levels and appropriately escalated thereafter. The lesser cost in real term indicates fewer requirements of locos due to reduction in traffic on account of line capacity limitations for single line. The Rites report was for Double line scenario.

Loco hire charges

Loco hire charges (RITES Report) Rs. Mn			Revised Loco hire charges (Single Line With Diverted Traffic) Rs. Mn			Revised Loco hire charges (Double Line) Rs. Mn		
2008	2012	2017	2010	2012	2017	2010	2012	2017
19.3	24.5	30.0	18.3	23.1	25.3	18.3	23.1	25.3

- Wagon Hire Charges: FVL analysis has used the Wagon Hire Charges from the Railway Board circular dated 27/Oct/2004, which stipulates the charges effective from 1/Nov/2004, including interest and depreciation. Hence the Wagon Hire charges have been revised to Rs 424.00/wagon-day in use from Rs 143.00/wagon-day in use taken in the RITES report. The comparisons have been done at 2004 price levels. The rates for wagon hire charges have since substantially increased.

Wagon hire charges

Wagon hire charges (as per RITES Report) Rs. Mn			Revised Wagon hire charges (Single Line With Diverted Traffic) Rs. Mn			Revised Wagon hire charges (Double Line) Rs. Mn		
2008	2012	2017	2010	2012	2017	2010	2012	2017
16.7	20.5	20.5	24.7	19.9	12.2	35.9	43.9	43.9

- Traction Cost: These costs are linked to the traffic flow and the electricity rates prevailing and therefore they have undergone a change. The exact costs on account of electric traction as applicable for Northern Railway have now been factored in and have been revised to Rs 53.57/000 GTKM from the earlier value of Rs 16.30/000 GTKM.
- Documentation Costs: These have been taken to be nil in the new analysis for container traffic as the siding related documentation expenses are incurred by CONCOR and not by the SPV. Documentation charges for non container traffic have been considered as nil because all the other traffic is through traffic. The documentation charges for this through traffic will be a part of terminal charges and have not been considered separately.
- General & Central charges at the rate of 22.15% for Northern Railways have been applied separately.
- Coaching Expenses: The coaching expenses for passenger trains have been estimated to be the same as the earlier RITES report as Feedback has not

done an independent analysis of the Passenger traffic requirement for the section.

- Total Variable costs: Taking into consideration the change in the rates for the components of variable cost; the revised estimates are as follows. The comparisons have been done at 2004 price levels.

Variable cost estimates

Variable Costs (as per RITES Report) Rs. Mn.			Revised Variable Costs (Single Line With Diverted Traffic) Rs. Mn.			Revised Variable Costs (Double Line) Rs. Mn.		
2008	2012	2017	2010	2012	2017	2010	2012	2017
127.3	159.8	169.1	93.9	86.0	70.3	128.9	160.8	169.3

The reason for the variation in variable costs is the revision of rates for the component costs (Loco hire charges, Wagon hire charges, traction cost) making up this cost as mentioned above.

- Staff Costs: In the RITES Report total requirement of the staff has been worked out as follows:

Department	Staff Strength
Electrical	16
S&T	43
Operating & Commercial	68
Track	160
TOTAL	287

The staff costs by RITES was worked out keeping in view the group wise cost of salary as prevalent in Northern Railway as per the statistical statement of 2002-03 with a due provision of additional 20% to take care of the social cost to arrive at the staff cost for 2003-04 and eventually to apply an inflation of average 3.5%. For calculation of staff costs; the staff strength has been slightly modified to 218 and 281 for single and double line scenarios respectively based on our analysis. The department wise break up of staff strength is presented as an annexure. The costs however, have been estimated as per the Konkan Railway practice, which is the method, also adopted for other SPV projects like HMRDC and PRCL.

Staff cost estimates

Staff Cost (as per RITES Report) Rs. Mn.			Revised Staff Cost Rs. Mn. (Single line)			Revised Staff Cost Rs. Mn. (Double line)		
2008	2012	2010	2012	2017	2017	2010	2012	2017
38.2	38.2	38.2	26.16	26.16	26.16	33.72	33.72	33.72

It may be noted that there has been a slight reduction in the staff costs from the earlier report.

5.2 CONSOLIDATED O&M COST ESTIMATION

The overall O&M Costs as estimated by the previous and new analysis is given below.

Consolidated O&M cost estimates (At 2004 price levels)

	O&M Cost (as per RITES Report) Rs. Mn.			Revised O&M Cost (Single Line With Diverted Traffic) Rs. Mn.			Revised O&M Cost (Double Line) Rs. Mn.		
	2008	2012	2017	2010	2012	2017	2010	2012	2017
Staff Costs	38.2	38.2	38.2	26.1	26.1	26.1	33.7	33.7	33.7
Material Costs	27.2	27.2	28.6	18.3	18.3	18.3	22.4	22.4	22.4
Variable Expenses	127.3	159.8	169.1	93.9	86.0	70.3	128.9	160.8	169.3
Coaching Expenses	39.5	47.0	65.8	54.5	54.5	54.5	54.5	68.2	95.4
Total	232.20	272.20	301.70	192.8	184.9	169.2	239.5	285.1	320.8

There has been an overall increase in the Total O&M costs (for double line scenario) as can be seen from the table above. The comparison above has been done at 2004 price levels. The escalation for O&M has been taken at 3% per annum as against the 3.5% taken in the earlier RITES report for the future years.

6.0 FINANCIAL ANALYSIS

6.1 INTRODUCTION

The main inputs for the financial analysis include the capital and O&M costs and traffic projections for the project.

6.2 KEY INPUTS INTO FINANCIAL ANALYSIS

The main assumptions made in the analysis and variations from before are discussed below.

Debt Equity Ratio: The debt-equity ratio considered in the revised analysis keeping in mind the reduction in the landed project cost (as a result of four year construction term as against the earlier five year construction term) is 1.59:1 in case of a double line and 0.84:1 in case of a single line.

Inflation Rate: The inflation rate has been revised to 3% pa from 3.5% pa from the earlier analysis.

Interest Rate: The Interest Rate on cost of debt has been revised to 9% from 8% in the earlier analysis.

Debt Tenure & Repayment: A 18 year debt tenure has been considered and repayment of principal will commence after a one-year moratorium period from the first year of operations debt repayment structured in such a fashion that the repayment obligations are lesser in the first three years of repayment. This has been done to ensure a healthy minimum and average DSCR. RITES Ltd in the earlier analysis had considered a 15 year repayment after start of operations with no moratorium period. RITES had also indicated a rollover of loan every five years to take care of the cash flow issue but Feedback believes that a ballooning of repayment schedule is a better and more feasible option acceptable to lending institutions today. Moreover, in the absence of longer term debt not being available it shall always be possible to take the new debt and retire the old debt instead of rolling over the debt.

Syndication Fees & Upfront Fees to Lenders: Syndication fees at 1% of the debt sanctioned and Lenders upfront fee as 0.1% of the debt sanctioned has been considered.

Other Pre-Operative Charges: These include startup charges such as incorporation and establishment expenses of Special Purpose Vehicle, cost of Lenders Engineer during the construction period and cost of preparation of DPR (1% of the construction cost).

SPV Operating Costs: A provision has been made for the annual operating costs in terms of rentals, utilities, travel, transportation and administration costs.

Insurance Premium: An insurance premium of 0.7% of the total cost of construction has been considered as against 1.5% taken in the RITES analysis.

Preliminary Cash Balances: Provision of 1% of the project cost has been made for preliminary cash balances to ensure smooth cash flows in the initial period of the project.

Taxation: The main differences in the taxation parameters are as under and they reflect the changed taxation structure:

Taxation parameters

	RITES Analysis		FVL Analysis	
	Corporate Tax	MAT	Corporate Tax	MAT
Base Tax Rate (%)	35.00	7.65	30.00	7.50
Surcharge (%)	2.50	0.00	10.00	10.00
Education Cess (%)	0.00	0.00	2.00	2.00
Effective Rate (%)	35.88	7.65	33.66	8.42

As per the tax exemptions available under section 80-IA of the Income Tax Act, 1961, a ten-year tax holiday over a 20-year time frame has been considered. The above Tax Rates have been incorporated due to the changes in Income Tax Act based on the Union Budget of 2005-06.

6.3 FINANCIAL STRUCTURE

LANDED COSTS

In view of the fact that the project will have a revised date of commencement of construction from 2006-07 and will get completed in four years instead of five years, the landed project cost will be as follows.

Landed Project Cost (Rs Mn) (Single Line)

Investment Phasing	2006	2007	2008	2009	2010
					Sum
Construction Cost	837.4	2051.5	2154.1	969.3	6012.3
Insurance Premium	5.9	20.2	35.3	42.1	103.5
Loan Arranger Fee	0.0	6.5	18.5	7.7	32.6
Upfront Fee	0.0	0.6	1.9	0.8	3.3
Lenders Engr	1.2	1.3	1.3	1.4	5.2
DPR / FA	53.2				53.2
SPV Incorporation / Estb	12.0	5.9	6.0	6.2	30.0
Prelim Cash Balances	8.4	20.5	21.5	9.7	60.1
IDC	0.0	29.1	141.5	259.3	430.0
Total cost	917.9	2135.6	2380.2	1296.4	6730.2

The landed cost of the project is estimated to be Rs. 670.51 crores. The landed cost of the project has been computed from the base cost by phasing 15% of the construction in the first year, 35% in the second year, 35% in third year and remainder 15% in fourth year with 5% escalation every year.

The landed project cost in the case of a double line is as follows:

Landed Project Cost (Rs Mn) (Double Line)

Investment Phasing	2006	2007	2008	2009	2010
					Sum
Construction Cost	999.6	2449.0	2571.4	1157.1	7177.1
Insurance Premium	7.0	24.1	42.1	50.2	123.5
Loan Arranger Fee	0.0	9.7	23.3	10.5	43.6
Upfront Fee	0.0	1.0	2.3	1.1	4.4
Lenders Engr	1.2	1.3	1.3	1.4	5.2
DPR / FA	63.5				63.5
SPV Incorporation / Estb	12.0	5.9	6.0	6.2	30.0
Prelim Cash Balances	10.0	24.5	25.7	11.6	71.8
IDC	0.0	43.8	192.6	345.0	581.4
Total Cost	1093.2	2559.2	2864.9	1583.1	8100.4

As explained earlier in the report, an additional cost of Rs. 100 crore has been incorporated in the hard project cost for doubling purposes.

6.4 FINANCIAL MODEL RESULTS

The viability of the project has been assessed based on various parameters such as:

- ❑ Pre-tax Project IRR
- ❑ Post-tax Project IRR
- ❑ Equity IRR
- ❑ Minimum Debt Service Coverage Ratio (DSCR)

An important aspect of the financial feasibility of the project is the fact that its project cost is very high for a small stretch due to inherent factors including major bridge across Yamuna. The financial analysis indicates that the project on its own cannot sustain merely based on debt and equity in case of single line. Due to the critical need of the project to de-bottleneck the capacity and to provide faster mobility from Dadri & Tughlakabad ICD, Feedback has looked at maximum possible viability gap funding (20% of the project cost) to make the project viable. With Viability gap funding the key financial indicators are as follows:

Summary of Project Financials (Single Line)

Key Financial Indicators	Limited Diverted Traffic	With Diverted Traffic
Pretax IRR	3.08%	4.90%
Posttax IRR	2.76%	4.43%
Equity IRR		4.91%
Average DSCR	0.64	0.90
Minimum DSCR	0.48	0.59
Grant (Rs. Million)	1346.0	1346.0
Debt : Equity	1.54:1	1.54
Interest Rate	9.0%	9.0%

Project Details	Rs. Mn.
Landed Cost	6730.2
Debt Funding	3264.1
Equity Funding	2120.0
Grant	1346.0

Summary of Project Financials (Double Line)

Key Financial Indicators	
Pretax IRR	9.88%
Posttax IRR	9.04%
Equity IRR	13.24%
Average DSCR	1.51
Minimum DSCR	1.26
Grant (Rs. Million)	1620.1
Debt : Equity	2.06:1
Interest Rate	9.0%

Project Details	Rs. Mn.
Landed Cost	8100.4
Debt Funding	4360.3
Equity Funding	2120.0
Grant	1620.1

In the normal case, return on equity of 4.91% in the case of single line (with diverted traffic) shall be a difficult proposition for partnership with the private sector because both their cost of fund and expectation on return is higher.. The double line scenario with 13.24% Equity IRR is considered bankable somewhat even for PPP.

Moreover, the incremental cost for the double line scenario is only Rs 100 crores as the major cost components like bridge over river Yamuna and ROBs are already planned for double line even in the single line scenario. Also, the diverted traffic is in fact new traffic for the project rail link as the current section is already handling traffic beyond its capacity.

7.0 SENSITIVITY

The sensitivity of the key financial parameters of the project to changes in traffic, O&M costs, project cost and interest rates have been studied in order to assess the robustness of the project to risks. The sensitivity analysis indicates that the project has maximum sensitivity to either increase or decrease in the traffic level. The detailed sensitivity tables are attached in the annexure.

Single Line Scenario (with diverted traffic)

	P-IRR	E-IRR	M-DSCR	A-DSCR
Traffic/ Revenue				
+10.0%	5.50%	6.68%	0.72	1.07
0.0%	4.43%	4.91%	0.59	0.90
-10.0%	3.20%	3.00%	0.47	0.74
O & M Cost				
-10.0%	4.87%	5.64%	0.66	0.97
0.0%	4.43%	4.91%	0.59	0.90
+10.0%	3.89%	4.06%	0.53	0.83
Project Cost				
-10.0%	5.08%	6.03%	0.73	1.10
0.0%	4.43%	4.91%	0.59	0.90
+10.0%	3.76%	3.76%	0.50	0.77

Double Line Scenario

	P-IRR	E-IRR	M-DSCR	A-DSCR
Traffic/ Revenue				
+10.0%	10.20%	15.67%	1.38	1.73
0.0%	9.04%	13.24%	1.26	1.51
-10.0%	7.69%	10.55%	1.05	1.27
O & M Cost				
-10.0%	9.48%	14.15%	1.32	1.60
0.0%	9.04%	13.24%	1.26	1.51
+10.0%	8.58%	12.30%	1.19	1.42
Project Cost				
-10.0%	9.88%	14.60%	1.42	1.77
0.0%	9.04%	13.24%	1.26	1.51
+10.0%	8.23%	11.80%	1.08	1.31

8.0 PROJECT STRUCTURE AND SHAREHOLDING PATTERN

As in the earlier analysis, the project is recommended to be taken up in SPV mode.

FUNDING PATTERN

The funding pattern and landed project cost phasing is recommended as follows:

Funding Pattern (Single Line)

(in Rs. Million)

Financing Pattern	2006	2007	2008	2009	Total
Grant	387.9	958.1	0.0	0.0	1346.0
Debt	0.0	647.5	1850.2	766.4	3264.1
Equity	530.0	530.0	530.0	530.0	2120.0
Equity Disbursement	25.0%	25.0%	25.0%	25.0%	6730.2

Funding Pattern (Double Line)

(in Rs. Million)

Financing Pattern	2006	2007	2008	2009	Total
Grant	563.2	1056.9	0.0	0.0	1620.1
Debt	0.0	972.3	2334.9	1053.1	4360.3
Equity	530.0	530.0	530.0	530.0	2120.0
Equity Disbursement	25.0%	25.0%	25.0%	25.0%	8100.4

As seen above, grant from the Government of India Viability Gap Funding scheme has been taken for the analysis. The grant has been taken at 20% of the project cost.

SHAREHOLDING PATTERN

As all the three beneficiaries are Govt agencies, an equal equity shareholding pattern has been considered. The equity contribution has been kept at Rs.212 crore for both the double and single line scenario. However, in the case of doubling it will be advisable to increase the equity component. The equity participation of the partners will be as follows.

Shareholding Pattern

Partner	Shareholding Pattern %	Share in Rs. Mn.
MOR/Rail Vikas Nigam Ltd	33.33%	720
GNIDA	33.33%	700
CONCOR	33.33%	700
Total Equity		2120

BANKABILITY AND VIABILITY OF THE PROJECT

The project rail link will provide a direct and shorter route for movement of through traffic destined for locations beyond the Tughlakabad and Dadri ends of the existing rail network, which is operating beyond its capacity. It will also provide rail access for passenger traffic to NOIDA and Greater NOIDA. All the three investors and beneficiaries of the project are reputed Govt agencies and the rail link will support the economic development of the region and the northern hinterland.

For a double line scenario, the project financials arrived at with the proposed project funding & shareholding pattern, cost of debt funding, normal cost of equity for the government agencies vis-à-vis return on equity and structuring of debt repayments are also within acceptable ranges and hence it can be concluded that the project will be viable, more so because of its importance and relevance for all the stake holders.

ANNEXURE

ANNEXURE 1: SCENARIO SUMMARIES

Scenario Summary – Single Line (with diverted traffic)

Key Financial Indicators		
Pretax IRR	4.90%	
Posttax IRR	4.43%	
Equity IRR	4.91%	
Average DSCR	0.90	
Minimum DSCR	0.59	
Grant (Rs. Million)	1346.0	
Debt : Equity	1.54:1	
Interest Rate	9.0%	

Project Details	Rs. Mn.
Landed Cost	6730.2
Debt Funding	3264.1
Equity Funding	2120.0
Grant	1346.0

Equity partnership	%	Rs. Mn.
MOR/Rail Vikas Nigam Ltd	33%	707
GNIDA	33%	707
CONCOR	33%	707
Total		2120

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Scenario Summary –Double Line

Key Financial Indicators		
Pretax IRR	9.88%	
Posttax IRR	9.04%	
Equity IRR	13.24%	
Average DSCR	1.51	
Minimum DSCR	1.26	
Grant (Rs. Million)	1620.1	
Debt : Equity	2.06:1	
Interest Rate	9.0%	

Project Details	Rs. Mn.
Landed Cost	8100.4
Debt Funding	4360.3
Equity Funding	2120.0
Grant	1620.1

Equity Partnership	%	Rs. Mn.
MOR/Rail Vikas Nigam Ltd	33%	707
GNIDA	33%	707
CONCOR	33%	707
Total		2120

ANNEXURE 2: INVESTMENT PHASING AND FINANCING PATTERN

Investment Phasing And Financing Pattern: Single Line (both scenarios)

Investment Phasing	Construction Phase						Sum
	2004	2005	2006	2007	2008	2009	
Construction Cost			837.4	2051.5	2154.1	969.3	6012.3
Insurance Premium			5.9	20.2	35.3	42.1	103.5
Loan Arranger Fee			0.0	6.5	18.5	7.7	32.6
Upfront Fee			0.0	0.6	1.9	0.8	3.3
Lenders Engr			1.2	1.3	1.3	1.4	5.2
DPR / FA			53.2				53.2
SPV Incorporation / Estb			12.0	5.9	6.0	6.2	30.0
Prelim Cash Balances			8.4	20.5	21.5	9.7	60.1
IDC			0.0	29.1	141.5	259.3	430.0
Total cost			917.9	2135.6	2380.2	1296.4	6730.2

Financing Pattern							Total
Grant			387.9	958.1	0.0	0.0	1346.0
Debt	48.5%		0.0	647.5	1850.2	766.4	3264.1
Equity	31.5%	2120.0	530.0	530.0	530.0	530.0	2120.0
Equity Disbursement			25.0%	25.0%	25.0%	25.0%	6730.2

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Investment Phasing And Financing Pattern: Double Line

Investment Phasing	Construction Phase						Sum
	2004	2005	2006	2007	2008	2009	
Construction Cost			999.6	2449.0	2571.4	1157.1	7177.1
Insurance Premium			7.0	24.1	42.1	50.2	123.5
Loan Arranger Fee			0.0	9.7	23.3	10.5	43.6
Upfront Fee			0.0	1.0	2.3	1.1	4.4
Lenders Engr			1.2	1.3	1.3	1.4	5.2
DPR / FA			63.5				63.5
SPV Incorporation / Estb			12.0	5.9	6.0	6.2	30.0
Prelim Cash Balances			10.0	24.5	25.7	11.6	71.8
IDC			0.0	43.8	192.6	345.0	581.4
Total cost			1093.2	2559.2	2864.9	1583.1	8100.4

Financing Pattern							Total
Grant			563.2	1056.9	0.0	0.0	1620.1
Debt	53.3%		0.0	972.3	2334.9	1053.1	4360.3
Equity	26.2%	2120.0	530.0	530.0	530.0	530.0	2120.0
Equity Disbursement			25.0%	25.0%	25.0%	25.0%	8100.4

ANNEXURE 3: TRAFFIC AND REVENUE ESTIMATES

Traffic and Revenue: Single Line (with diverted traffic)

Commodity	Origin	Destination	Type of Movement	Classification	Distance in KM			Rate (Unit: Haulage Rate per TEU for Containers and Rate Per tonne for Non-Container)	Traffic Vol in million tons*		
					Project Section	Extg. Section	Total		2010	2012	2017
CONTAINERS*											
	DADRI	JNPT	Train load	Intl Cont	36	1550	1586	11216.00	256.96	373.76	513.92
	DADRI	JNPT	Empty	Dom Cont	36	1550	1586	7290.00	64.24	93.44	128.48
IRON & ST											
	Bokaro	Ballabgarh		185	36	1177	1213	1189.60	0.85	0.85	0.85
COAL											
	GarhwaRoad	Panipat	Train load	140	36	1040	1076	886.8	2.55	1.27	
	GarhwaRoad	Bathinda	Train load	141	36	1245	1281	1040.80	2.21	2.21	
	GarhwaRoad	Badarpur	Train load	142	36	908	944	771.30	5.53	3.86	2.57
	GarhwaRoad	Bhiwani	Train load	143	36	1069	1105	905.90			
	GarhwaRoad	Hissar	Train load	144	36	1126	1162	944.40			
	GarhwaRoad	Narela	Train load	145	36	975	1011	829.10			
POL											
IOC/ONGC-MS/HSD	Mathura	Aligarh	Train load	250	36	207	243	408.00	2.437	2.437	2.437
IOC/ONGC-LPG	Panipat	Aonla	Train load	251	36	346	382	552.30	0.938	0.938	0.938
Passenger Trains											

Commodity	Origin	Destination	Type of Movement	Classification	Distance in KM			Rate (Unit: Haulage Rate per TEU for Containers and Rate Per tonne for Non-Container)	Traffic Vol in million tons*		
					Project Section	Extg. Section	Total		2010	2012	2017
TOTAL									14.50	11.56	6.79

Gross Earnings of 2007-8 in Rs. million			Gross Earnings of 2011-12 in Rs. million			Gross Earnings of 2016-17 in Rs. Million			Terminal Charges (in Rs. Million)			Gross Earnings in Rs. Million for the Project Section (2004 Prices)		
Project Section	Extg. Section	Total	Project Section	Extg. Section	Total	Project Section	Extg. Section	Total	2010	2012	2017	2010	2012	2017
65	2817	2882	95	4097	4192	131	5633	5764				65.42	95.15	130.84
11	458	468	15	666	681	21	915	937				10.63	15.46	21.26
30	978	1008	30	978	1008	30	978	1008	50.8	50.8	50.8	28.40	28.40	28.40
76	2181	2257	38	1091	1129	0	0	0	188.3	94.2	0.0	69.21	34.62	0.00
65	2236	2300	65	2236	2300	0	0	0	163.5	163.5	0.0	60.05	60.05	0.00
163	4099	4261	113	2860	2973	76	1907	1982	408.9	285.3	190.2	146.92	102.51	68.34
0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.00	0.00	0.00

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Gross Earnings of 2007-8 in Rs. million			Gross Earnings of 2011-12 in Rs. million			Gross Earnings of 2016-17 in Rs. Million			Terminal Charges (in Rs. Million)			Gross Earnings in Rs. Million for the Project Section (2004 Prices)		
Project Section	Extg. Section	Total	Project Section	Extg. Section	Total	Project Section	Extg. Section	Total	2010	2012	2017	2010	2012	2017
147	847	994	147	847	994	147	847	994	146.2	146.2	146.2	125.64	125.64	125.64
49	469	518	49	469	518	49	469	518	56.3	56.3	56.3	43.52	43.52	43.52
34			34			34						34.29	34.29	34.29
639	14084	14689	587	13243	13796	488	10749	11203	1014	796	444	584	540	452

Traffic and Revenue: Double Line

Commodity	Origin	Destination	Type of Movement	Classification	Distance in KM			Rate (Unit: Haulage Rate per TEU for Containers and Rate Per tonne for Non-Container)	Traffic Vol in million tons*		
					Project Section	Extg. Section	Total		2010	2012	2017
CONTAINERS*											
	DADRI	JNPT	Train load	Intl Cont	36	1550	1586	11216.00	256.96	373.76	513.92
	DADRI	JNPT	Empty	Dom Cont	36	1550	1586	7290.00	64.24	93.44	128.48
IRON & STEEL											
	Bokaro	Ballabgarh		185	36	1177	1213	1189.60	0.85	0.85	0.85
COAL											
	GarhwaRoad	Panipat	Train load	140	36	1040	1076	886.8	7.00	7.00	7.00
	GarhwaRoad	Bathinda	Train load	141	36	1245	1281	1040.80	2.21	2.21	2.21
	GarhwaRoad	Badarpur	Train load	142	36	908	944	771.30	5.53	5.53	5.53
	GarhwaRoad	Bhiwani	Train load	143	36	1069	1105	905.90	0.00	2.46	2.46
	GarhwaRoad	Hissar	Train load	144	36	1126	1162	944.40	2.46	2.46	2.46
	GarhwaRoad	Narela	Train load	145	36	975	1011	829.10	0.00	2.46	2.46
POL											
IOC/ONGC-MS/HSD	Mathura	Aligarh	Train load	250	36	207	243	408.00	2.437	2.437	2.437
IOC/ONGC-LPG	Panipat	Aonla	Train load	251	36	346	382	552.30	0.938	0.938	0.938
Passenger Trains											
TOTAL									21.41	26.32	26.32

Tughlakabad Dadri New Rail Line Project

Gross Earnings of 2007-8 in Rs. million			Gross Earnings of 2011-12 in Rs. million			Gross Earnings of 2016-17 in Rs. Million			Terminal Charges (in Rs. Million)			Gross Earnings in Rs. Million for the Project Section (2004 Prices)		
Project Section	Extg. Section	Total	Project Section	Extg. Section	Total	Project Section	Extg. Section	Total	2010	2012	2017	2010	2012	2017
65	2817	2882	95	4097	4192	131	5633	5764				65.42	95.15	130.84
11	458	468	15	666	681	21	915	937				10.63	15.46	21.26
30	978	1008	30	978	1008	30	978	1008	50.8	50.8	50.8	28.40	28.40	28.40
208	5999	6207	208	5999	6207	208	5999	6207	517.9	517.9	517.9	190.33	190.33	190.33
65	2236	2300	65	2236	2300	65	2236	2300	163.5	163.5	163.5	60.05	60.05	60.05
163	4099	4261	163	4099	4261	163	4099	4261	408.9	408.9	408.9	146.92	146.92	146.92
0	0	0	72	2152	2225	72	2152	2225	0.0	181.7	181.7	0.00	66.56	66.56
72	2248	2319	72	2248	2319	72	2248	2319	181.7	181.7	181.7	66.23	66.23	66.23
0	0	0	73	1964	2036	73	1964	2036	0.0	181.7	181.7	0.00	66.04	66.04
147	847	994	147	847	994	147	847	994	146.2	146.2	146.2	125.64	125.64	125.64
49	469	518	49	469	518	49	469	518	56.3	56.3	56.3	43.52	43.52	43.52
34			41			57						34.29	40.82	57.14
843	20149	20958	1029	25754	26742	1087	27540	28570	1525	1889	1889	771	945	1003

ANNEXURE 4: NUMBER OF TRAINS

Number of Trains: single and double lines

Single Line: Limited diverted traffic

Sr No.	Commodity	2008-09			2012-13			2017-18		
		Ld Trains	Epty Trains	Total	Ld Trains	Epty Trains	Total	Ld Trains	Epty Trains	Total
1	POL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Containers	10.6	0.0	10.6	15.4	0.0	15.4	21.1	0.0	21.1
3	COAL	6.3	6.3	12.6	8.2	8.2	16.4	5.9	5.9	11.7
4	Iron & steel	1.1	1.1	2.2	1.1	1.1	2.2	1.1	1.1	2.2
5	Total	17.9	7.4	25.3	24.7	9.3	34.0	28.1	6.9	35.0
	Passenger	8.0	0.0	8.0	8.0	0.0	8.0	8.0	0.0	8.0
	Grand Total			33.3			42.0			43.0

Single Line: With diverted traffic

Sr No.	Commodity	2008-09			2012-13			2017-18		
		Ld Trains	Epty Trains	Total	Ld Trains	Epty Trains	Total	Ld Trains	Epty Trains	Total
1	POL	3.8	3.8	7.7	3.8	3.8	7.7	3.8	3.8	7.7
2	Containers	10.6	0.0	10.6	15.4	0.0	15.4	21.1	0.0	21.1
3	COAL	8.1	8.1	16.2	5.8	5.8	11.6	2.0	2.0	4.0
4	Iron & steel	1.1	1.1	2.2	1.1	1.1	2.2	1.1	1.1	2.2
5	Total	23.6	13.0	36.6	26.1	10.7	36.7	28.1	6.9	35.0
	Passenger	8.0	0.0	8.0	8.0	0.0	8.0	8.0	0.0	8.0
	Grand Total			44.6			44.7			43.0

Double Line

Sr No.	Commodity	2008-09			2012-13			2017-18		
		Ld Trains	Epty Trains	Total	Ld Trains	Epty Trains	Total	Ld Trains	Epty Trains	Total
1	POL	3.8	3.8	7.7	3.8	3.8	7.7	3.8	3.8	7.7
2	Containers	10.6	0.0	10.6	15.4	0.0	15.4	21.1	0.0	21.1

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3	COAL	13.5	13.5	27.1	17.4	17.4	34.8	17.4	17.4	34.8
4	Iron & steel	1.1	1.1	2.2	1.1	1.1	2.2	1.1	1.1	2.2
5	Total	29.0	18.4	47.5	37.7	22.3	60.0	43.4	22.3	65.7
	Passenger	8.0	0.0	8.0	10.0	0.0	10.0	14.0	0.0	14.0
	Grand Total			55.5			70.0			79.7

ANNEXURE 5: MATERIAL COST ESTIMATES

Material cost: Single line

FIXED COST (EXCLUDING COST OF STAFF) FOR DADRI - Tughlakabad								Single line
(As per SE Railway details)								
Sr. No.	Description of Items	Account Head	Expenditure		UNITS		Expenditure	As per SER estimate
			SER BG 2003-04	Description	Value on KGP Divn	Value on 3rd-Line	per Unit Col.3/Col.5	7 x 6
1		2	3	4	5	6	7	8
A	P.WAY & WORKS:							
1	Maintenance of P.Way & Works	B-200	76195530	ETKMs	2667.54	50	28563.97	1428198
2	Girder Bridges	B-310	10887066	Length of Bridges	9290.31	786.3	1171.87	921444
3	Other Bridges, ROB/RUBs	B-320.340	3471128	Length of Bridges	4805.02	245.29	722.40	177197
5	Water supply	B-510	8668180	No. of Stations	114	7	76036.67	532257
6	Sanitation	B-520	3771542	No. of Stations	114	7	33083.70	231586
7	Station Machinery other than Water supply	B-620	0	No. of Stations	114	7	0.00	0
8	Other adjustments	B-656	2000000	ETKMs	2667.54	50	749.75	37488
9	Other Miscellaneous expenses	B-657	414088	ETKMs	2667.54	50	155.23	7762
10	Miscl. Expenses	B-651	253215	ETKMs	2667.54	50	94.92	4746
14	Credits for material release from revenue works	B-910	0	ETKMs	2667.54	50	0.00	0
15	Plant & Equip. including furniture and office Equip.	E-210	326228	No. of Stations	114	7	2861.65	20032
16	Service Motor cars	E-231	4355267	No. of Stations	114	7	38204.10	267429
17	Other unclassified Equip.	E-233	23606	No. of Stations	114	7	207.07	1449
18	Other Miscl. Repairs	E-234 to 237	25000	ETKMs	2667.54	50	9.37	469
19	Track Equipments	E-221	2381330	ETKMs	2667.54	50	892.71	44635
20	Other Equipments	E-222	45538	ETKMs	2667.54	50	17.07	854
21	Maintenance of office building	B-410	16369362	No. of Stations	114	7	143590.89	1005136
22	Maintenance of stations & Gds. Sheds	B-420	16429415	No. of Stations	114	7	144117.68	1008824
23	Service roads & others(Miscl.) stations & Gds. Sheds	B-531	8991132	No. of Stations	114	7	78869.58	552087

FEEDBACK VENTURES

Making Infrastructure Happen

Tughlakabad Dadri New Rail Line Project

24	Fancings & level crossings	B-532	7488282	No. of Stations	114	7	65686.68	459807
25	All other structures	B-440	2790137	No. of Stations	114	7	24474.89	171324
27	Trees, Plantations, Nurseries etc.	B-643	1061902	No. of Stations	114	7	9314.93	65205
	Total		165947948					6937927
	Supervision charges @ 13.94%							967147
	Grand Total							7905074
B SIGNAL AND TELECOMMUNICATION:								
1	Contingent Expenses (S&T)	E-130	177386	No. of Stations	114	7	1556.02	10892
2	Maintenance of Signals	E-521	11824368	Signalling units	160,888	16100	73.49	1183260
3	Maintenance of Signals	E-522	19985	Signalling units	160,888	16100	0.12	2000
4	Maintenance of Signals	E-531	3087534	Signalling units	160,888	16100	19.19	308968
5	Maintenance of Signals	E-532	2931	Signalling units	160,888	16100	0.02	293
6	Signalling Tools & Plants Repair	E-541	697584	Signalling units	160,888	16100	4.34	69807
9	Workshop repairs S&T Apparatus	E-546	609312	Signalling units	160,888	16100	3.79	60974
10	Over & Under charges manufacture repairs and on cost-Signalling apparatus	E-547	0	Signalling units	160,888	16100	0.00	0
11	Over & Under charges manufacture repairs and on cost-Signalling apparatus	E-548	0	Signalling units	160,888	16100	0.00	0
12	Over & Under charges manufacture repairs and on cost-Signalling apparatus	E-551	26063	Signalling units	160,888	16100	0.16	2608
14	Telecommunication Microwave & wireless etc.	E-611	4650586	Telecom units	102261	14000	45.48	636687
16	Telecommunication Microwave & wireless etc.	E-614	45170	Telecom units	102261	14000	0.44	6184
17	Railway Telephone Exchange	E-621	9914439	Telecom units	102261	14000	96.95	1357332
19	Line Communication System	E-631	2000000	Telecom units	102261	14000	19.56	273809
22	Other Expenses Plant & Equipment Telecom	E-641	662275	Telecom units	102261	14000	6.48	90668
25	Circuits of Signalling systems & line wire	E-710	0	Signalling units	102261	16100	0.00	0
26	Circuits of Signalling systems & line wire	E-720	3133475	Signalling units	102261	16100	30.64	493335
27	Administrative telephone channel	E-730	2711491	Telecom units	102261	14000	26.52	371216
28	VFT Channels	E-740	200000	Telecom units	102261	14000	1.96	27381
29	Credits for material release from revenue works (S&T works)	E-942	0	Signalling units	160,888	16100	0.00	0
	Total		39762599				329.13	4895414
	Supervision charges @ 17.48 %							855718

	Grand Total								5751133
C	ELECTRICAL GENERAL:								
1	Contigent Expenses Electrical	E-160	132762	No. of Stations	114	7	1165	8152	
2	Power supply equip. for Gen. Services	E-431	589929	No. of Stations	114	7	5175	36224	
3	Power supply equip. for Gen. Services	E-432	96466	No. of Stations	114	7	846	5923	
4	Power supply equip. for Gen. Services	E-433	593517	No. of Stations	114	7	5206	36444	
5	Other plant & Equip. Elec. Gen. Services	E-481	3212580	No. of Stations	114	7	28181	197264	
6	Other plant & Equip. Elec. Gen. Services	E-482	3560310	No. of Stations	114	7	31231	218616	
7	Other plant & Equip. Elec. Gen. Services	E-483	28408	No. of Stations	114	7	249	1744	
8	Other plant & Equip. Elec. Gen. Services	E-484	626591	No. of Stations	114	7	5496	38475	
9	Other plant & Equip. Elec. Gen. Services	E-485	7304	No. of Stations	114	7	64	448	
10	Other plant & Equip. Elec. Gen. Services	E-486	0	No. of Stations	114	7	0	0	
11	Other plant & Equip. Elec. Gen. Services	E-487	168809	No. of Stations	114	7	1481	10365	
12	Misc. Expenses	E-493	2300000	No. of Stations	114	7	20175	141228	
15	Material - Wire etc.	F-630	700000	No. of Stations	114	7	6140	42982	
16	Supply of power to Service buildings	F-651	259574589	As per actuals	114	7	60000	420000	
	Total		271591265					1157866	
	Supervision charges @24.132%							279416	
	Grand Total							1437282	
D	OPERATING COMMERCIAL:								
1	Traffic & Movement Inspectors	G-210	68172	No. of Stations	114	7	598	4186	
2	Sanitary stores	G-291	14422	No. of Stations	114	7	127	886	
3	Sanitary stores	G-293	19126	No. of Stations	114	7	168	1174	
4	Sanitary stores	G-294	435426	No. of Stations	114	7	3820	26737	
5	Clothing	G-295	4530322	No. of Stations	114	7	39740	278178	
6	Fire, light and Gen. Stores	G-297	7114106	No. of Stations	114	7	62404	436831	
7	contingency Expenses	G-298	602649	No. of Stations	114	7	5286	37005	
8	Commercial offices(included in item 1)	G-122	3500	No. of Stations	114	7	31	215	
9	Commercial contingency(included in item 1)	G-123	73877	No. of Stations	114	7	648	4536	
10	Shed and yard staff	F-230	573053	No. of Stations	114	7	5027	35187	

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11	Train passing and control staff	G-250	667456	No. of Stations	114	7	5855	40984
12	Other staff incl. Joint staff	G-260	50000	No. of Stations	114	7	439	3070
13	Goods Yards Operations	G-320	400000	No. of Stations	114	7	3509	24561
14	Commen yards operations	G-330	18000	No. of Stations	114	7	158	1105
15	goods terminal yards	G-370	0	No. of Stations	114	7	0	0
16	Other staff & Misc. Expenses	G-560	2350000	No. of Stations	114	7	20614	144298
17		G-610	69500	No. of Stations	114	7	610	4268
20	Misc. Charges	G-761	225000	No. of Stations	114	7	1974	13816
	Total		17214609					1057037
	Supervision Charges @1.056%							11162
	Grand Total							1068200
E	ELECTRIC DISTRIBUTION							
	at the rate of Rs35000 per Traction KM							1750000
	Supervision Charges @24.132%							422310
	Grand Total							2172310
	TOTAL FIXED COST:		494516421					
	GROSS TOTAL							18333999

Material cost: Double line

FIXED COST (EXCLUDING COST OF STAFF) FOR DADRI - Tughlakabad								Double line
(As per SERailway details)								
Sr. No.	Description of Items	Account Head	Expenditure		UNITS		Expenditure per Unit	As per SER estimate
			SER BG	Description	Value on KGP Divn	Value on 3rd Line		
1		2	3	4	5	6	7	8
A	P.WAY & WORKS:							

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1	Maintenance of P.Way & Works	B-200	76195530	ETKMs	2667.54	86	28563.97	2456501
2	Girder Bridges	B-310	10887066	Length of Bridges	9290.31	1572.6	1171.87	1842888
3	Other Bridges, ROB/RUBs	B-320.340	3471128	Length of Bridges	4805.02	490.58	722.40	354393
5	Water supply	B-510	8668180	No. of Stations	114	7	76036.67	532257
6	Sanitation	B-520	3771542	No. of Stations	114	7	33083.70	231586
7	Station Machinery other than Water supply	B-620	0	No. of Stations	114	7	0.00	0
8	Other adjustments	B-656	2000000	ETKMs	2667.54	86	749.75	64479
9	Other Miscellaneous expenses	B-657	414088	ETKMs	2667.54	86	155.23	13350
10	Miscl. Expenses	B-651	253215	ETKMs	2667.54	86	94.92	8164
14	Credits for material release from revenue works	B-910	0	ETKMs	2667.54	86	0.00	0
15	Plant & Equip. including furniture and office Equip.	E-210	326228	No. of Stations	114	7	2861.65	20032
16	Service Motor cars	E-231	4355267	No. of Stations	114	7	38204.10	267429
17	Other unclassified Equip.	E-233	23606	No. of Stations	114	7	207.07	1449
18	Other Miscl. Repairs	E-234 to 237	25000	ETKMs	2667.54	86	9.37	806
19	Track Equipments	E-221	2381330	ETKMs	2667.54	86	892.71	76773
20	Other Equipments	E-222	45538	ETKMs	2667.54	86	17.07	1468
21	Maintenance of office building	B-410	16369362	No. of Stations	114	7	143590.89	1005136
22	Maintenance of stations & Gds. Sheds	B-420	16429415	No. of Stations	114	7	144117.68	1008824
23	Service roads & others(Miscl.) stations & Gds. Sheds	B-531	8991132	No. of Stations	114	7	78869.58	552087
24	Fancings & level crossings	B-532	7488282	No. of Stations	114	7	65686.68	459807
25	All other structures	B-440	2790137	No. of Stations	114	7	24474.89	171324
27	Trees, Plantations, Nurseries etc.	B-643	1061902	No. of Stations	114	7	9314.93	65205
	Total		165947948					9133956
	Supervision charges @ 13.94%							1273274
	Grand Total							10407230
B SIGNAL AND TELECOMMUNICATION:								
1	Contingent Expenses (S&T)	E-130	177386	No. of Stations	114	7	1556.02	10892
2	Maintenance of Signals	E-521	11824368	Signalling units	160,888	16100	73.49	1183260
3	Maintenance of Signals	E-522	19985	Signalling units	160,888	16100	0.12	2000
4	Maintenance of Signals	E-531	3087534	Signalling units	160,888	16100	19.19	308968

5	Maintenance of Signals	E-532	2931	Signalling units	160,888	16100	0.02	293
6	Signalling Tools & Plants Repair	E-541	697584	Signalling units	160,888	16100	4.34	69807
9	Workshop repairs S&T Apparatus	E-546	609312	Signalling units	160,888	16100	3.79	60974
10	Over & Under charges manufacture repairs and on cost-Signalling apparatus	E-547	0	Signalling units	160,888	16100	0.00	0
11	Over & Under charges manufacture repairs and on cost-Signalling apparatus	E-548	0	Signalling units	160,888	16100	0.00	0
12	Over & Under charges manufacture repairs and on cost-Signalling apparatus	E-551	26063	Signalling units	160,888	16100	0.16	2608
14	Telecommunication Microwave & wireless etc.	E-611	4650586	Telecom units	102261	14000	45.48	636687
16	Telecommunication Microwave & wireless etc.	E-614	45170	Telecom units	102261	14000	0.44	6184
17	Railway Telephone Exchange	E-621	9914439	Telecom units	102261	14000	96.95	1357332
19	Line Communication System	E-631	2000000	Telecom units	102261	14000	19.56	273809
22	Other Expenses Plant & Equipment Telecom	E-641	662275	Telecom units	102261	14000	6.48	90668
25	Circuits of Signalling systems & line wire	E-710	0	Signalling units	102261	16100	0.00	0
26	Circuits of Signalling systems & line wire	E-720	3133475	Signalling units	102261	16100	30.64	493335
27	Administrative telephone channel	E-730	2711491	Telecom units	102261	14000	26.52	371216
28	VFT Channels	E-740	200000	Telecom units	102261	14000	1.96	27381
29	Credits for material release from revenue works (S&T works)	E-942	0	Signalling units	160,888	16100	0.00	0
	Total		39762599				329.13	4895414
	Supervision charges @17.48 %							855718
	Grand Total							5751133
C	ELECTRICAL GENERAL:							
1	Contigent Expenses Electrical	E-160	132762	No. of Stations	114	7	1165	8152
2	Power supply equip. for Gen. Services	E-431	589929	No. of Stations	114	7	5175	36224
3	Power supply equip. for Gen. Services	E-432	96466	No. of Stations	114	7	846	5923
4	Power supply equip. for Gen. Services	E-433	593517	No. of Stations	114	7	5206	36444
5	Other plant & Equip. Elec. Gen. Services	E-481	3212580	No. of Stations	114	7	28181	197264
6	Other plant & Equip. Elec. Gen. Services	E-482	3560310	No. of Stations	114	7	31231	218616
7	Other plant & Equip. Elec. Gen. Services	E-483	28408	No. of Stations	114	7	249	1744
8	Other plant & Equip. Elec. Gen. Services	E-484	626591	No. of Stations	114	7	5496	38475
9	Other plant & Equip. Elec. Gen. Services	E-485	7304	No. of Stations	114	7	64	448
10	Other plant & Equip. Elec. Gen. Services	E-486	0	No. of Stations	114	7	0	0

11	Other plant & Equip. Elec. Gen. Services	E-487	168809	No. of Stations	114	7	1481	10365
12	Misc. Expenses	E-493	2300000	No. of Stations	114	7	20175	141228
15	Material - Wire etc.	F-630	700000	No. of Stations	114	7	6140	42982
16	Supply of power to Service buildings	F-651	259574589	As per actuals	114	7	60000	420000
	Total		271591265					1157866
	Supervision charges @24.132%							279416
	Grand Total							1437282
D OPERATING COMMERCIAL:								
1	Traffic & Movement Inspectors	G-210	68172	No. of Stations	114	7	598	4186
2	Sanitary stores	G-291	14422	No. of Stations	114	7	127	886
3	Sanitary stores	G-293	19126	No. of Stations	114	7	168	1174
4	Sanitary stores	G-294	435426	No. of Stations	114	7	3820	26737
5	Clothing	G-295	4530322	No. of Stations	114	7	39740	278178
6	Fire, light and Gen. Stores	G-297	7114106	No. of Stations	114	7	62404	436831
7	contingency Expenses	G-298	602649	No. of Stations	114	7	5286	37005
8	Commercial offices(included in item 1)	G-122	3500	No. of Stations	114	7	31	215
9	Commercial contingency(included in item 1)	G-123	73877	No. of Stations	114	7	648	4536
10	Shed and yard staff	F-230	573053	No. of Stations	114	7	5027	35187
11	Train passing and control staff	G-250	667456	No. of Stations	114	7	5855	40984
12	Other staff incl. Joint staff	G-260	50000	No. of Stations	114	7	439	3070
13	Goods Yards Operations	G-320	400000	No. of Stations	114	7	3509	24561
14	Commen yards operations	G-330	18000	No. of Stations	114	7	158	1105
15	goods terminal yards	G-370	0	No. of Stations	114	7	0	0
16	Other staff & Misc. Expenses	G-560	2350000	No. of Stations	114	7	20614	144298
17		G-610	69500	No. of Stations	114	7	610	4268
20	Misc. Charges	G-761	225000	No. of Stations	114	7	1974	13816
	Total		17214609					1057037
	Supervision Charges @1.056%							11162
	Grand Total							1068200
E ELECTRIC DISTRIBUTION								

ANNEXURE 6: VARIABLE COST ESTIMATES

Variable cost: Single line: Limited diverted traffic

Sr. No.	Description of Services	Ref.	Unit cost (Rs.)	No of units.			Cost		
				2008-9	2012-13	2017-18	2008-9	2012-13	2017-18
1	Wagon hire charges per FW wgn days	Rly Bu r.o.	424	46496	59288	43741	19714462	25138128	18546253
2	Wagon Repair cost ASS-191	ASS page 191	45	46496	59288	43741	2092337	2667961.7	1968352
3	Loco Hire Charges per hrs	Rly Bd . No,	958.38	13845	18590	19170	13268437	17816182	18372353
4	Traction cost per 1000GTKM	ASS Page 210 for SFC.	17.6	889922	1188131	1153229	15637375	20877390	20264108
5	Lub oil cost per 100 engine Kms page	ASS page 254 for SFC	182.5	33234	46246	01	606500	814377	839799
6	Crew Cost 1000GTKM	ASS page 299&104	20	889922	1188131	1153229	17798439	23762618	23064581
7	Documentation cost per invoice		46.92	0	0	0	0	0	0
8	Claim compensation per 1000NTKM	ASS page 95, 252	4	323715.504	412639.6	304562.1	1294862	1650558.6	1218248.2
	Total Variable cost for Freight Trains						70412411	92727215	84273696

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Variable cost: Single line: With diverted traffic

Sr. No.	Description of Services	Ref.	Unit cost (Rs.)	No of units.			Cost		
				2008-9	2012-13	2017-18	2008-9	2012-13	2017-18
1	Wagon hire charges per FW wgn days	Rly Bd no.	424	58267	47030	28819	24705292	19940886	12219375
2	Wagon Repair cost ASS 191	ASS page191	45	58267	47030	28819	2622024	2116367.6	1296868
3	Loco Hire Charges per hrs	Rly Bd . No,	958.38	14684	14751	14050	14072781	14137295	13464883
4	Traction cost per 1000GTKM	ASS Page 210 for SFC.	17.6	1316212	1257036	1104087	23127978	22088162	19400604
5	Lub oil cost per 100 engine Kms page	ASS page 254for SFC	182.5	4806	4828	4598	877181	881202.28	839290
6	Crew Cost 1000GTKM	ASS page 299&104	20	1316212	1257036	1104087	26324234	25140716	22081742
7	Documentation cost per invoice		46.92	0	0	0	0	0	0
8	Claim compensation per 1000NTKM	ASS page 95, 252	4	538001.9075	431481.2	258846.7	2152008	1725924.9	1035387
Total Variable cost for Freight Trains							93881498	86030554	70338148

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Variable cost: Double line

Sr. No.	Description of Services	Ref.	Unit cost (Rs.)	No of units.			Cost		
				2008-9	2012-13	2017-18	2008-9	2012-13	2017-18
1	Wagon hire charges per FW wgn days	Rly Bd no.	424	84660	103421	103421	35895653	43850364	43850364
2	Wagon Repair cost ASS 191	ASS page191	45	84660	103421	103421	3809680	4653930.1	4653930
3	Loco Hire Charges per hrs	Rly Bd . No,	958.38	19052	24085	26397	18259360	23082395	25298783
4	Traction cost per 1000GTKM	ASS Page 210 for SFC.	17.6	1773701	2234514	2397240	31166815	39264049	42123405
5	Lub oil cost per 100 engine Kms page	ASS page 254for SFC	182.5	6235	7882	8639	1138138	1438766	1576917
6	Crew Cost 1000GTKM	ASS page 299&104	20	1773701	2234514	2397240	35474027	44690289	47944804
7	Documentation cost per invoice		46.920	0	0		0	0	0
8	Claim compensation per 1000NTKM	ASS page 95, 252	4788191.5627	966039.8	966039.8		3152766	3864159.4	3864159
Total Variable cost for Freight Trains							128896439	160843952	169312363

ANNEXURE 7: PROFIT AND LOSS ACCOUNTS

Profit & Loss Account: Single line – with diverted traffic

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenue							697	704	684	674	664	654	645	664	684
O&M Costs							266.9	274.9	271.0	279.2	287.5	296.2	305.1	277.7	286.1
Operating Revenue							430	429	413	395	376	358	340	386	398
Other Costs							47	46	45	44	42	41	40	39	38
Depreciation							200	200	200	200	200	200	200	200	200
Interest							294	291	282	269	254	235	210	184	157
PBT							-111	-108	-114	-118	-120	-118	-111	-36	3
Tax							0	0	0	0	0	0	0	0	0
PAT							-111	-108	-114	-118	-120	-118	-111	-36	3
Capital Cost			837	2,052	2,154	969									
Debt			0	648	1850	766									
IDC			0	29	142	259									
Repayment			0	0	0	0	0	65	131	163	163	261	294	294	294

Tughlakabad Dadri New Rail Line Project

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Equity			530	530	530	530									
Project Cashflows - Pretax			(836)	(2,072)	(2,274)	(1,219)	383	383	368	351	334	317	300	348	360
IRR		4.9%													
Project Cashflows - Post tax			(836)	(2,072)	(2,274)	(1,219)	383	383	368	351	334	317	300	348	360
IRR		4.4%													
Equity Cashflows			-530	-530	-530	-530	89	27	-45	-81	-83	-179	-204	-130	-91
IRR		4.9%													

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenue	705	726	748	770	793	817	841	867	893	919	947	975
O&M Costs	294.6	303.5312	.6	322.033	1.6	341.6	351.8	362.43	73.2	384.4	396.0	407.8
Operating Revenue	410	422	435	448	461	475	490	504	519	535	551	568
Other Costs	37	35	34	33	32	31	30	29	28	27	25	24
Depreciation	200	200	200	200	200	200	200	200	200	200	200	200
Interest	130.73	102.82	73	44	15	0	0	0	0	0	0	0
PBT	43	84	127	171	215	244	260	275	292	308	325	343
Tax	4	7	11	14	18	21	22	23	25	26	27	29

Tughlakabad Dadri New Rail Line Project

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PAT	39	77	116	156	196	224	238	252	267	282	298	314
Capital Cost												
Debt												
IDC												
Repayment	294	326	326	326	326	0	0	0				
Equity												
Project Cashflows - Pretax	373	387	401	415	429	444	460	476	492	508	526	543
IRR												
Project Cashflows - Post tax	370	380	390	401	411	424	438	452	467	482	498	514
IRR												
Equity Cashflows	-55	-49	-10	30	70	424	438	452	467	482	498	514
IRR												

Year	2031	2032	2033	2034	2035	2036	2037	2038	2039
Revenue	1005	1035	1066	1098	1131	1200	1273	1350	1432
O&M Costs	420.1	432.7	445.7	459.0	472.8	487.0	501.6	516.6	532.1

Tughlakabad Dadri New Rail Line Project



Year	2031	2032	2033	2034	2035	2036	2037	2038	2039
Operating Revenue	585	602	620	639	658	713	771	834	900
Other Costs	23	22	21	20	19	18	17	16	15
Depreciation	200	200	200	200	200	224	224	224	224
Interest	0	0	0	0	0	0	0	0	0
PBT	361	380	399	418	438	470	530	593	661
Tax	30	32	61	192	200	219	241	263	0
PAT	331	348	338	226	238	251	289	330	661
Capital Cost									
Debt									
IDC									
Repayment	0	0	0	0	0	0	0	0	0
Equity									
Project Cashflows - Pretax	561	580	599	619	639	694	754	817	885

Tughlakabad Dadri New Rail Line Project

Year	2031	2032	2033	2034	2035	2036	2037	2038	2039
IRR									
Project Cashflows - Post tax	531	548	538	426	438	475	513	554	885
IRR									
Equity Cashflows	531	548	538	426	438	475	513	554	885
IRR									

Profit & Loss Account: Double line

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenue							921	998	1197	1252	1308	1368	1430	1473	1517
O&M Costs							335.0	345.0	422.1	434.7	447.8	461.2	475.0	543.5	559.9
Operating Surplus							586	653	775	817	861	907	955	929	957
Other Costs							55	54	52	51	49	48	46	45	43
Depreciation							239	239	239	239	239	239	239	239	239
Interest							429	384	362	327	287	441	499	465	368
PBT							-137	-23	122	200	291	179	170	180	307
Tax							0	0	11	18	8	6	13	19	30

Tughlakabad Dadri New Rail Line Project

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
PAT							-137	-23	111	182	283	173	157	161	276
Capital Cost			1,000	2,449	2,571	1,157									
Debt			572	2091	2412	1090									
IDC			7	93	269	382									
Repayment			0	0	0	0	0	123	247	308	308	493	555	555	555
Equity			530	530	530	530									
Project Cashflows - Pretax			(1,004)	(2,518)	(2,814)	(1,526)	521	600	723	766	811	859	909	884	914
IRR		9.7%													
Project Cashflows - Post tax			(1,004)	(2,518)	(2,814)	(1,526)	531	600	712	748	803	853	895	865	883
IRR		8.9%													
Equity Cashflows			-530	-530	-530	-530	102	92	104	113	214	-82	-159	-155	-39
IRR		11.2%													

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenue	1563	1609	1658	1707	1759	1811	1866	1922	1979	2039	2100	2163
O&M Costs	576.6	593.9	611.8	630.1	649.0	668.5	688.5	709.2	730.5	752.4	775.0	798.2
Operating	986	1015	1046	1077	1110	1143	1177	1212	1249	1286	1325	1365

Tughlakabad Dadri New Rail Line Project

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Surplus												
Other Costs	42	41	39	38	36	35	34	32	31	30	28	27
Depreciation	239	239	239	239	239	239	239	239	239	239	239	239
Interest	266.14	156.67	43	-69	-191	-281	-329	0	0	0	0	0
PBT	439	579	725	869	1026	1150	1233	941	979	1018	1058	1099
Tax	42	54	66	79	92	101	102	79	82	86	326	747
PAT	397	525	659	790	934	1049	1131	862	897	932	732	352
Capital Cost												
Debt												
IDC												
Repayment	555	617	617	617	617	0	0	0				
Equity												
Project Cashflows - Pretax	944	975	1,007	1,040	1,073	1,108	1,144	1,180	1,218	1,257	1,297	1,338
IRR												

Tughlakabad Dadri New Rail Line Project

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Project Cashflows - Post tax	902	921	941	961	982	1,007	1,041	1,101	1,136	1,171	971	591
IRR												
Equity Cashflows	81	148	282	413	556	1288	1370	1101	1136	1171	971	591
IRR												

Year	2031	2032	2033	2034	2035	2036	2037	2038	2039
Revenue	2228	2295	2363	2434	2507	2660	2822	2994	3176
O&M Costs	822.2	846.8	872.2	898.4	925.3	953.1	981.7	1011.2	1041.5
Operating Surplus	1406	1448	1491	1536	1582	1707	1840	1983	2135
Other Costs	26	24	23	22	20	19	18	17	15
Depreciation	239	239	239	239	239	272	272	272	272
Interest	0	0	0	0	0	0	0	0	0
PBT	1141	1185	1229	1275	1323	1415	1550	1694	1847
Tax	438	455	473	490	508	530	571	614	0
PAT	703	729	756	785	814	885	979	1080	1847

ANNEXURE 8: SENSITIVITY SCENARIOS

Sensitivities: Single line – with diverted traffic

Interest Rate Sensitivity

	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR
7.0%	4.43%	4.91%	0.59	0.90
7.5%	4.43%	4.91%	0.59	0.90
8.0%	4.43%	4.91%	0.59	0.90
8.5%	4.43%	4.91%	0.59	0.90
9.0%	4.43%	4.91%	0.59	0.90
9.5%	4.43%	4.91%	0.59	0.90
10.0%	4.43%	4.91%	0.59	0.90
10.5%	4.43%	4.91%	0.59	0.90

Traffic Sensitivity

	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR
50.0%	9.07%	13.36%	1.20	1.70
40.0%	8.30%	11.81%	1.08	1.55
30.0%	7.41%	10.10%	0.97	1.39
20.0%	6.48%	8.41%	0.85	1.23
10.0%	5.50%	6.68%	0.72	1.07
0.0%	4.43%	4.91%	0.59	0.90
-10.0%	3.20%	3.00%	0.47	0.74
-20.0%	1.94%		0.34	0.57
-30.0%			0.21	0.39
-40.0%			0.08	0.22
-50.0%			-0.04	0.05

O&M Costs Sensitivity

	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR
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Tughlakabad Dadri New Rail Line Project



-50.0%	6.54%	8.52%	0.89	1.25
-40.0%	6.17%	7.86%	0.84	1.18
-30.0%	5.72%	7.08%	0.78	1.11
-20.0%	5.26%	6.30%	0.72	1.04
-10.0%	4.87%	5.64%	0.66	0.97
0.0%	4.43%	4.91%	0.59	0.90
10.0%	3.89%	4.06%	0.53	0.83
20.0%	3.42%	3.33%	0.47	0.76
30.0%	2.90%		0.41	0.69
40.0%	2.39%		0.35	0.62
50.0%	1.85%		0.29	0.55

Project Cost Sensitivity

	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR
-50.0%	9.81%	11.41%	2.79	4.46
-40.0%	8.20%	10.38%	1.86	2.85
-30.0%	6.95%	8.88%	1.26	1.89
-20.0%	5.97%	7.46%	0.93	1.39
-10.0%	5.08%	6.03%	0.73	1.10
0.0%	4.43%	4.91%	0.59	0.90
10.0%	3.76%	3.76%	0.50	0.77
20.0%	3.24%		0.43	0.66
30.0%	2.77%		0.38	0.58
40.0%	2.38%		0.34	0.52
50.0%	1.99%		0.30	0.47

Grant Sensitivity

Grant as % of Project Cost	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR	Grant (in Rs. Crore)
20.0%	4.43%	4.91%	0.59	0.90	134.6
15.0%	4.30%	3.99%	0.53	0.80	102.3
10.0%	4.26%	3.24%	0.47	0.72	69.1
5.0%	4.21%	#NUM!	0.43	0.65	35.0
0.0%	4.12%	#NUM!	0.39	0.59	0.0

Sensitivities: Double line

Interest Rate Sensitivity

	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR
7.0%	8.69%	12.30%	0.78	1.81
7.5%	8.97%	12.28%	0.81	1.97
8.0%	9.21%	12.68%	0.89	2.19
8.5%	9.04%	12.61%	0.92	2.39
9.0%	9.15%	12.81%	0.90	2.08
9.5%	9.07%	12.78%	0.93	1.73
10.0%	9.08%	12.72%	0.94	1.54
10.5%	9.05%	12.62%	0.97	1.44

Traffic Sensitivity

	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR
50.0%	15.39%	26.36%	2.10	2.50
40.0%	13.03%	21.35%	1.71	2.09
30.0%	12.05%	19.27%	1.57	1.94
20.0%	11.02%	17.13%	1.44	1.82

Tughlakabad Dadri New Rail Line Project

10.0%	9.90%	14.87%	1.30	1.68
0.0%	8.68%	12.49%	1.15	1.51
-10.0%	7.39%	10.05%	1.05	1.26
-20.0%	5.86%	7.30%	0.84	1.01
-30.0%	4.02%	4.13%	0.63	0.77
-40.0%	1.81%		0.41	0.53
-50.0%			0.18	0.28

O&M Costs Sensitivity

	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR
-50.0%	11.59%	18.40%	1.60	1.97
-40.0%	10.57%	16.45%	1.39	1.81
-30.0%	10.18%	15.64%	1.34	1.73
-20.0%	9.76%	14.77%	1.32	1.66
-10.0%	9.32%	13.88%	1.26	1.58
0.0%	8.93%	13.06%	1.25	1.50
10.0%	8.47%	12.13%	1.19	1.42
20.0%	8.00%	11.18%	1.12	1.33
30.0%	7.49%	10.20%	1.04	1.25
40.0%	6.95%	9.18%	0.97	1.16
50.0%	6.40%	8.17%	0.90	1.07

Project Cost Sensitivity

	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR
-50.0%	15.78%	13.64%	1.29	1.54
-40.0%	13.29%	15.60%	1.39	2.54
-30.0%	12.10%	14.96%	1.32	2.11
-20.0%	11.27%	15.22%	1.33	2.05
-10.0%	10.23%	15.14%	1.37	1.93
0.0%	9.09%	14.66%	1.25	1.77
10.0%	8.36%	14.27%	1.21	1.62

Tughlakabad Dadri New Rail Line Project

20.0%	7.54%	13.52%	1.11	1.50
30.0%	6.94%	12.79%	1.06	1.38
40.0%	6.35%	11.96%	1.02	1.27
50.0%	5.80%	11.09%	0.97	1.18

Grant Sensitivity

Grant as % of Project Cost	Post-Tax IRR	Equity IRR	M-DSCR	A-DSCR	Grant (in Rs. Crore)
20.0%	8.69%	12.42%	0.83	1.76	163.4
15.0%	8.96%	12.38%	0.84	1.88	120.5
10.0%	9.18%	12.73%	0.92	2.04	80.7
5.0%	9.03%	12.30%	0.92	1.93	40.6
0.0%	9.11%	12.13%	0.88	1.64	0.0

ANNEXURE 9: STAFF STRENGTH ESTIMATES

Deptt	Category	Single line				Double line			
		WP	RG	LR	Total	WP	RG	LR	Total
ENGG.	AEN	1	0	0	1	1	0	0	1
	SSE	1	0	0	1	1	0	0	1
	Office Asst	1	0	0	1	1	0	0	1
	JE P.Way	1	0	0	1	3	0	0	3
	SSE/Bridge	1	0	0	1	1	0	0	1
	SE/MMU	1	0	0	1	1	0	0	1
	SE/Works	1	0	0	1	1	0	0	1
	Gangman	28	0	3	31	54	0	6	60
	Gangmate	4	0	1	5	8	0	1	9
	Keyman	8	2	0	10	15	0	2	17
	Multiskilled staff from MMU	6	0	1	7	6	0	1	7
	Multiskilled staff works	4	0	1	5	4	0	1	5
	Bridge Fitter	6	0	1	7	6	0	1	7
	Peon/Khalasi	2	0	0	2	3	0	0	3
	Veh. Driver	1	0	0	1	1	0	0	1
	Watch Man	3	0	0	3	3	0	0	3
	Helper/Khalasi	4	0	0	4	4	0	0	4
	Total	70	2	5	82	80	1	7	95
TRD/OHE	SSE	1	0	0	1	1	0	0	1
	JE	2	0	0	2	2	0	0	2
	Artisan Staff	6	1	1	8	14	3	1	18
	Veh. Driver	1	0	0	1	1	0	0	1
	Helper/Khalasi	6	0	1	7	6	0	1	7
	Office Asst	0	0	0	0	1	0	0	1
	Peon	1	0	0	1	1	0	0	1

Deptt	Category	Single line				Double line			
		WP	RG	LR	Total	WP	RG	LR	Total
	Watch Man	1	0	0	1	1	0	0	1
	Total	1	0	0	1	1	0	0	1
ELEC/G	SE	1	0	0	1	1	0	0	1
	Artisan Staff	3	0	1	4	4	0	1	5
	Helper/Khalasi	3	0	1	4	4	0	1	5
	Peon	1	0	0	1	1	0	0	1
	Watch Man	1	0	0	1	1	0	0	1
	Total	9	0	1	11	6	1	2	18
S&T	SSE/SIG	1	0	0	1	1	0	0	1
	JE/SIG	1	0	0	1	1	0	0	1
	SE/TELE	1	0	0	1	1	0	0	1
	ESM	6	1	1	8	8	2	1	11
	TCM	3	0	1	4	3	1	0	4
	Helper/SIG	6	1	1	8	8	2	0	10
	Helper/TELE	3	0	0	3	4	1	0	5
	Peon	1	0	0	1	1	0	0	1
	Watch Man	1	0	0	1	1	0	0	1
	Total	23	2	3	28	16	3	3	37
OPTG. (C' ROSTER)	SM	7	1	1	9	7	2	1	10
	ASM	15	3	2	20	15	3	2	20
	POINTS MAN	21	4	3	28	21	4	3	28
	TRAINS CLERK	4	1	1	6	4	0	1	5
	TI	1	0	0	1	1	0	0	1
	PEON	2	0	0	2	2	0	0	2
	Total	50	9	7	66	50	9	7	66
COMML.	Comm. Clerk	6	1	1	8	6	1	1	8
	CMI	1	0	0	1	1	0	0	1

Tughiakabad Dadri New Rail Line Project



Deptt	Category	Single line				Double line			
		WP	RG	LR	Total	WP	RG	LR	Total
	PEON	1	0	0	1	1	0	0	1
	TOTAL								
	G-TOTAL	181	15	22	218	237	19	25	281

FAX No. 011-23388868 ✓

Zhuys

①

SP-no. 75

WESTERN RAILWAY

Headquarters office,
Churchgate,
Mumbai- 400020
November 9, 2006

T.5977/18

Director Transport Planning
Railway Board,
NEW DELHI.

- Sub: Identification of Feeder routes for running of trains on Dedicated Freight Corridor with 25 tonne axle load.
- Ref: (i). Your letter No. 2006/PL/16/7 dt. 4.04.2006.
(ii). Minutes of meeting held in the chamber of Adviser/Traffic Railway Board on 29.06.2006 with COM-CCG.
(iii). Telecon on 06.11.2006.

1. Feeder Routes were identified by Railway Board for Dedicated Freight Corridor and Double Stack Container movement for 25 tonne axle load trains, which were first circulated to Railways in March 2006.

These were later modified vide ref. (i) above and are as under over the Western Railway:

1. Pipavav-Surendranagar-Virangam- Mahesana (395 kms)
2. Kandla Port- Gandhidham-Palanpur (312 kms)
3. Mundra Port- Gandhidham (66kms)
4. Virangam- Samakhiali (132 kms)
5. Hazira- Surat (40 kms)

2. Following routes are required to be included in the list of Feeder Routes:-

- a) Sanand to Sabarmati/ Khodiyar

Container traffic between JNPT and Sabarmati/ Khodiyar will be routed through DFC upto Sanand station from where it will be routed over Virangam- Sabarmati section to Sabarmati/ Khodiyar.

NTAL

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b) Mahesana to Palanpur

Traffic from Pipavav Port to North India moves via Surendranagar-Viramgam- Mahesana- Palanpur. In the absence of inter connectivity at Mahesana to DFC vide ref. (ii) above, Mahesana-Palanpur section will have to be also included as a Feeder Route. Alternatively, inter connectivity at Mahesana to DFC may be provided.

- 3 At present Surat- Hazira rail connectivity is not available. RVNL is trying to sort out matters with M/S KRIBHCO. Gothangam is the nearest point where inter connectivity with DFC has been planned on the West side of Gothangam. RVNL is being advised to provide a direct link from this inter connectivity point to Hazira Port.


CTPM-CCG

CI- Adviser Traffic, Railway Board, New Delhi.
CI - Adviser Infrastructure, Railway Board, New Delhi.
CI- CBE, W.R., CCG

WESTERN RAILWAY C.No. 72

Headquarters office,
Churchgate,
Mumbai - 400 020.

(16)
NO.T.5977/18

October 31, 2006

Director (TPT) Planning,
Railway Board,
New Delhi

Sub:- Identification of Feeder routes for Dedicated Freight Corridor.

Ref:- This office letter No. T.597/7/18 dated 26.9.2006.

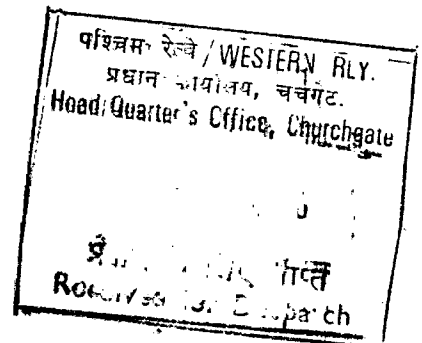
Vide the above referred letter, the Board was requested to include two routes viz. Navlakhi - Wankaner and Maliya Miyana.

As no advise has been received from your end so far. It is still not clear that whether these routes have been included in the Feeder routes for Dedicated Freight Corridor.

for CTPM

Copy to:

1. Adviser Traffic, Railway Board, New Delhi.
2. Adviser (Infrastructure), Railway Board, New Delhi.
3. MD-RITES, RITES, Railway Board, New Delhi House,
27, Barakhamba Road, Cannought Palace, New Delhi.



Leave
on file
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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt.II

New Delhi, dated 26th October, 2006

*General Manager,
Northern Railway,
New Delhi.*

Sub: Identification of feeder routes for moving Double Stack Container Trains on Western Corridor and Coal Wagons for 25 tonne axle load on Eastern Corridor.

In continuation of the Board's letter of even number dated 4th April 2006, Board (ME, MT, CRB) had decided the following:

1. Suratgarh-Biradhwai (18 km) should be developed as feeder route to Eastern Corridor of Dedicated Freight Corridor (DFC).
2. Grade Separator at Dhuri may be taken up separately as a Traffic Facility work.
3. Electrification of Rajpura-Bhatinda-Suratgarh should be based purely on financial justification only.


(Mukul Saran Mathur)
Director/Transport Planning
Tel:011-23388858

Copy to:

1. COM, North Western Railway, Jaipur – *In reference to letter No.T5/Plg/424/DFC dated 13.09.2006. Rohtak-Bhiwani has not been included as feeder route as coal traffic from Eastern region will have to bye-pass Delhi area in future.*
2. CTPM, Western Railway, Mumbai. – *In reference to letter No.T597/7/18 dated 26.09.2006. Coal to Navalakhi will continue to move on the existing network. Western feeder routes are being upgraded for movement of container traffic.*
3. AMCE, Railway Board.
4. AM(Works), Railway Board.
5. ED(Planning), Railway Board.
6. Managing Director, RITES Ltd., Gurgaon.

TKD-Dadri New Line Project

- Ref: i. Railway Board's letter no. 2001/PROJ/NCR/12/8 dated 17.8.2004
ii. RVNL's letter no. 2004/TKD-DER/PP&D dated 17.10.2006
iii. Minutes of the Meeting held with RVNL on 8.3.2006
iv. Railway Board's letter no.2005/WI/Genl/RVNL/13 dated 26.5.2006

- RVNL was asked to examine the feasibility of implementation of new line between Dadri and TKD.
- The bankability study was accordingly conducted by RVNL involving stakeholders like NOIDA and Greater NOIDA, who have given commitment for equity participation.
- HUDCO and CONCOR have also expressed their interest for participation in the project although no commitments have been given.
- NOIDA and Greater NOIDA authorities in anticipation of this project have frozen the development plan along the proposed alignment.
- RVNL has completed FLS and steps for procurement of land was to be initiated by Railway.
- Since connectivity between these TKD and DER is being proposed along separate alignment of DFC, RVNL has been asked to return the project currently being handled.
- The alignment of DFC connecting TKD and DER is an independent one, which connects the Eastern and Western corridors of DFC.
- The Western corridor of DFC connects DER via Pirthal Road near Asaoti. One leg of the DFC alignment will run parallel to the existing TKD – MTJ alignment to provide connectivity to TKD.
- This arrangement helps in providing inter-corridor connectivity and transfer of freight trains between TKD to DER container terminals as well.
- While taking a comprehensive view over the construction of new alignment between TKD and DER, it is essential that all the

advantages and disadvantages along with their utilities are examined for both RVNL and DFC alignments carefully:

▫ RVNL alignment:

- The RVNL alignment takes into consideration both Passenger and Freight traffic, since it involves NOIDA and Greater NOIDA as stake holders.
- FLS of the alignment will determine the traffic it can carry i.e. the connectivity of the alignment in TKD yard will determine the inter-depot container traffic besides terminating traffic in TKD yard.
- Besides existing coal traffic for Badarpur and Faridabad can utilize this route.
- The alignment will have to be electrified thus restricting movement of double stacked container trains.
- The connectivity will not permit exclusive use by Freight traffic.
- Since the alignment will be partially carrying freight traffic brought up to DER on DFC, this route will have to be treated as Feeder Route and strengthened accordingly.
- This alignment necessarily means construction of a Passenger terminal/ Mega terminal in Greater NOIDA/NOIDA.
- The Passenger Terminal/Mega Terminal will help in providing easy connectivity to Eastern, Southern and Western parts of the country with the Twin mega cities NOIDA/Greater NOIDA and in turn with NCR.
- This terminal/Mega terminal can in turn be given connectivity using Mass Rapid Transport System (MRTS) like Metro etc. for inter-terminal transfer of passengers or bringing them further north to Delhi and vice versa. This will also help in reducing pressure on the roads.
- At a later stage, saturation of this alignment, which should be taking much faster with handling

passenger and freight traffic, the movement of freight traffic, will get affected adversely.

- Otherwise also, the movement of freight traffic on this stretch will always suffer due to passenger traffic. Thus commitment to trade and industry will always get affected always.
- DFC alignment:
 - DFC alignment will be exclusively utilized by the Freight traffic.
 - The proposed alignment will be longer thus adding to the overall transit time.
 - The commitment made to the trade and industry will be easily honoured.
 - Railways will have no option for addressing growth of passenger traffic in NCR particularly with growth of Greater NOIDA.
 - With available connectivity to both TKD and DER, formation of container trains will be much faster in both the directions.
- Both the alignments have advantages and disadvantages. The various alternatives may have to be considered for taking a comprehensive view on the issue.
 - Option I – When both the alignments are retained.
 - Option II – When the alignment studied by RVNL is only retained.
 - Option III – When the alignment as suggested in DFC proposal is only retained.
- **What is to be done?**
 - i. The FLS of RVNL needs to be studied with respect to the connectivity issue and traffic projection point of view.
 - ii. Combination of the both the alignments will help in compliment each other i.e. future of growth of both passenger and freight traffic can be addressed by combining both the option.

- iii. With NOIDA and Greater NOIDA's commitment for equity participation, the feasibility and viability of RVNL alignment improves further. This needs to be capitalized.
- iv. The freight traffic projection on both the alignments needs to be carefully studied for ensuring projection of same freight traffic has not been considered on both the alignments.
- v. Board (MT and FC) has already taken a view that RVNL alignment may be dropped. The view was taken with respect to the DFC. The Passenger traffic and its growth in NCR were not considered in the discussion. Therefore, a combined proposal will help in taking a comprehensive view.

* * * * *

HIND TERMINALS PVT. LTD.

Corp. Off. : 104, Technopolis Knowledge Park, Mahakali Caves Road, Chakala, Andheri (E), Mumbai - 400 093. (INDIA)

September 25, 2006

To

Adviser (Infrastructure)
Infrastructure Directorate
Railway Board
Rail Bhavan
New Delhi.**Sub: Connection of our proposed ICD near Palwal to the Dedicated Freight Corridor between Mumbai and Tughlakabad.**

Dear Sir,

We have been accorded 'In Principle Approval' by the Ministry of Railways vide their letter No. 2002/TT-III/15/39 dated 21.2.2006 (copy enclosed), for operation of container trains on the Indian Railways, in Category I. We are planning to develop an ICD with Rail Siding between Asauti and Palwal station, of Northern Railway, near level crossing Gate at KM 1485/6-8. The projected level of traffic from/to this depot will go up to about 10 trains per day in the next 10 years. Some more ICDs are also likely to come up in this area.

We understand that the Dedicated Freight Corridor of the Indian Railways between Mumbai and Delhi is likely to go to Tughlakabad from a location close to the proposed area of our ICD.

We propose to run Double Stack Container Trains also, on the above Freight Corridor. We are also in the process of finalizing a joint venture agreement with CONCOR for the proposed terminal.

We would, therefore, request that our proposed Rail Siding should be connected to the proposed Dedicated Rail Freight Corridor.

Thanking you,

Yours faithfully

For **Hind Terminals Pvt. Ltd.****Dharmendra Saxena**
(Authorized Signatory)*Correspondence Address*4B-4th Floor, Lotus Tower

New Friends Colony

New Delhi - 110 065

Tel: +91-11-66507777

Fax: +91-11-66507770

E-mail : dsaxena@hindterminals.com

Handwritten notes and signatures:

- Leave on file DTP
- File
- 9/25
- 9/25

fax
S/20

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)**

No. 2005/PL/6/7 Pt.II


New Delhi, dated 07.11.2006

*Shri Sanjiv Garg,
Executive Director (PP&D),
RVNL,
August Kranti Bhawan,
Bhikaji Kama Palace,
New Delhi
Fax: 26193112*

Sub: Implementation of Tughlakabad-Dadri – New Railway Line project

Ref: Your letter No.2004/TKD-DER/PP&D dated 17th October, 2006

You are requested to furnish the full details of Tughlakabad-Dadri New Railway Line project.


(Mukul Saran Mathur)
Director (Transport Planning)
Tel/Fax: 23388858

81N79

76

भारत सरकार (GOVERNMENT OF INDIA)
रेल मंत्रालय (MINISTRY OF RAILWAYS)
रेलवे बोर्ड (RAILWAY BOARD)

No. 2005/WI/Genl./RVNL/13

नई दिल्ली, दिनांक:- 26-05-2006
New Delhi, dated:-

The General Manager,
Northern Railway,
Baroda House, New Delhi

Managing Director,
Rail Vikas Nigam Ltd.,
Safdarjang Development Area,
New Delhi

Sub: Dropping of works from RVNL list of projects.

Board has decided to drop the work of Tughlakabad-Dabri-ICD new line project from the list of RVNL projects, as this work is part of dedicated freight corridor scheme. Since RVNL has already completed the final location survey of Tughlakabad-Dabri-ICD new line, RVNL should hand over the study report to the railways. Northern Railway may keep M/s RITES (who are executing final location survey of Dedicated Freight Corridors) informed of this Report of RVNL.

Necessary action may be taken accordingly.

OIC
14/05/2006
31/5/06

(Rajesh Agarwal) 26/5
Director/Works
011-2338 3833

Signature
Date of Issue

No.2006/PL/6/7-Pt.

PUC-1 & 2 are letters written by Exec. Director (PP&D)/RVNL asking for dropping the work of Bhadrak-Dhamra New line project and Tughlakabad-Dadri-ICD New Line Projects from the list of works to be executed by RVNL.

In this connection, it is brought out that a meeting was held with the officers of RVNL to review the progress of works of RVNL on 08.03.06. Minutes of the meeting can be seen at S.No.1

Para 9 & 15 of the Minutes of the Meeting refer to Bhadrak-Dhamra New line project and Tughlakabad-Dadri-ICD New Line Project. It was decided that both these works should be deleted from the list of RVNL works due to the following reasons:

1. Bhadrak-Dhamra Port – New Line Project: Bhadrak-Dhamra Port (approx. 60 km) is being executed by Dhamra Port Railway as a captive line. The Railway is to only finalize the siding agreement once the new line is in place. Since the execution of the work is not to be done by the Railway, it is logical to drop the work from the list of projects transferred to RVNL.
2. Tughlakabad-Dadri-ICD - New Line Project: Tughlakabad-Dadri-ICD connectivity is a part of the Dedicated Freight Corridors of JNPT-TKD and Sonenagar-Dadri-Ludhiana. The work of DFC has already been sanctioned. Therefore, it is logical to drop the work of Tughlakabad-Dadri-ICD - New Line Project from the list of RVNL projects. RVNL has already completed the FLS of Tughlakabad-Dadri-ICD - New Line and should handover the Study Report to the Railways.

May kindly approve.

[Signature]
 Director Planning
 05.04.2006

~~649/AMB~~
~~13/4~~

~~2/19/4~~

~~231~~
~~12/4~~

~~577~~
~~13/4/18~~

~~EDP~~

~~EDW~~

~~AMP~~

~~Adviser (Infrastructure)~~

~~AMG~~

~~MT~~

~~ME~~

~~EC~~

[Handwritten signature]

The two private port rly line, Bhadrak-Dhamra and Chhotapur-Jodalpur have already been taken out from RVNL.

TKD-Dadri line can also be taken out as it is proposed to be a part of DFC

[Handwritten signature]
12/4 AM (PLG)

[Handwritten signature]
H462
EDW

[Handwritten notes]
See next
29/4 MB
13/4 OMB

[Handwritten signature]
14/4/06

[Handwritten notes]
relation to DFC should cover their DFB.

1068
25/4

EDFB. who is the zonal officer from Finance for DFC
 may see, so that their internal files
 build-up about DFC, could take note of
 TKD - Dadar LED Connectivity ~~at Dadar~~
 and pursue the same by calling for copy of
 the FLS from RVNL for their examination
 at ^{the} appropriate time later.

Subject to this the proposal at NSP-2
 is approved.

P. G. S.
 29/4/06

EDF (Bridge & DFC)

Noted as desired by PC.

6/5
1/11

AAAF

P. G. S.

1/5/06

dhull
1/5/06

~~DP~~

DFC is a subject matter of
 DTP and EDPP. May kindly see.

EDP may kindly direct whether
 the letter for transfer of Dadar-TKD
 New line project should be issued
 from PP-Ste, Works Ste or
 from our file.

DTP

EDPP

EDP

may kindly see re making. Instructions
 to RVNL may be issued from this file 2/5/06.
 in consultation with EDPP & EDW.
2/5/06

Oh

3/5

3/5

SP067

NO.2006/PL/6/7

Sub: RVNL's Meeting held on 08.03.06 at 15:00 hrs regarding review of the progress of RVNL works

This is in reference to the above Meeting held with RVNL in Additional Member (Works)'s Chamber on 08.03.06 at 15:00 hrs for review of the progress of RVNL works. Please find enclosed a copy of the Minutes of the Meeting.

Director Planning
20.03.2006

Sub
3/4

EDP

EDW

Adv.(Traffic)

Adv.(Infrastructure)

AM(Works) 21/3

EDW
Copy to:

1. Managing Director, RVNL
2. Director (Projects), RVNL
3. Director (Operations), RVNL
4. Director (Finance), RVNL

w1/RVNL

DW/E

As per action to be taken

4/22/3

Spoken - DW/E should be active on item 4.

W/E
to up on job

DW 2

SO/RVNL for item 9

Minutes of the Meeting held with RVNL on 08.03.06

A Meeting was held in Additional Member (Works)'s Chamber with RVNL on 08.03.06 at 15:00 hrs. The following members were present in the meeting:

1. Mr.R. Sundararajan, Additional Member (Works)
2. Mr. Ashok Gupta, Adviser (Traffic)
3. Mr. Shri Prakash, Adviser (Infrastructure)
4. Mr. Ashok Kumar, Executive Director (Planning)
5. Mr. P.K. Sanghi, Executive Director (Works)
6. Mr. Niraj Kumar, Director Planning
7. Mr. Vishvesh Choubey, Director (Projects), RVNL
8. Mr. R.K. Jain, Director (Operations), RVNL
9. Mr. Harish Chandra, Director (Finance), RVNL

S. No.	Discussion	Action by
1.	<p>Adviser Traffic pointed out that important major Throughput Enhancement works have been given to RVNL for execution. Most of the works are remunerative and, therefore, all such works must be executed within a specific time frame.</p> <p>Adviser (Infrastructure) emphasized the need for RVNL to step up level of coordination with the General Managers of the Zonal Railways so as to meet the requirement of either side and work out the target date for completion of works in consultation with the Zonal Railways. It was brought out that the RVNL should lay down necessary milestones for each major activity of the project so that progress of each work can be monitored. RVNL should submit monthly progress of works with necessary milestones to ED(Works) & ED(Planning) and point out constraints, if any.</p>	<p>RVNL</p> <p>RVNL</p>
2.	<p>New Line Project – Daitari-Banspani</p> <p>Adviser (Traffic) pointed out that the Railway is losing 0.7 to 0.8 Million Tones Per Month of loading of iron ore due to waiting for completion of this project. The monthly report of</p>	<p>RVNL</p> <p>CAO(C)/ ECOR</p>

RVNL for December, 2005 indicates the target for this work as April, 2007. Director (Project), RVNL, however, confirmed that this work is likely to be completed by October 2006 only. During discussions, it transpired that it is difficult to adhere to this target due to (i) slow progress of work on the bridges; (ii) Rate of supply of ballast is not adequate and (iii) work on the cutting is slow. All the above works are being done by ECOR.

AM(Works) emphasized that the details of the progress of the work must be tied up with the Zonal Railway so that there are no slippages in execution of the work. RVNL should adhere to the target of October, 2006. RVNL

3. Panvel-Jasai-JNPT

The target for completion of the work is 31st March 2006. RVNL may not be able to adhere to the target in this project. RVNL

Director (Project) pointed out that the track linking and OHE will be completed by March, 2006, however, the signaling works can be completed only by May, 2006. Of the 7 encroachments, 5 have been removed. RVNL

4. Phulera-Ringus-Rewari

The target date for completion of this work is June, 2007.

Adviser (Traffic) pointed out that since there is already a Broad Gauge and a Metre Gauge line between Ajmer and Phulera, priority should be given for Gauge Conversion of Phulera-Ringus-Rewari. The track structure of the said line should be 60 kgs and the Maximum Moving Dimension (MMD) should be cleared for running the Double Stack Containers of 9.5 feet high. The work may be done in two phases, i.e. Ringus-Phulera-Rewari in Phase-I and RVNL, GM/NWR

JW2

Phulera-Ajmer in Phase II. Work of Yard Remodeling of Rewari has been sanctioned separately in Pink Book 2006-07. The work of RRI has also been sanctioned for Rewari. Remodeling work of RRI at Rewari has been entrusted to Northern Railway.

Director (Project) pointed out that the MMD for the section is being provided with 7.3 metres for vertical clearance as per the RDSO guidelines.

Adviser (Traffic) felt that it may permit running of only 8.5 feet high container and not 9.5 feet high containers. This may be verified and corrective action should be taken up accordingly. It appeared from discussion that no coordination has been done by RVNL either with Northern Railway or North Western Railway. Milestones for the project should be fixed in consultation with Railways and submitted to Board.

5. Bharuch-Samni-Dahej

Director (Operations)/RVNL pointed out that the project has just been included in the Budget. SPV for the project is yet to be formed. The major stakeholders are ONGC, Adani Ports, Birla Copper and other small companies. FLS has already been completed. The position with regard to the stakeholders is likely to be clear in the next 2 to 3 months. The target date of the project will be decided subsequently. The work is important from traffic point of view. Milestones are to be planned and submitted to Board.

6. Panskura- Haldia

The work of Panskura-Rajgoda has already been completed. However the Phase-II work of Rajgoda to

Durgachak is yet to be sanctioned.

Adviser (Traffic) suggested that since the work of 3rd line from Panskura to Kharagpur is also an identified unsanctioned work of RVNL, the 3rd line can be executed as a dedicated freight line on one side with bi-directional signaling and Panskura-Haldia line should get merged into the 3rd line. This will obviate for the need for the flyover and thereby, bring down the cost.

RVNL

ED(Planning) pointed out that the savings in detention can be worked out on account of cross movement and should be credited to the project. RVNL will get the ROR re-worked.

RVNL,
GM/SER

7. Talcher-Paradeep – Electrification

RVNL pointed out that this particular work is being done by CORE, Allahabad.

Adviser (Traffic) instructed EDRE to get the electrification of Talcher-Paradeep section to be completed without delay so that diesel movement can be avoided in an area where electric traction is all around the Talcher area.

ED(RE)

8. Angul-Sukinda Road – New Line

Director (Operation)/RVNL pointed out that this work has recently been transferred to RVNL. SPV is yet to be formed. Land acquisition is one of the critical areas for project execution. A portion of the land to be acquired is also a reserve forest area. Milestones should be fixed by the RVNL.

AM(Works) instructed that the Railway be asked to expedite forest/environmental clearance.

GM/ECOR

Bhadrak-Dhamra Port

Director (Operations)/RVNL brought out that this particular project is being executed by the Dhamra Port Railway as a captive line. The issue of operation of such a long siding of 60 km length needs to be reviewed. The financial closure of Dhamra Port is expected very shortly. TATA Steel is one of the important stakeholders in the project. Keeping in view the nature of the project, it should be dropped from the RVNL's list.

DTP,
ED(Works)

*SO/RVNL
to pt. put up proposed
+ 200*

10. Vallarpadam-Idapally – New Line

This is an important port connectivity work. The entire project is being funded by Ministry of Shipping. However, the operations and maintenance has to be done by the Railways. The FLS has already been completed. RVNL will start the work as soon as the land is handed over by the State Government. Milestones should be planned and advised to Board.

RVNL

11. Bilaspur-Urkura – 3rd line

RVNL informed that the work is being executed through ADB funding which may cause some delay.

Adviser (Traffic) pointed out that this is an important work and must be completed. The target date is 31st October 2008. This should be expedited. He also brought out that the 3rd line should be in the middle of the Up and Down Main line keeping in conformity with the 3rd line already been laid between Bilaspur-Bhatapara.

RVNL

12. Haridaspur-Paradeep

Director (Operations)/RVNL informed that the MOU has been signed for formation of the SPV and the shareholder

agreement has already been approved by the Ministry of Railway. The target for completion of this work is 31st March 2008 and the tender for major bridges over river Mahanadi has already been awarded.

It was pointed out that Haridaspur – Paradeep line should be laid for 30 Tonnes Axle Load Standard.

RVNL

Director (Operations)/RVNL brought out that the project is without electrification but the electrification work of Haridaspur-Paradeep can be included after the Board's approval.

EDRE

With Daitari-Banspani & Haridaspur-Paradeep New Lines being of 30 Tonnes Axle Load Standard, the existing track structure and bridges in the Daitari-Jakhapura-Haridaspur stretch will have to be strengthened to 30 Tonnes Axle Load to synchronize with commissioning of Haridaspur-Paradeep line.

EDCE(P),
GM/ECOR

13. Gooty-Renigunta – Patch Doubling

On Pullampet-Bakarapet Patch Doubling work is targeted for completion by December, 2006. The target for rest of the section is 31st March, 2009. The electrification of the work is also being done by RVNL.

14. Bhildi-Samdari – Gauge Conversion

The Board has cleared entrusting the work of Gauge Conversion of Bhildi-Samdari to Kutch Railway Company.

RVNL ✓

The target date for completion is December 2007. Earthwork and bridgework on Samdari-Bhilmal section has already been started by North Western Railway. The FLS for Bhilmal-Bhildi section has been completed.

Tughlakabad-Dadri-ICD – New Line

Adviser (Infrastructure) pointed out that since this work is part of the Dedicated Freight Corridor Scheme, it can be deleted from RVNL. RVNL

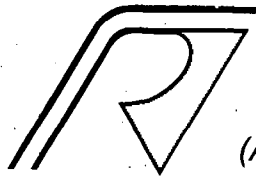
Director (Operations)/RVNL pointed out that RVNL has already completed FLS and the Railways should take steps to procure the land in Noida and Greater Noida identified for this purpose. GM/NR

16. Attipattu-Korukkupet – 3rd line

The target for completion of the 3rd line is 31st March 2006. However, OHE work is likely to be delayed. The link between Attipattu and Ennore is likely to be completed by March, 2007. EDRE

17. General:

1. RVNL should speed up execution of the above projects as they are important from traffic point of view. RVNL should fix up milestones for each major activity of the projects and monitor their achievement.
2. RVNL should furnish the milestones to the Board by 31.03.2006.
3. Coordination with Railways needs to be strengthened so as to tie up all loose ends well in advance to achieve the target.



J. no. 66

रेल विकास निगम लिमिटेड
Rail Vikas Nigam Limited
(A Government of India Enterprise)

No.2004/TKD-DER/PP&D

October 17, 2006

Shri S. Prakash
Advisor (Infrastructure)
Railway Board
Rail Bhawan, Room No. 101A
New Delhi

Subject : Implementation of Tughlakabad – Dadri New Railway Line project
Reference : Railway Board letter No.2001/PROJ/NCR/12/8 dated 17.08.2004

Adv (Infra)
PI putting
9/10/06
mo
25/10

RVNL has been examining the feasibility of implementation of new railway line from Tughlakabad to Dadri. A bankability study for this project has also been conducted and commitments obtained for equity participation from the authorities of NOIDA and Greater NOIDA, while HUDCO and CONCOR have expressed an interest for participation in the project SPV though no commitments have been obtained from them as yet. Authorities of NOIDA and Greater NOIDA have presently frozen their development plans along the proposed alignment for this new line in anticipation of implementation of this project.

However, Railway Board had directed RVNL to return this project to Railway Board in view of the proposed DFC to be taken up by a different SPV. It is learnt that the alignment of the DFC shall be different than the alignment of Tughlakabad-Dadri new railway line project. In view of the different alignment being considered for the DFC, Railway Board may like to consider implementation of Tughlakabad-Dadri new railway line project independently of the DFC. In case Railway Board would like RVNL to consider the feasibility and bankability of this project, RVNL may kindly be informed accordingly so that necessary action may be initiated by RVNL.

Sanjiv Garg
(Sanjiv Garg)
Executive Director (PP&D)

740-Adv (Infra)

J. no. 65

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(Railway Board)

No. 2005/PL/6/7 Pt. II

New Delhi, dated 26th October, 2006

General Manager,
Northern Railway,
New Delhi.

Sub: Identification of feeder routes for moving Double Stack Container Trains on Western Corridor and Coal Wagons for 25 tonne axle load on Eastern Corridor.

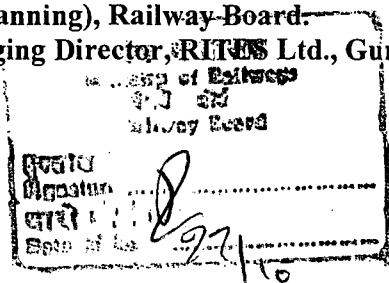
In continuation of the Board's letter of even number dated 4th April 2006, Board (ME, MT, CRB) had decided the following:

1. Suratgarh-Biradhwai (18 km) should be developed as feeder route to Eastern Corridor of Dedicated Freight Corridor (DFC).
2. Grade Separator at Dhuri may be taken up separately as a Traffic Facility work.
3. Electrification of Rajpura-Bhatinda-Suratgarh should be based purely on financial justification only.

(Mukul Saran Mathur)
Director/Transport Planning
Tel: 011-23388858

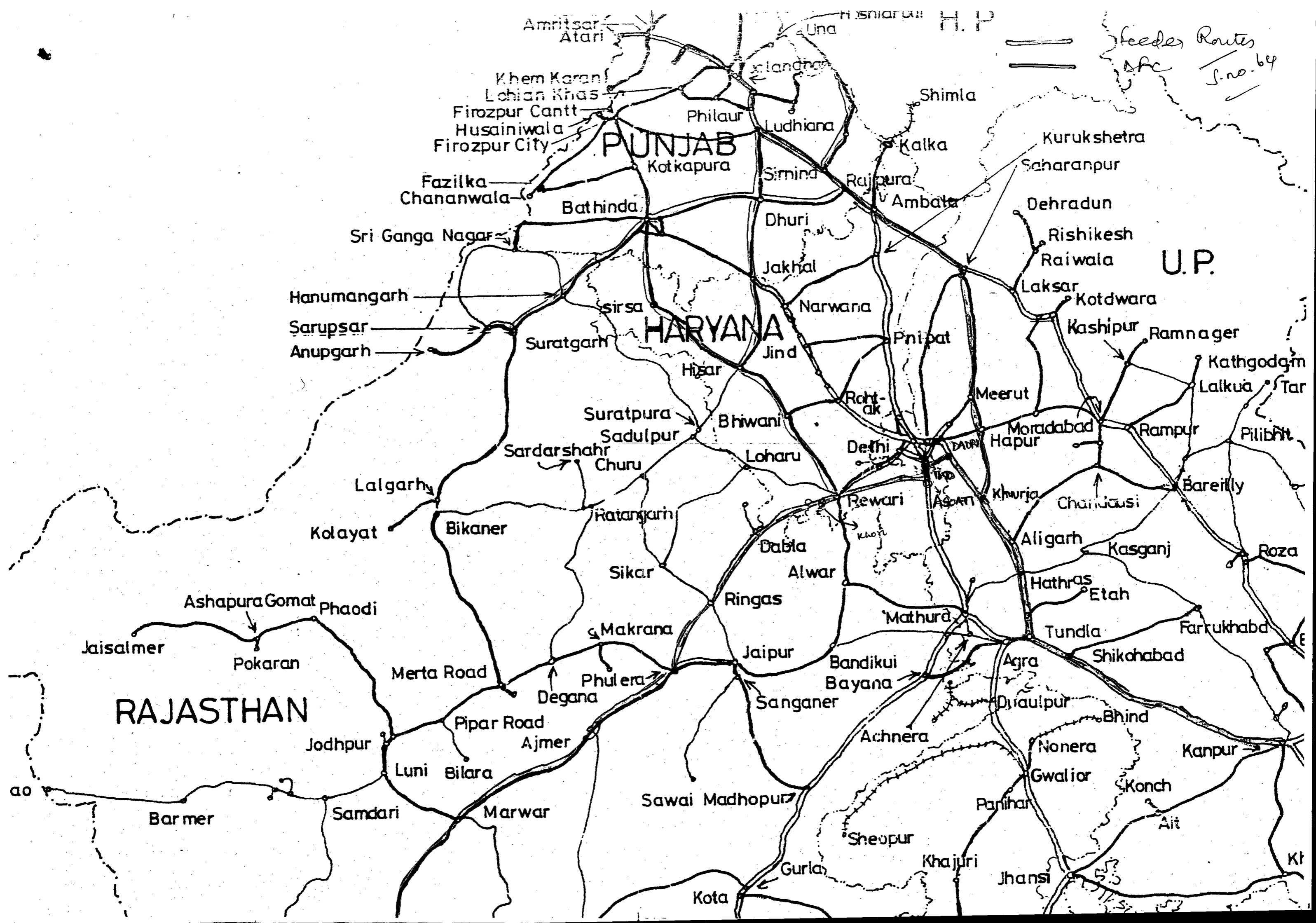
Copy to:

1. COM, North Western Railway, Jaipur – In reference to letter No.T5/Plg/424/DFC dated 13.09.2006. Rohtak-Bhiwani has not been included as feeder route as coal traffic from Eastern region will have to bye-pass Delhi area in future.
2. CTPM, Western Railway, Mumbai. – In reference to letter No.T597/7/18 dated 26.09.2006. Coal to Navalakhi will continue to move on the existing network. Western feeder routes are being upgraded for movement of container traffic.
3. AMCE, Railway Board.
4. AM(Works), Railway Board.
5. ED(Planning), Railway Board.
6. Managing Director, RITES Ltd., Gurgaon.



PR. issue fair

26/10/06



Amritsar Atari Una H. P. H. P.

Feeder Routes
R.F.C.
S.no. 64

Khem Karan
Lohian Khas
Firozpur Cantt
Husainiwala
Firozpur City

PUNJAB

Fazilka
Chananwala

Bathinda

Philaur
Ludhiana
Sirmour
Rajpura

Shimla

Kalka

Kurukshetra

Saharanpur

Dehradun

Rishikesh

Raiwala

U.P.

Laksar

Kotdwara

Kashipur

Ramnager

Kathgodam

Lalkua

Tar

Hanumangarh

Sarupsar

Anupgarh

Sirsa

Suratgarh

HARYANA

Narwana

Jind

Pinpat

Hisar

Suratpura

Sadulpur

Bhiwani

Rohat

Meerut

Moradabad

Rampur

Pilibhit

Sardarshahr

Churu

Loharu

Delhi

Hapur

Bareilly

Lalgarh

Kolayat

Bikaner

Ratangarh

Sikar

Dabra

Alwar

Aligarh

Kasganj

Roza

Ashapura Gomat
Phaodi

Jaisalmer

Pokaran

Merta Road

Degana

Phulera

Ringas

Jaipur

Bandikui

Bayana

Agra

Shikohabad

RAJASTHAN

Jodhpur

Pipar Road

Ajmer

Luni Bilara

Makrana

Sanganer

Mathura

Tundla

Farrukhabad

Barmer

Samdari

Marwar

Sawai Madhopur

Achnera

Dyaulpur

Bhind

Nonera

Kanpur

Parihar

Konch

Ait

Sheopur

Khajuri

Jhansi

Kota

Gurla

Kt

TRANSMISSION VERIFICATION REPORT

TIME : 04/01/1999 08:07
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 FAX :
 TEL : S.no 63

DATE, TIME	04/01 08:06
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DURATION	00:00:43
PAGE(S)	02
RESULT	OK
MODE	STANDARD ECM

Churja - Rajonma	←	312.5
Rajonma - BTI - Smatgarh	—	315
Rajonma - BTI - 173		
BTI - Smatgarh	142	
	<u>315</u>	
Churja -		<u>627</u>
Churja - Sachri		46.07
Sachri - Rewari (Khor.) (approx)	—	159 —
RE - Hussan - BTI - Smatgarh	—	439
RE - BTI -	297.04	<u>644</u>
BTI - Smatgarh -	142.	
	<u>439.</u>	

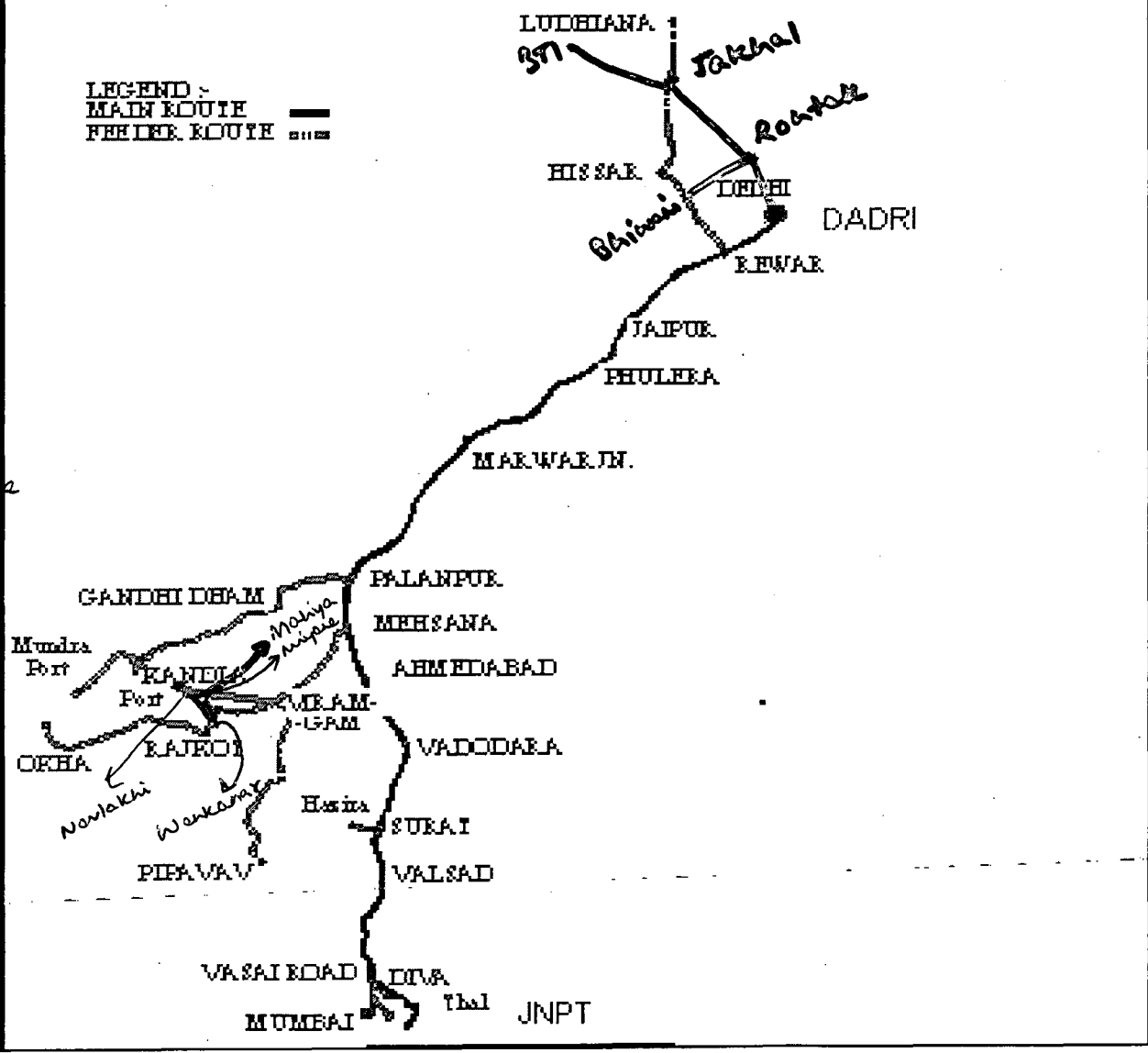
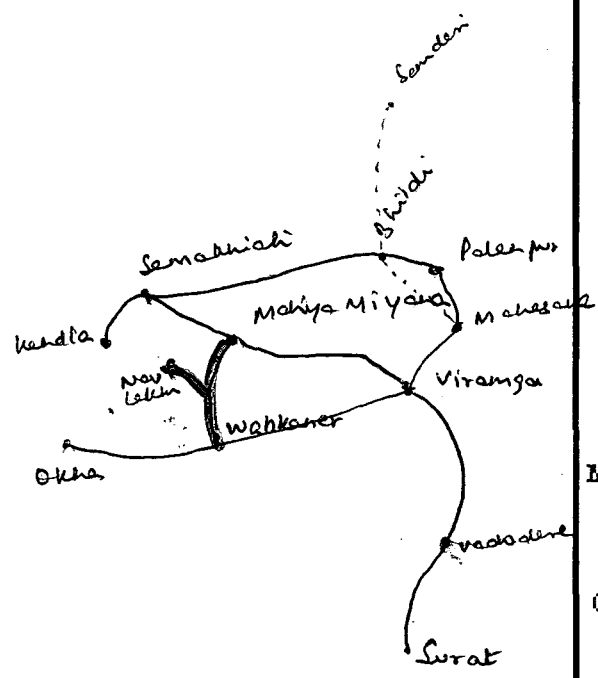
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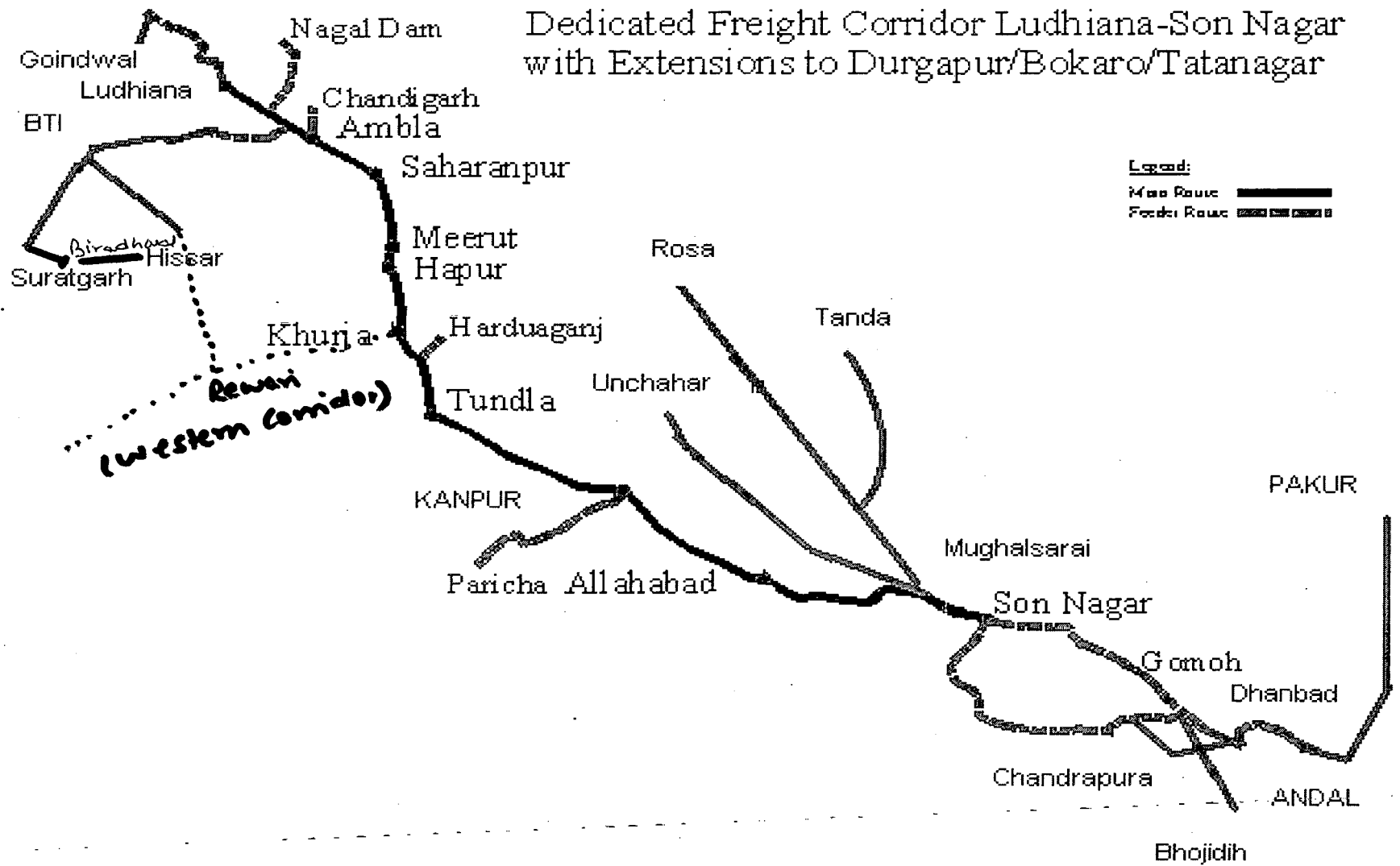
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RESULT	OK
MODE	STANDARD ECM

PROPOSED FREIGHT CORRIDOR (WESTERN)

LEGEND :-
 MAIN ROUTE ———
 FEEDER ROUTE - - - -



Dedicated Freight Corridor Ludhiana-Son Nagar with Extensions to Durgapur/Bokaro/Tatanagar



S/N 60



राजीव कुमार उपाध्याय

मुख्य यांत्रिक अभियन्ता

R. K. UPADHYAY

CHIEF MECHANICAL ENGINEER

उत्तर रेलवे

बड़ौदा हाउस

नई दिल्ली - 110 001

NORTHERN RAILWAY

BARODA HOUSE

NEW DELHI - 110 001

DO No.45-RS/1/OSC/2006

DT: 14th Sept, 2006

My dear Shree Prakash,

Sub: Double stack container movement to LDH on
Dedicated Freight Corridor.

Ref: i. Railway Board's letter No. 278-W/82/W.B./2007-08
dt. 7.7.2006

ii. This office letter No.802M/92/53(MC-II) dt. 7th
April 2006. with a copy to Director/Transport/Plg,
Railway Board. (copy enclosed)

Ludhiana is an important destination for containers from Western region. Since container movement from western region is being planned on double stack trains upto Delhi offering lower freight, the same advantage of lower freight can be given upto Ludhiana. In Board's above referred letter, LDH has been shown in feeder route for both Eastern and Western corridor. Further, the following routes have been made part of eastern corridor which is to be electrified.

- i. Rajpura-Dhuri-Bhatinda(Lehra Mohabbat) (173 Kms)
- ii. Hissar-Bhatinda-Suratgarh(298 Kms)

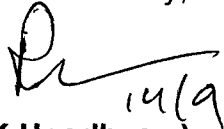
The electric traction will not permit double stack container movement on the Western Corridor up to LDH. It is, therefore, suggested that the container depot in LDH should come up at a location where double stack containers can be brought and there should be no obstruction to double stack movement on the LDH - Hissar - Rewari feeder route of Western Corridor by electrified track either on SPR section or in the above two sections.

In fact, it would be ideal, if the two feeder routes of Hissar-Bhatinda-Suratgarh and Rajpura - Dhuri - BTI of Eastern Corridor are transferred to Western Corridor.

This will also help when Suratgarh receives imported coal from ports on the Western Corridor in future. Since the Hon'ble Prime Minister is going to inaugurate the Eastern Corridor on 27th of this month, the issue may be given utmost importance.

With best wishes,

Yours sincerely,


(R.K.Upadhyay)

Encl/As Above.

✓ **Shri Shree Prakesh,**
Adviser Infrastructure,
Railway Board,
New Delhi.

Copy to

1. Shri R.K.Rao, Member Mechanical, Railway Board, New Delhi for information please.
2. Shri S., B.Ghosh Dastidar, Member Traffic, Railway Board, New Delhi for information please.



सत्यमेव जयते

S.K.SURI
ADDITIONAL MEMBER (PLANNING)



No. 2006/PL/14/9

General Managers,
All Zonal Railways.

भारत सरकार
रेल मंत्रालय (रेलवे बोर्ड)
नई दिल्ली-110001
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

[GM]
COM
Date: 23.06
Suri

PCE (to coordinate)
FALCO, CCM, CME, CEE, CSO, CPO

Re : Proposals for sanction under Works Programme 2007-08.

Ref : Railway Board's letter No. 2006-B-103 dated 24.4.06.

613
RB

It is presumed that by now the General Managers would have broadly identified the proposals they wish to submit for sanction under Works Programme 2007-08. We in Railway Board have also been applying our minds to decide on the areas in which investments should be channelised for capacity enhancement, improving the quality of service etc.

A few of the suggested areas for investment are given below :

1. Capacity Enhancement Works : A list of suggested Capacity Enhancement Works is given in Annexures 1 & 2.
- 2.(a) Upgradation of feeder routes for Dedicated Freight Corridors : A list of feeder routes for proposed DFCs has been circulated to Railways (copy enclosed as Annexure-3). These feeder routes are required to be upgraded for 25 T axle load operation.
- (b) Upgradation of iron-ore routes for 25 T axle load operation.
3. Improvements to Goods Terminals : Terminal detention should be less than 15 hours at all terminals. The facilities at the terminals should be planned accordingly. In order to meet the growth in traffic, new goods terminals wherever required, may be planned.
4. Facilities for running 24 coach length trains.
5. Integrated Coaching Maintenance Complexes: The new Coaching Maintenance Complexes should be constructed so as to function as integrated train preparation areas combining maintenance activities, parcel handling, liner loading, pantry car provisioning, pasting of reservation charts etc.
6. Upgradation of Carriage and Wagon Maintenance Facilities.
7. Provision of under-passes : Keeping in view the ensuing Commonwealth Games, under-passes should be planned at New Delhi and Delhi stations. Under-passes at major terminals in Kolkata, Mumbai and Chennai may also be proposed. While planning for under-passes, the underground parcel storage space should also be catered for.

PR CE	
Secy PR CE	
AE HOBS	ICE
CEE	ICE PSD
CE VRTS	ICE G
CE TMC	ICE TSP
CE HQ	ICE WCT
CE PWD	ICE S&M

R.T.O.
35/10

(2)

8. **Model Stations** : Railways have been asked to modernize 5 stations in each division during 2005-06. Railways should identify 5 more stations in each division to be taken up for modernization in 2007-08.

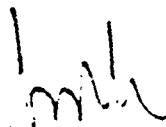
9. **Train/Coach watering facilities** : Provision for train/coach watering facility at nominated stations should be reviewed. The facilities may be suitably upgraded consequent to operation of 23-24 coach trains. Coach Watering requirement should be separated from other Watering requirements (for stations, colonies, etc.)

10. **Running Rooms** : Improvement of running rooms should be planned on the basis of the EDs' Committee's recommendations. A year-wise Action Plan should be prepared and suitable proposals formulated.

11. **Training Schools** : An Action Plan for upgradation of Training Schools should be prepared and suitable works proposed.

12. **Community Halls** : It has been decided to construct 100 Community Halls for which guidelines have been issued by L&A Directorate.

The Railways should accordingly formulate their proposals for sanction under Works Programme 2007-08.


(S.K.Sun)

Additional Member(Planning)

C/- General Managers, All Production Units.

(3)

SUGGESTED CAPACITY ENHANCEMENT WORKS

S. No.	Railways	Work	Remarks
1	All Rlys	Proposals for Flyovers and Bye Pass Lines (List given in Annexure 2.)	Streamlining train operation
2	CR	Parvel-Pen Doubling	Additional traffic of coal and steel
3	ECOR	Doubling of Tilagani-Raipur	Additional traffic of coal, steel and Vishakhapatnam Port
4	ECOR	4 th line between Kotavalassa-Simhachalam North	Traffic growth on East Coast Route
5	ECOR	Traffic Facility Works on Koraput-Rayagada line	Providing Std III Interlocking with sand humps and additional loop lines
6	NCR	4 th line between Patwal-Mathura along with yard remodeling at Mathura.	To segregate the stream of traffic for CR/WR right from TKD to Mathura
7	NER	Doubling between Bhatni-Baitalour	The only Single line patch on the GHY route.
8	NER	Doubling between Barabanki-Bhurwal	To decongest traffic
9	NER	Doubling between Aumhar-Varanasi	To ease out capacity constraints
10	NFR	Doubling of Guwahati-Lumding	To ease out the capacity constraints
11	SCR	New Line from Jaggayapet to Mallecheruvu and Vishnupuram to Janapahad	Additional Cement Traffic
12	SCR	Mucked Bye Pass	To facilitate forward movement of coal rakes from WCL to Pari Power House.
13	SCR	New line between Bhadrachalam Road and Bhavanipalem (37 km)	To cater to additional coal traffic from Sattupalli Mines
14	SR	Doubling between Kankanadi-Panambur	Additional Iron Ore Traffic to Mangalore Port
15	SR	Development of Second Coaching Terminal at Kochuveil Phase-II	To deal with additional trains
16	SR	Chennai Terminal to segregate suburban and long distance train operation	To ease out congestion at the terminal
17	SER	Doubling of Panskura-Haldia Phase II between Rayagoda and Durachak	Port Connectivity work
18	SWR	Hospet-Hubli-Londa-Vasco Doubling	Iron Ore and Coking Coal Traffic from and to Goa Port
19	WR	Doubling of Udhna-Jaqaon	To ease out capacity constraints
20	WCR	Traffic Facility Works on Kamti-Sindram Lines	Upgrading the section having long block sections, Std I Interlocking and 2-line stations.

4

SUGGESTED LIST OF FLY-OVERS AND BYEPASS LINES

(Circulated vide Railway Board's letter No.2006/PL/S.2 dated 30.3.06)

- I We may plan to provide flyovers at the following locations:
- 1 Jharsuguda
 - 2 Bilaspur
 - 3 In Nagpur-Wardha area
Flyover at Nagpur may not be feasible due to space constraints. In lieu, quadrupling of track between Nagpur and Sewagram along with grade separation of east-west and north-south corridors at a suitable location may be considered.
 - 4 At Bhusaval and/or Jalgaon
An additional corridor with grade separation may be planned
 - 5 Mathura
Flyover at Mathura required for separation of Agra and Kota direction traffic
 - 6 Bhopal
 - 7 Itarsi
 - 8 Barang
Doubling of Rajatgarh and Barang and 3rd line from Barang to Khurda Road has been sanctioned. Flyover should be planned along with the above works
 - 9 Jakhpura
Fly-over at Jakhpura may be provided as a part of Dahan-Banspani New Line works
 - 10 Khurda Road
 - 11 Vizianagaram
 - 12 Simhachalam North
 - 13 Nagda
 - 14 Godhra
 - 15 Arakkonam
 - 16 At Bakhyanpur (ECR) for traffic of Barh powerhouse
 - 17 Dum-Dum Cantonment station
 - 18 Kota
 - 19 Vadodara
 - 20 Jalgaon and Udhna for Jalgaon-Udhna doubling
 - 21 Hubli
 - 22 Daund
 - 23 Tundla Flyover - Defreezing
 - 24 Dankuni Flyover - Recommissioning of the flyover
 - 25 Panskura
(Remarks: Flyover may not be required, if the proposed 3rd line between Kharagpur and Panskura is kept on one side)
- II At Kharagpur Hili-Kala kunda bye pass line should be upgraded and made fit for passenger traffic

FEEDER ROUTES FOR DEDICATED FREIGHT CORRIDORS

(Circulated vide Railway Board's letter No.2005/PL/6/7 PLII dated 4.4.2006)

Western Corridor

1. Pipavav-SurendranagarViramgam-Mehsana (395 Kms)
2. Kandla Port – Gandhidham – Palanpur (312 Kms)
- 3. Mundra Port – Gandhidham (66 Kms)
- 4. Viramgam – Samakhiali (182 Kms)
- 5. ~~Hazira – Surat~~
6. Ludhiana – Hissar – Rewari (348 Kms)
7. Mumbai Port – Wadala – Kurla – Diva with connectivity with DFC (36 Kms)

Total:1379 Kms**Eastern Corridor**

1. Sonnagar-Garwa Road-Barkakana (311 Kms)
2. Patratu- Gomoh including PD Branch Line (128 Kms)
3. Sonnagar- Gaya- Gomoh(249 Kms)
4. Gomoh-Pradhankhunta (39 Kms) including Kusunda-Tetulmari (4.5 Kms),
Katrargarh-Nichitpur, Pradhankhunta-Pathardih links (24 Kms)
5. Pradhankhunta – Asansol-Andal including coal branch lines (75 Kms)
6. Andal- Sainthia-Pakur (151 Kms)
7. Chandrapura-Dhanbad (36 Kms)
8. Bhojidih-Mohuda-Gomoh (44 Kms)
9. Aligarh-Harduaganj (15 Kms)
10. Kanpur-Paricha (198 Kms)
11. Mughalsarai-Unchar via Janghai, Phaphamau (205 Kms)
12. Varanasi-Sultanpur-Utratia-Rosa (558 Kms)
13. Zafrabad-Tarda (99 Kms)
- 14. Ludhiana-Bess-Govindwal Sahib (112 Kms)
- 15. Rajpura-Dhur-Bhatinda (Lehra Mohabbat) (173 Kms)
16. Simind-Rupnagar-Nangal Dam (104 Kms)
- 17. Hissar-Bhatinda-Suratgarh (298 Kms)

Total:2824 Kms

(6)

Northern Railway

Headquarters office,
Baroda House,
New Delhi

No.802M/92/53/(MC-II)

DT:7th April,2006

Director Mech.Engg(Freight),
Ministry of Railway,
Railway Board,
New Delhi

Sub: Identification of Feeder routes for moving Double Stack Container Trains on Western Corridor and Coal Wagons for 25 tones axle load on Eastern Corridor.

Ref: Director/Transport Planning/Railway Board's letter NO. 2005/PL/6/7

NP/85 /Pt.II dt. 4.4.06 /SN/185

On close scrutiny of the above letter, which has been issued with the Board's approval (ME/MT & CRB), there appears to be considerable scope for improving Railway earnings by the following additions/modifications:

- i. Double stack movement between Pipavav port and Rewari – This should be extended upto Gurgaon where container depot in private sector was earlier being planned. Since Delhi remains a major consumption area, it will ensure a considerable traffic.
- ii. In the Eastern side a number of routes are mentioned which really belong to western side and should be on diesel. These routes are:
 - Rajpura – Dhuri –Bhatinda (Lehra Mohabbat)
 - Hissar-Bhatinda –Suratgarh

These should be a part of diesel double stack route.

- iii. Dhuri –Bhatinda section should not be considered for electrification as it will infringe with the movement of double stack containers between Hissar-Ludhiana) –(identified as item 6 of Western route) .
- iv. Electrification of Hissar-BTI –Suratgarh section should not be considered, as It will again infringe with the movement of double stack containers between Hissar – Ludhiana .

Our study has shown that the route on recently opened line between Rewari and Gurgaon can be made fit for movement of double stack containers at a very nominal cost of less than Rs. 1 crores. The conversion of the line between Jaipur - RE for double stack container movement may also not be a very expensive exercise considering its benefits.

The double stack container movement will immediately bring down the cost of transportation and therefore should be the first preference. It is requested that above suggestions may be considered which will increase the Railway earnings substantially and bring down the cost of transportation.

This may please be brought to the notice of Railway Board.


(Ranjeet Saini)
For General Manager/Mech

Copy to:

- 12/14/15
1. Director (Traction), Ministry of Railways, Railway Board, New Delhi.
 2. Shri Mukul Saran Mathur, Director / Transport Planning, Ministry of Railways, Railway Board, New Delhi.

Copy to CME / NR for information.

2

Amul
to u b

WESTERN RAILWAY

FAX No.011-23388858

Headquarters office
Churchgate,
Mumbai-400020.
Dt. 26.09.06.

T. 597/7/18

Director/Tpt. Plg.,
Railway Board,
New Delhi.

(Kind Attention : Shri M.S.Mathur).

Sub:- Identification of Feeder route for Dedicated Freight Corridor.
Ref:- Minutes of the meeting held on 29.06.06.

.....

With reference to the above, feeder route were identified by Railway Board and circulated to each Railway in March 2006. The same was discussed at various levels in subsequent meeting on DFC held on 29.06.2006.

It is noticed that Navalkhi- Wankaner and Wankaner-Maliya Miyana feeder route were somehow not included in the above feeder routes.

Navalkhi deals with average 24 rakes per month of Coal traffic and will gain importance in the coming years. It will be prudent to include the Navalkhi-Dahisara-Wankaner- Maliya Miyana also as a feeder route to the DFC.

It is requested that this route is included in the list of feeder routes.



CTPM

- C/- Adviser Traffic, Railway Board, New Delhi.
- C/- Adviser Infrastructure, Railway Board, New Delhi.
- C/- MD/RITES- RITES New Delhi House,
27, Barakhamba Road,
Cannought Palace,
New Delhi- 1
- C/- CBE, W.R., CCG

S/N 59

27
1513
26/9

North Western Railway

Headquarters Office
Jaipur- 302 006
13th Sept. 2006

No T5/Plg./424/DFC

✓
**Executive Director (Planning),
Railway Board,
Rail Bhawan,
New Delhi.**

**Subject: Feeder Routes to Eastern Dedicated Freight
Corridor.**

Reference: Railway Board's letter no. 2005/PL/6/7 Part II
dated 04.04.06.

1.0 As per the Railway Board's letter referred above, a list of the feeder routes for Western and Eastern routes for the movement of Double Stack Container trains on Western route and for moving 25 tonnes axle load Coal wagons on Eastern route was circulated .

2.0 Following two routes of NWR have been included in the list of feeder routes :

Western Route

Ludhiana- Hissar -Rewari

Eastern Route

Hissar-Bhatinda-Suratgarh

3.0 The following two sections of NWR given as under, may also be included in the list of feeder route of Eastern DFC:

- i) Rohtak -Bhiwani (47.3 Kms)
- ii) Suratgarh-Biradhwal (18 Kms)

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4.0 The reasons and justification for inclusion of the above two sections in the list of feeder routes is given below:

4.1 The traffic from eastern region run on Eastern DFC for Suratgarh thermal power station has to necessarily pass through Rohtak-Bhiwani section if the same is required to be run on Hissar -Bhatinda protion which has been identified for Eastern DFC .Since Bhiwani - Hissar is included in Western DFC, inclusion of Rohtak-Bhiwani in the feeder route will enable running of traffic from Eastern DFC on the feeder route for Rohtak -Bhiwani-Hissar- Bhatinda.

4.2 Further, Bhatinda -Suratgarh is included in the feeder routes of eastern DFC .This has to be extended by two block sections i.e. up to Biradhwai which is the serving station for Suratgarh Thermal Power Station.

You are requested to convey Board's decision in the matter.


Chief Operations Manager
North Western Railway
Jaipur.

NORTHERN RAILWAY

S.No. 5B

Headquarters Office,
Baroda House,
New Delhi.

No. 86-T/363/TGP/Long Term Pkg..

August 22, 2006

Advisor/Infrastructure, ✓
Railway Board,
New Delhi.

Sub: Construction of a new line between Meerut – Panipat

You may recall our discussion regarding establishing a direct link between Meerut – Panipat as a feeder route of eastern DFC. This link will be very useful for movement of goods traffic to and from DUK and SPR section to eastern sector and will provide much needed relief to already over saturated Delhi area besides being shorter as well.

The survey for constructing new line between Meerut and Panipat was conducted in March 1999, has already been submitted to Railway Board. The gist of the survey report is mentioned as under:-

- | | |
|----------------------------------|---|
| 1. Route Km. of project | 104.4 km. |
| 2. construction of new track | 95.37 km. (excluding length of existing station yards) |
| 3. Estimated cost of the project | 275.03 crores (at 1999 cost) |
| 4. No. of proposed stations | 13 excluding Diwana and Meerut Cantt |
| 5. Commodity to be moved | POL, foodgrain & fertilizer (outward)
Coal, POL, fertilizer and cement (inward) |
| 6. Net saving in lakhs | |
| a) | Goods Rs. 2652.85 lakhs |
| b) | Coaching Rs. 169.41 lakhs |
| c) | Saving in detention Rs. 1063.07 lakhs (on account of
to trains and locomotives diversion of goods tfc.)
Rs.884.89 lakhs (addl.goods tfc.) |
| d) | Loss on a/c of short lead(-)Rs.258.52 lakhs |
| | Total net saving Rs. 4511.70 lakhs |
| 7. Traffic projection | |
| a) Passenger | 1 Intercity between Hissar-Meerut and
3 trips of DMU between Panipat-Meerut |
| b) Goods | |
| i) Diversion of existing trains | 11.43 trains per day |
| ii) Addl. Trains | 2.58 trains per day |
| iii) Total trains | 14.01 per day |
| 8. Financial result(ROR) | 8.82% |
| 9. Ruling gradient | 1:560 |
| 10. Speed potential | 100 kmph. |

As per Board's decision, Eastern DFC on Northern Railway portion ex Khurja city to Ludhiana is being laid on single line. By providing new line, all trains going to Panipat Power House, Refinery, NFL Diwana and Panipat- Ambala section besides SPR section can be moved on this route which will be shorter and faster as it would not pass through the congested Delhi area.



In view of the above, it is recommended that Board may include the new line Meerut – Panipat in the DFC project over Northern Railway which will prove to be of immense value.

24.8.06

Chief Operation Manager

2006/PL/6/7 Pt. II

Sub: Board decision for operationalising Dedicated Freight Corridor Project.

In continuation of Adviser/Infra's earlier note of even number dated 5th September 2006, it is advised that the proposed presentations by the AMs/Adviser to the Board on 8/9/2006 has been pre-poned and will now be held as per the following schedule.

Date & Time	AM/Adv.	Issue
8.09.06/15.30 hrs.	AM/CE	Finalization of MMD, Track Loading density, Bridges and Axle load

It is requested that Board Members and concerned AM/Advisers along with EDs may kindly attend.


DTP
07/09/06

(Handwritten signatures and initials are present over the following text)

Sr. PPSs/CRB EC ME MM ME ML

AM/Works AM/ME AM/Signal AM/L AM/CE

Adv. AM/PU Adv./Safety AM (P) AM (B)

EDFB EDFX - I

OIC

2006/PL/6/7 Pt. II

Sub: Board decision for operationalising Dedicated Freight Corridor Project.

In reference to our earlier note dated 05.09.2006 on the above-mentioned presentation, it is to inform you that the proposed Presentation to the Board is preponed and it is now scheduled at 16:00 hrs (instead of 16:30 hrs.) on 06/09/06 in the Committee Room.

~~DP/SPL.~~
6.9.06

AM/9 *[Signature]* 06/9
 Sr. PPS to CRB MT MM ME ML & FC for kind information
 of Board members *[Signature]* 06/9
 AM/Works AM/ME *[Signature]* AM/Signal AM/L AM/CE *[Signature]* 06/9
 Adv./Traffic AM/PU Adv./Safety for kind information
[Signature] 06-09-06 *[Signature]*
 06/9 o/c

2006/PL/6/7 Pt. II

Sub: Board decision for operationalising Dedicated Freight Corridor Project.

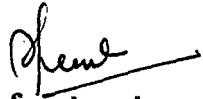
Railway Board in its meeting of 16th March 2006 identified the sequential steps that need to be taken for operationalising the implementation of Dedicated Freight Corridors Project. List of activities and target dates for fulfilling the activities as per the Board decision were communicated vide the undersigned's Note dated 23.3.2006.

Additional Members/ Advisors responsible for activities were requested to initiate action for compliance of Board's decision.

CRB desires that a presentation on the following may be made as per the following schedule in the Committee room:

Date & Time	AM/Adv.	Issue
6.09.06/16.00 hrs.	AM/ME	Wagon Design, Type of Diesel Locomotive
6.9.06/17.00 hrs.	AM/L	Type of Locomotive and height of contact wire
8.09.06/16.30 hrs.	AM/CE	Finalization of MMD, Track Loading density, Bridges and Axle load

It is requested that Board Members and Concerned AM/Advisers along with EDs may kindly attend.


Adviser/Infrastructure
 5/9/2006

CRB MT MM ME ML FC

AM/Works AM/ME AM/Signal AM/L AM/CE

Adv./Traffic AM/PU Adv./Safety

AM/P

AM/Bud

ED/F&I

ED/PB

2006/PL/6/7 Pt. II

Sub: Board decision for operationalising Dedicated Freight Corridor Project.

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It is requested that Board Members and Concerned AM/Advisers along with EDs may kindly attend.

Sharma
Adviser/Infrastructure
5/9/2006

CRB MT MM ME ML FC

AM/Works AM/ME AM/Signal AM/L AM/CE

Adv./Traffic AM/PU Adv./Safety

AM/P
W/works
6.9.06

AM/Byd

ED/AM/I

W/works
ED/IB

6/9/06

2006/PL/6/7 Pt. II

Sub: Board decision for operationalising Dedicated Freight Corridor Project.

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o/c

[Signature]

Adviser/Infrastructure
5/9/2006

[Signature]
CRB MT MM ME ML EC 5/9

[Signature] AM/Works AM/ME AM/Signal AM/L AM/CE

Adv./Traffic AM/PU Adv./Safety
[Signature] 5/9/06 *[Signature]* 5/9

S/252



रवीन्द्र शर्मा
महाप्रबंधक
RAVINDRA SHARMA
General Manager

डीजल रेल इंजन कारखाना
वाराणसी - 221004, भारत
DIESEL LOCOMOTIVE WORKS
VARANASI - 221004, INDIA
Tele : 0542-2270100
Fax : 0542-2270138

No.GM/DLW/2006

August 7, 2006.

Dear Shri Batra,

Sub: Western Freight Corridors.

Ref: Your instructions to the undersigned during my visit to Rly. Board in June 2006.

4455

RITES report of Jan. 2006 for the above, has been based on the presumption as:

Track will be more than 50% level and the balance will be predominantly 1 in 200 with short stretches of 1 in 150.

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It is also understood that:

- a) The loop length will be 1.5 kms.
- b) The axle load will be 25 tonnes, although the track will be laid to 32.5 tonnes, with provision for increasing the axle load to 30 tonnes at a future date.
- c) The corridor shall be fit to run double stack containers.

[Handwritten signature]

The traction requirement for the above corridor needs to be studied to decide on type of locomotives required.

[Handwritten signature]

In the existing scenario on Indian Railways, the traction HP per tonne is around 0.8 and due to this low HP/tonne, we generally face :

- a) long sectional timings,
- b) stalling / wheel slips
- c) to impose the restriction of run through at some stations having upgradient on approaches.

In some of the successful and developed Railways like US Railways, Australian Rlys. the HP/Tonne ratio is over 1.1

It is recommended that we also go in for a HP/tonne ratio of 1+.

285
24/8



ISO -9001:14001

[Handwritten signature]

The Western Freight Corridor will be handling a fair proportion of container traffic, which will continue to grow since more and more international trade will be container traffic. The total train loads of such double-stack container on a 1.5 km. loop track will be around 8000 tonnes. The loads of bulk commodities loaded in open and covered wagons will be around 10,000 tonnes but the no. of such trams will continue to diminish in times to come.

Type of Locomotives:

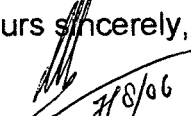
Presently DLW is manufacturing two types of locos – ALCO – 3100 HP and EMD – 4000 HP. EMD 4000 HP locos are easily upgradable to 4500 HP by changes in the software which has already been included in the proposed extended TOT. Therefore, with 4500 HP EMD locos or 3100 HP ALCO locos, the following driving units are recommended:

- (a) Double headed 4500 HP EMD locos – The HP / Tonne will be 1.125
- (b) Triple headed 3100 HP ALCO locos – the HP / tonne will be 1.16.

DLW is planning to make 40 EMD locos this year, 60 in 2007-08 and 100 in 2008-09. Therefore, Indian Railway will have adequate population of EMD locos to service the Western Freight Corridor and shortfall, if any, could temporarily be met with triple loaded ALCO locos.

It may be mentioned here that the SFC of EMD locos is lower by over 30% compared to ALCO and this fact will substantially reduce the operating costs on Western Freight Corridor.

With kind regards,

Yours sincerely,

(R. SHARMA)

Shri J.P. Batra,
Chairman,
Railway Board,
New Delhi.

cc: MM / Rly. Board - for information please.

TRANSMISSION VERIFICATION REPORT

TIME : 04/01/1999 04:36
NAME :
FAX :
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भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

रेल भवन, नई दिल्ली-110001, तिथि
Rail Bhavan, New Delhi-110001, dated


No. 2005/PL/6/7 Pt. II

27 July 2006

Sub: Minutes of the Meeting regarding load exchange points and connectivities on the proposed DFCs held on 29th June 2006.

In continuation to earlier letter of even number dated 7th July 2006 on the above subject, I am directed to convey the following modifications to the minutes:

1. It has been mentioned in item no. 8 pertaining to Eastern Freight Corridor, that the route Khurja – Hapur – Rajpura may be doubled. Board had earlier decided that Khurja – Ludhiana link should be single line. In line with the Board's decision, the above link should be single line.
2. Connectivity should be provided without surface crossing at Makarpura, Sabarmati and Palanpur (Item no. 5, 7 & 9 of Western Freight Corridor).


(Mukul Saran Mathur)
Director/Tpt. Plg.
Tel/Fax:011-23388858

Copy to:

1. COM/WR
2. MD/RITES
3. Adviser/Infrastructure, Railway Board.
4. Adviser/Traffic, Railway Board.

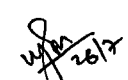
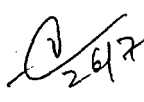



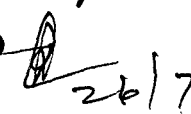
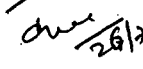
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2006/PL/6/7 Pt. II

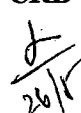
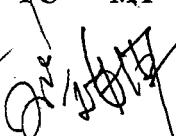
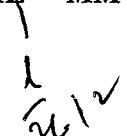
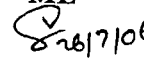

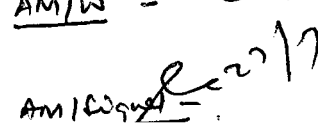
Sub: Board decision for operationalising Dedicated Freight Corridor Project.

Board in its meeting of 16th March 2006 identified the sequential steps that need to be taken for operationalising the implementation of Dedicated Freight Corridors Project. For operationalising DFC, technical issues are required to be finalized. As desired by CRB, AM/CE will make a presentation on 28.7.2006 at 1500 hrs. in the Committee Room to finalize MMD, and Track related issues for DFC.

You are requested to make it convenient to attend the meeting.

 26/7
 AM/CE,  26/7 AM/ME,  26/7 Adv./Traffic,  DTP
 Adv./Safety  R.Y., AM(L)  26/7, Adv./Infra  26/7
 26.7.2006

Copy to PPSs for information of:

CRB FC MT ME MM ML
 26/7
 26/7
 26/7
 26/7/06
 AM/W -  27/7
 AM/CS -  27/7

2006/PL/6/7 Pt. II

Sub: Board decision for operationalising Dedicated Freight Corridor Project.

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DTP
26.7.2006

AM/CE, AM/ME, Adv./Traffic Adv./Infra
Adv. (Safety) AM(L) AM(W) AM(Signal)

Copy to PPSs for information of:

CRB FC MT ME MM ML

S/m

Record of Discussions regarding Finalisation of Technical Issues for Dedicated Freight Corridor – Signal & Telecom

A presentation was made by AM/Signal on the proposed S & T arrangement for the proposed Dedicated Freight Corridor on 11.7.2006.

CRB, MT, FC, ML, AM/ME, AM/W, Adv/T, Adv/Infra, and DTP were present.

The presentation suggested the following four options for DFC (Costs are for Western corridor):

Option	Capital cost per Km	O & M cost per year
Absolute Signalling	56.5 lakh	106 cr.
Automatic Signalling	75 lakh	91 cr
Automatic + On board protection systems	100 lakh	94 cr.
Communication based signalling	66.7 lakh	62 cr

The Board gave the following directives:

1. Average speed should be assumed as 50 kmph for calculating the line capacity available with different signalling arrangements
2. Block sections should be planned 40 kms. apart. In respect of automatic signalling, the capacity and cost to be worked out for a signal spacing of 2 kms. & 5 kms.
3. No CTC and on-board protection system will be needed for DFC.
4. Prima-facie absolute block system with IBS seems sufficient for the initial level of traffic on the DFC, a cross comparison of all four options should be worked out and put up to Board. This cross comparison should show separately the cost of MTRC and CTC. It can bring out implications of signalling facilities being upgraded on DFC subsequently as per requirement.

[Signature]
DTP
25.7.06

Copy to:

[Signature] 26/7
 CRB FC MT ML ME
[Signature] 26/7 *[Signature]* 26/7 *[Signature]* 26/7 *[Signature]* 26/7
 AM (Sig.) Adv. (T) Adv. (Infra) Adv. (Safety)
[Signature] 26/7

Pl-issue

5/10/47

Pl.
DTP.



WESTERN RAILWAY

Headquarters Office,
Churchgate,
Mumbai - 400 020.

No.T.597/7/18

रेल मन्त्रालय (रेलवे बोर्ड) (Railway Board)	06.07.06
1 / III	
से.नं.पं./C R. No.....	
अनुभाग कार्यालय	
Section Diary No.	
वर्गीकरण/Classification	

✓
**Director/Tpt. Plg.,
Railway Board,
New Delhi.**

Sub: Minutes of meeting held on 29/6/06.

With reference to the minutes of the meeting in Para 5 while discussing the inter connectivity at Makarpura, the stipulation regarding the connectivity being provided without surface crossing may be included.

Likewise in respect of SBI connectivity also it should be stipulated clearly that the connectivity shall not be through surface crossing.

Same remarks apply in respect of connectivity of PNU.

It is requested that the minutes be amended to this effect and reissued.

C.O.M.

C/- Adviser Traffic, Railway Board, New Delhi.

C/- Adviser Infrastructure, Railway Board, New Delhi.

C/- MD/RITES

पश्चिम रेलवे WESTERN RLY.
प्रधान कार्यालय, चर्चगेट,
Head Quarter's Office, Churchgate
- , JUL 2006
प्रेषण के लिए प्राप्त
Received for Despatch

8/1/245

Record of Discussions regarding Finalisation of Technical Issues for Dedicated Freight Corridor – Signal & Telecom

A presentation was made by AM/Signal on the proposed S & T arrangement for the proposed Dedicated Freight Corridor on 11.7.2006.

CRB, MT, FC, ML, AM/ME, AM/W, Adv/T, Adv/Infra, and DTP were present.

The presentation suggested the following four options for DFC (Costs are for Western corridor):

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3. No CTC and on-board protection system will be needed for DFC.
4. Prima-facie absolute block system with IBS seems sufficient for the initial level of traffic on the DFC, a cross comparison of all four options should be worked out and put up to Board. This cross comparison should show separately the cost of MTRC and CTC. It can bring out implications of signalling facilities being upgraded on DFC subsequently as per requirement.



DTP
25.7.06

Copy to:

CRB FC MT ML ME

AM (Sig.) Adv. (T) Adv. (Infra) Adv.(Safety)

Record of Discussions regarding Finalisation of Technical Issues for Dedicated Freight Corridor – Signal & Telecom

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CRB, MT, FC, ML, AM/ME, AM/W, Adv/T, Adv/Infra, ~~ED/Sig~~ and DTP were present.

The presentation suggested the following four options for DFC (Costs are for Western corridor):

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Automatic + On board protection systems	100 lakh	94 cr.
Communication based signalling	66.7 lakh	62 cr

The Board gave the following directives:

1. Average speed should be assumed as 50 kmph for calculating the facilities required on DFC. *line capacity available with different signalling arrangements*
2. Block sections should be planned 40 kms. apart. *In respect of automatic signalling the capacity and cost to be worked out for a signal spacing of 2kms & 5kms. protection*
3. No CTC and on-board communication system will be needed for DFC. *the initial level of traffic on the*
4. Prima-facie absolute block system with IBS seems sufficient for DFC, a cross comparison of all four options should be worked out and put up to Board. This cross comparison should show separately the cost of MTRC and CTC. *The signalling can be upgraded on DFC subsequently as per requirement.*

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Mumbai
corridor)*

*the initial level of traffic on the
entire*

**S&T Options
for
Dedicated Freight Corridor
in
Delhi-Mumbai
and
Ludhiana-Sonenagar Section**

11.7.07
AM/Signal.

Parameters for Freight Corridor (Based on RITES Report)				
Parameters				
			Sone Nagar - Ludhiana	
S/N	DESCRIPTION	Mumbai-Delhi via ADI	Sone Nagar - Khurja	Khurja - Ludhiana
1	Route length(Km)	1493	838.01	394
2	Single line/double line	Double	Double	Single
3	Gauge	1676 mm	1676 mm	1676 mm
4	Sleeper	PSC	PSC	PSC
5	Points & Crossings	60 Kg rail, 1 in 12, curved switch, PSC	60 Kg rail, 1 in 12, curved switch, PSC	60 Kg rail, 1 in 12, curved
6	Max speed	100 Kmph	100 Kmph	100 Kmph
7	C" class level crossings	142	80	38
8	Crossing stations (Nos.)	11	6	35
9	Exchange Yard Stations (No)	14	6	5

Parameters for Freight Corridor (Based on RITES Report)				
Parameters				
		Sone Nagar - Ludhiana		
S/N	DESCRIPTION	Mumbai-Delhi via ADI	Sone Nagar - Khurja	Khurja - Ludhiana
10	Expected Traffic			
	In 2011-12			
	UP, Minimum	25	46.6	25
	UP, Maximum	46	71.3	
	Down, Minimum	24	37.8	
	Down, Maximum	49	68.8	
	In 2021-22			
	UP, Minimum	43	58.5	30
	UP, Maximum	76	90.7	
	Down, Minimum	48	46.5	
	Down, Maximum	97	86.3	

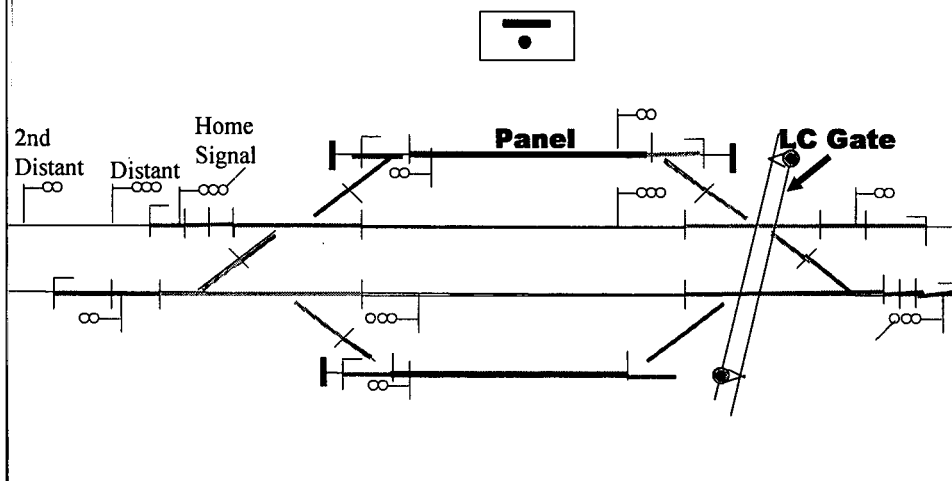
Salient Features

Signaling

- **Four Options for Signaling in Double Line Sections**
- **In Khurja-Ludhiana Single Line Section, Absolute Block System with TLBI & OFC for all the four options**
- **Provision of Centralised Traffic Control/ Train Management System has been considered for all the options as per TOR**

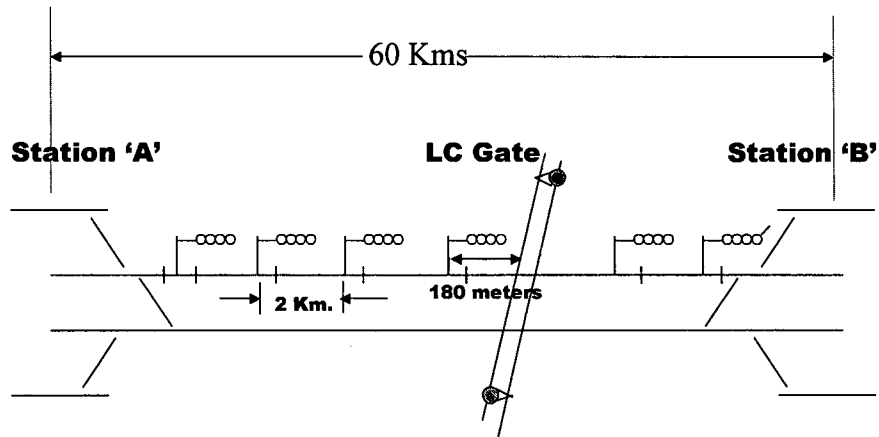
Option - 1

**Station Interlocking, Absolute Block System,
Conventional Block Instruments, Intermediate
Block Signaling, Double Distant Signals**



Option - 1	
Station Interlocking, Absolute Block System, Conventional Block Instruments, Intermediate Block Signaling, Double Distant	
Configuration	
1	Conventional Interlocking at Block Stations kept 20 Kms apart.
2	Absolute Block Systems with Conventional Block Instruments.
3	Expected line capacity of 49 Trains each way for 60 Kmph average speed, 41 trains for 50 Kmph average speed.
4	Intermediate Block Signaling (IBS) for increasing Line Capacity (upto 80%).
Features	
1	Proven System
2	Limited Line Capacity vis-à-vis Traffic projections for 2021-2022.
Approx Cost calculated for Mumbai-Delhi via ADI (1493Kms.)	
1	Capital Cost per Km. Rs. 56.5 Lakhs including IBS.
2	Maintenance Cost for S&T including additional P.Way & buildings cost Rs. 77 Crores / Year
3	Operating Cost Rs. 29 Crores / Year

Option - 2 Automatic Signaling



Automatic Signaling

Configuration

- 1 Conventional Electronic Interlocking at Block Stations kept 60 Kms apart.
- 2 Automatic Block Signaling for increasing Line capacity.

Features

- 1 Proven System
- 2 High Line Capacity.

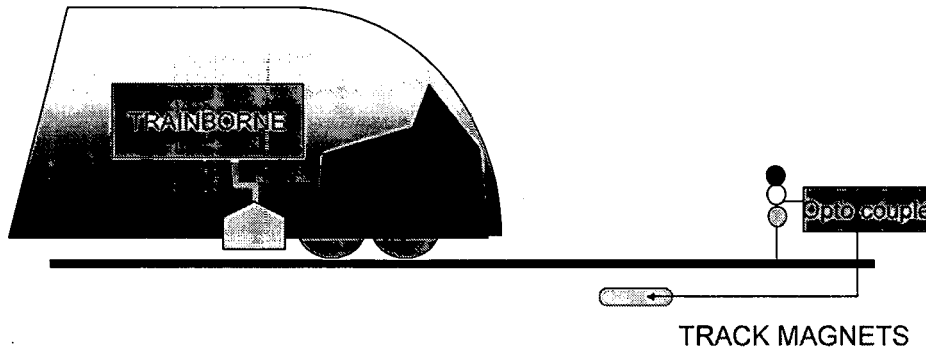
Approx Cost calculated for Mumbai-Delhi via ADI (1493Kms.)

- 1 Capital Cost Rs. 75 Lakhs / Km
- 2 Maintenance Cost Rs. 79 Crores / Year
- 3 Operating Cost Rs. 12 Crores / Year

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Option - 3

Automatic Signaling and Train Protection & Warning System (TPWS)



Option - 3

Automatic Signaling and Train Protection & Warning System (TPWS)

Configuration

- 1 Conventional Electronic Interlocking at Block Stations kept 60 Kms
- 2 Automatic Block Signaling for increasing Line capacity.
- 3 On Board Train Protection System.

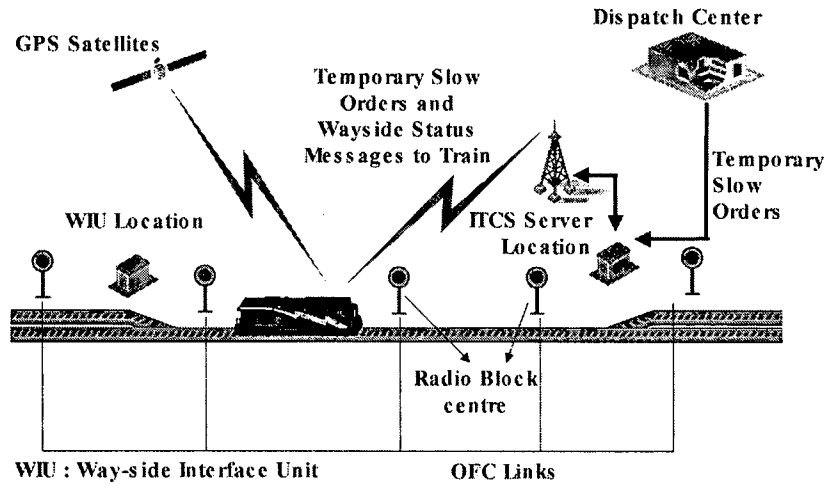
Features

- 1 Proven System
- 2 High Line Capacity ; can be further enhanced by Cab Signaling.
- 3 Increased Safety due to On Board Train Protection System.

Approx Cost calculated for Mumbai-Delhi via ADI (1493Kms.)

- 1 Capital Cost Rs. 100 Lakhs / Km
- 2 Maintenance Cost Rs. 82 Crores / Year
- 3 Operating Cost Rs. 12 Crores / Year

Option - 4



Option - 4

Communication Based Signalling

Configuration

- 1 Conventional Electronic Interlocking at Block Stations kept 60 Kms apart.
- 2 On Board Train Protection System.

Features

- 1 The system can be deployed as a stand-alone signalling system to run more trains closer together, and to dramatically reduce the need for maintenance of wayside equipment.
- 2 Using Communication Based Signalling, the requirements for trackside equipment are drastically reduced which in turn will allow it to reduce the initial investment, as well as the maintenance costs, and shall also be more reliable(high MTBF).

Communication Based Signalling (Contd.)	
3	The system achieves the capacity and throughput of a proper moving block system.
4	Minimal effect of vandalism and theft.
5	Other than ETCS, remaining systems are vendor specific.
6	The deployment period would be less in this case.
7	Can work with only dedicated Rolling Stock.
8	Reliability of system & Capacity enhancement potential need verification.
Approx Cost calculated for Mumbai-Delhi via ADI (1493Kms.)	
1	Capital Cost Rs. 66.7 Lakhs / Km(less than conventional Automatic Signaling)
2	Maintenance Cost Rs. 50 Crores / Year
3	Operating Cost Rs. 12 Crores / Year

Salient Features

Telecom

- OFC for Traffic Control, Train Management, Maintenance and Administrative requirements, Data circuits, backbone for MTRC.
- Mobile Train Radio Communication for Operational efficiency, Safety and better management of Maintenance blocks.
- Quad Cable kept only in Option-I. With MTRC, Quad Cable not required subject to availability of reliable Block Interface.

		Cost Estimate(in Crores of Rs.) for	Mumbai-Delhi via ADI	Sone Nagar - Khurja	TOTAL
1	Absolute Block System with 20 Kms Block Section length (Option-1)	Capital	843	486	1329
		S&T Maintenance Cost/Year	67	38	105
		Operating Cost/Year	29	16	45
		Additional Enginnering maintenance cost for extra stations/year	10	6	16
		Total S&T maintenance, Additional Engg. Maintenance & Operating Cost	106	60	166
2	Automatic Signaling (Option-2)	Capital	1120	616	1736
		S&T Maintenance Cost/Year	79	45	124
		Operating Cost/Year	12	6	18
		Total S&T Maintenance & Operating Cost	91	51	142

		Cost Estimate (in Crores of Rs.) for	Mumbai-Delhi via ADI	Sone Nagar - Khurja	TOTAL
3	Automatic Signaling and Train Protection Warning system (Option-3)	Capital	1489	816	2305
		S&T Maintenance Cost/Year	82	46	128
		Operating Cost/Year	12	6	18
		Total S&T Maintenance & Operating Cost	94	52	146
4	Communication Based Signaling System (Option-4)	Capital	996	592	1588
		S&T Maintenance Cost/Year	50	31	81
		Operating Cost/Year	12	7	19
		Total S&T Maintenance & Operating Cost	62	38	100

CONCLUSION

- Option-1 just adequate for level of Traffic upto 2021, subject to average speed of 60 Kmph.
- Option-2 can take care of Traffic beyond 2021-2022 also. With an additional investment of 280 crores over Option-1, can result in saving of O&M charges by 15 crores/year.
- If Option-2, adopted later on , it will result in 168 Crores of assets becoming redundant.
- Option-3 gives additional Safety along with features of Option-2; can be converted to Cab signalling with additional investments for further increase in line capacity.
- Option-4 is evolving technology, can work with only dedicated Rolling Stock. Some of them could be cost effective but need more detailed verification of line capacity potential and reliability.



5/10 43

No.2006/AM(CE)/Misc.


Sub: Board decision for operationalising Dedicated Freight Corridor Project.

Ref: Adviser(Infrastructure)'s note No.2006/PL/6/7 Pt.II
Dated 5.7.2006.


.....

Apropos my discussion with you on date. The issues regarding MMD, track loading density, axle load and finalisation of track and bridge parameters for the DFC need to be studied in detail further, even though information has been collected but it has not been possible to crystallise the view point. It is, therefore, proposed to make this presentation a fortnight later.

This has ME's approval.


(Rakesh Chopra)
AM(CE)
10.07.2006

~~Adv(Infrastructure)~~ may kindly see

~~CRB~~

Adv (Infrastructure)

- June
10.7.

OTR

ce
11/7

L/N42

Sub : Presentation on status of PETS and FLS of Dedicated Freight Corridor Project

A presentation scheduled at 1600 hours on date by AM/CE regarding finalization of MMD, Track Loading Density and Axle Load and Finalisation of Track and Bridge parameters for DFC has been postponed.

2. MD/RITES will make a presentation to Board on the status of PETS and FLS of DFC project at **1600 hours** on **11.7.2006** in **Committee Room**.

3. You are requested to kindly make it convenient to attend the presentation.

Adviser (Infrastructure)
11.7.2006

Handwritten notes and signatures:

- FC, ME, MP, MM, ML 11/7
- AM/Sig, AM/CE, AM/W, AM/B, AM/ME 11/7
- Adv/T, Adv L (RS) 11/7
- Adv 11/7
- ED/W, ED/Safety 11/7
- 11/7
- 11/7

PLS/CRS - For kind information of CRB.

S/241

**Sub : Presentation on status of PETS and FLS of
Dedicated Freight Corridor Project**

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3. You are requested to kindly make it convenient to attend the presentation.

Adviser (Infrastructure)
11.7.2006

FC, ME, MT, MM, ML

AM/Sig, AM/CE, AM/W, AM/B, AM/ME

Adv/T, Adv L (RS)

ED/W, ED/Safety

PPS/cns - for kind information g-cns.

5/240


**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt. II

7th July 2006

Sub: Minutes of the Meeting regarding load exchange points and connectivities on the proposed DFCs held on 29th June 2006.

Please find enclosed herewith Minutes of the meeting held on 29th June 2006 in the chamber of Adviser/Traffic, Railway Board regarding load exchange points and connectivities on the proposed DFCs.


(Mukul Saran Mathur)
Director/Tpt. Plg.
Tel/Fax: 011-23388858

Copy to:

1. COM/CR, WR, NWR, ER, ECR, NCR
2. MD/RITES
3. Adviser/Infrastructure, Railway Board.
4. Adviser/Traffic, Railway Board.

5

MINUTES OF MEETING
(held on 29th June 2006.)

Minutes of the meeting held on 29th June 2006 in the chamber of Shri Ashok Gupta, Adviser/Traffic regarding load exchange points and connectivities on the proposed DFCs.

Present

1. Mr. Ashok Gupta, Adviser/Traffic
2. Mr. Shri Prakash, Adviser/Infrastructure
3. Mr. R.N.Verma, COM Central Railway
4. Mr. V.S. Murthy, COM Western Railway
5. Mr. V.K.Roy, COM North Western Railway
6. Mr. H.K. Phadhee, COM Eastern Railway
7. Mr. Pandey, COM East Central Railway
8. Mr. N.Jayaram, GGM/RITES
9. Mr. Krishan Lal, Adviser/RITES
10. Mr. R.K. Bansal, Adviser/RITES
11. Mr. K.K. Saxena, COM/NCR

The following decisions were take:-

1. **JN Port:**
DFC should start from the Nahva Sheva Holding Yard between JN Port and Jasai Yard. For this purpose, existing and additional lines should be of 1500m CSR.
2. **Vasai**
Trains to and from Mumbai area [other than JN Port] shall be exchanged between DFC and Diva-Vasai mainline at an exchange yard suitably located between Diva and Virar. However, there shall be no surface crossing on the existing line or the DFC. There shall also be no traction change at this location and trains to/from Mumbai area will be operated on diesel traction only.
3. **Udhna**
No interconnectivity between Udhna-Jalgaon line and DFC need be provided at the initial stage. Exchange of trains between the two streams will be done through exchange facilities provided at Gothangam. However, the alignment should permit provision of such a facility in future.

4. **Kosad/Gothamgam**
This interconnectivity point should have facility not only for exchange of loads between DFC and Hazira line but also between main line and DFC in both directions, viz Delhi side and Mumbai side, without any surface crossing.
5. **Makarpura**
Inter connectivity should be provided between the DFC and main line in both directions. Similarly, connectivity between a future logistics park around Vadodara and DFC should be possible in both directions.
6. **Anand**
Exchange points at Anand is not required.
7. **Sabarmati**
Connectivity between DFC and the existing rail network should be for movement in all four directions, viz to/from Sabarmati, to/from Viramgam, to/from Mumbai and to/from Delhi.
8. **Mahesana**
Inter connectivity at Mahesana should be eliminated.
9. **Palanpur**
Inter connectivity is necessary. Facilities developed should take into account future doubling of Gandhidham-Palanpur line.
10. **Marwar Jn**
Proposed connectivity is in order. In view of limited exchange of traffic, surface crossings can be provided.
11. **Phulera**
Inter connectivity is necessary. It should also provide connectivity for movement of traffic between Delhi/Rewari and Ajmer/Jodhpur.
12. **Rewari**
Inter connectivity through a chord line linking DFC with Rewari-Hissar section is necessary. Facilities should be planned in a manner that traffic between DFC and Rewari-Hissar section does not pass through existing Rewari yard.

13. **Tughlakabad**

Tughlakabad-Dadri rail link project that was to be executed by RVNL has been dropped in view of construction of DFC. Alignment for the link has to be done by RITES.

Decisions pertaining to Eastern DFC

1. On Sone river, four lines are considered adequate for movement of traffic on Freight Corridor as well as existing lines i.e one set of two for the corridor traffic and one set of two for the existing lines. RITES should provide for bridge over the river accordingly.
2. The remodeling plan of Sonenagar Yard prepared in the context of provision of third line between Sonenagar and Dehri-on-Sone should be revised integrating the requirements of the DFC project For this purpose, RITES may advise ECR about the proposed method of connectivity between DFC and the existing lines.
3. Maintenance of BOXN and BRN wagons will be undertaken at Mughalsarai. The facilities required for this purpose may be planned by RITES. Necessary flyovers may be provided to avoid surface crossing of main running lines.
4. The coal traffic to Unchhar power house will be diverted form the corridor to the existing lines at Mughalsarai itself.
5. The coal traffic from NCL and SECL fields, the steel traffic from Bhilai and other sources and cement traffic arriving at Katni for the destinations on Kanpur-Ghaziabad section and for Sharanpur-Ludhiana and beyond route will be routed via Katni-Manikpur-Kanpur and will move over the corridor from Kanpur. For this purpose, Katni-Manikpur-Kanpur route will be strengthened. Also the possibility of connecting the Katni-Manikpur-Kanpur route directly to the corridor in the up direction should be explored. Otherwise, necessary connectivity may be provided between the existing lines and the corridor.
6. No connectivity is required between the corridor and the existing lines at Tundla.

7. At Aligarh, a suitable fly over may be provided from the up line of the corridor to facilitate transfer of traffic to Harduaganj power house on Aligarh-Chandausi section.
8. The route Khurja-Hapur-Meerut-Sharanpur-Rajpura may be doubled.
9. At Sahranpur surface crossing between the DFC and the existing lines may be provided.
10. No connectivity is required between the corridor and the existing lines at Ambala.
11. At Sirhind a suitable fly over may be provided from the up line of the corridor to facilitate transfer of traffic to Ropar power house and others on Sirhind-Una section.
12. The corridor may be terminated at Dhandarikalan.

Shri Prakash
 Adviser (Infra)
 Fax - 23303978

MINUTES OF MEETING
 (held on 29th June 2006.)

S/P 36

Minutes of the meeting held on 29th June 2006 in the chamber of Sh Ashok Gupta, Adviser/Traffic regarding load exchange points and connectivities on the proposed DFCs.

Present

1. Mr. Ashok Gupta, Adviser/Traffic
2. Mr. Shri Prakash, Adviser/Infrastructure
3. Mr. R.N.Verma, COM Central Railway
4. Mr. V.S. Murthy, COM Western Railway
5. Mr. V.K.Roy, COM North Western Railway
6. Mr. H.K. Phadhee, COM Eastern Railway
7. Mr. Pandey, COM East Central Railway
8. Mr. N.Jayaram, GGM/RITES
9. Mr. Krishan Lal, Adviser/RITES
10. Mr. R.K. Bansal, Adviser/RITES
11. Mr. K.K. Laxma, COM NCR

The following decisions were take:-

1. **JN Port:**
 DFC should start from the Nahva Sheva Holding Yard between JN Port and Jasai Yard. For this purpose, existing and additional lines should be of 1500m CSR.
2. **Vasai**
 Trains to and from Mumbai area [other than JN Port] shall be exchanged between DFC and Diva-Vasai mainline at an exchange yard suitably located between Diva and Virar. However, there shall be no surface crossing on the existing line or the DFC. There shall also be no traction change at this location and trains to/from Mumbai area will be operated on diesel traction only.
3. **Udhna**
 No interconnectivity between Udhna-Jalgaon line and DFC need be provided at the initial stage. Exchange of trains between the two streams will be done through exchange facilities provided at Gothangam. However, the alignment should permit provision of such a facility in future.
4. **Kosad/Gothangam**
 This interconnectivity point should have facility not only for exchange of loads between DFC and Hazira line but also between

Adv (T)
 Adv. Infra
 we may discuss it
 4/7/06

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STP
 M. Laxma
 K

main line and DFC in both directions, viz Delhi side and Mumbai side, without any surface crossing.

5. **Makarpura**
Inter connectivity should be provided between the DFC and main line in both directions. Similarly, connectivity between a future logistics park around Vadodara and DFC should be possible in both directions.
6. **Anand**
Exchange points at Anand is not required.
7. **Sabarmati**
Connectivity between DFC and the existing rail network should be for movement in all four directions, viz to/from Sabarmati, to/from Viramgam, to/from Mumbai and to/from Delhi.
8. **Mahesana**
Inter connectivity at Mahesana should be eliminated.
9. **Palanpur**
Inter connectivity is necessary. Facilities developed should take into account future doubling of Gandhidham-Palanpur line.
10. **Marwar Jn**
Proposed connectivity is in order. In view of limited exchange of traffic, surface crossings can be provided.
11. **Phulera**
Inter connectivity is necessary. It should also provide connectivity for movement of traffic between Delhi/Rewari and Ajmer/Jodhpur.
12. **Rewari**
Inter connectivity through a chord line linking DFC with Rewari-Hissar section is necessary. Facilities should be planned in a manner that traffic between DFC and Rewari-Hissar section does not pass through existing Rewari yard.
13. **Tughlakabad**
Since the western DFC will extend upto Dadri, RITES should examine connectivity with ICDs Tughlakabad and Dadri, in consultation with RVNL who are executing the Tughlakabad-Dadri rail link project.

*As Tughlakabad - Dadri rail link project
was to be executed by RVNL has
been dropped in view of cancel of DFC.
Alignment for the link has to done by
RITES.*

Decisions pertaining to Eastern DFC

1. On Sone river, four lines are considered adequate for movement of traffic on Freight Corridor as well as existing lines i.e one set of two for the corridor traffic and one set of two for the existing lines. RITES should provide for bridge over the river accordingly.
2. The remodeling plan of Sonenagar Yard prepared in the context of provision of third line between Sonenagar and Dehri-on-Sone should be revised integrating the requirements of the DFC project. For this purpose, RITES may advise ECR about the proposed method of connectivity between DFC and the existing lines.
3. Maintenance of BOXN and BRN wagons will be undertaken at Mughalsarai. The facilities required for this purpose may be planned by RITES. Necessary flyovers may be provided to avoid surface crossing of main running lines.
4. The coal traffic to Unchar power house will be diverted from the corridor to the existing lines at Mughalsarai itself.
5. The coal traffic from NCL and SECL fields, the steel traffic from Bhilai and other sources and cement traffic arriving at Katni for the destinations on Kanpur-Ghaziabad section and for Sharanpur-Ludhiana and beyond route will be routed via Katni-Manikpur-Kanpur and will move over the corridor from Kanpur. For this purpose, Katni-Manikpur-Kanpur route will be strengthened. Also the possibility of connecting the Katni-Manikpur-Kanpur route directly to the corridor in the up direction should be explored. Otherwise, necessary connectivity may be provided between the existing lines and the corridor.
6. No connectivity is required between the corridor and the existing lines at Tundla.
7. At Aligarh, a suitable fly over may be provided from the up line of the corridor to facilitate transfer of traffic to Harduaganj power house on Aligarh-Chandausi section.
8. The route Khurja-Hapur-Meerut-Sharanpur-Rajpura may be doubled.

9. At Sahranpur surface crossing between the DFCR and the existing lines may be provided.
10. No connectivity is required between the corridor and the existing lines at Ambala.
11. At Sirhind a suitable fly over may be provided from the up line of the corridor to facilitate transfer of traffic to Ropar power house and others on Sirhind-Una section.
12. The corridor may be terminated at Dhandarikalan.

Sub : Board decision for operationalising Dedicated Freight Corridor Project




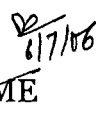

Railway Board in its meeting of 16th March 2006 identified the sequential steps that need to be taken for operationalising the implementation of Dedicated Freight Corridors Project. Board also decided to form AMs Committees to finalise the technical parameters. List of Committees and target dates for fulfilling the activities as per the Board decision were communicated vide the undersigned's Note dated 23.3.2006 (copy enclosed for ready reference).

2. Additional Members/Advisers working as Coordinating Officers for these Committees were requested to initiate action for compliance of Board's decision.


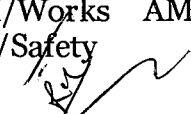
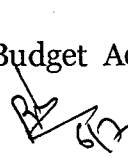

3. CRB desires that a presentation should be made by the nodal AMs/Advisers as per the following schedule on the status of implementation of issues concerning them in the Committee Room.

Date	Time	Co-ordinating AM/Advisor	Issue
11.7.2006	1500 hrs	AM/Signal	Item 6.5 – Decision on signaling and telecommunication
	1600 hrs	AM/CE	Item 6.1-Finalisation of maximum moving dimensions, track loading density and axle load Item 6.3 – Finalisation of track and bridge parameters
12.7.06	1500 hrs	AM/ME	Item 6.2 – Wagon Design finalization
	1600 hrs	AM/ME	Item 6.4 – Decision on type of diesel locomotive
	1630 hrs	AM/L	Item 6.4 – Decision on type of electric locomotive Item 6.6 -Decision on height of contact wire

4. AMs working as Coordinators are requested to make their presentation to Board as per programme above along with the other Committee members.


 Adviser(Infrastructure)
 5.7.2006
 AM/Signal
  AM/L
  AM/ME
  AM/CE

Copy to :-

 AM/Works
  AM/Budget
  Adv/Traffic
 


**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt. II

7th July 2006

Sub: Minutes of the Meeting regarding load exchange points and connectivities on the proposed DFCs held on 29th June 2006.

Please find enclosed herewith Minutes of the meeting held on 29th June 2006 in the chamber of Adviser/Traffic, Railway Board regarding load exchange points and connectivities on the proposed DFCs.


(Mukul Saran Mathur)
Director/Tpt. Plg.
Tel/Fax:011-23388858

Copy to:

1. COM/CR, WR, NWR, ER, ECR. NCR
2. MD/RITES
3. Adviser/Infrastructure, Railway Board.
4. Adviser/Traffic, Railway Board.

MINUTES OF MEETING
(held on 29th June 2006.)

Minutes of the meeting held on 29th June 2006 in the chamber of Shri Ashok Gupta, Adviser/Traffic regarding load exchange points and connectivities on the proposed DFCs.

Present

1. Mr. Ashok Gupta, Adviser/Traffic
2. Mr. Shri Prakash, Adviser/Infrastructure
3. Mr. R.N.Verma, COM Central Railway
4. Mr. V.S. Murthy, COM Western Railway
5. Mr. V.K.Roy, COM North Western Railway
6. Mr. H.K. Phadhee, COM Eastern Railway
7. Mr. Pandey, COM East Central Railway
8. Mr. N.Jayaram, GGM/RITES
9. Mr. Krishan Lal, Adviser/RITES
10. Mr. R.K. Bansal, Adviser/RITES
11. Mr. K.K. Saxena, COM/NCR

The following decisions were take:-

1. **JN Port:**
DFC should start from the Nahva Sheva Holding Yard between JN Port and Jasai Yard. For this purpose, existing and additional lines should be of 1500m CSR.
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This interconnectivity point should have facility not only for exchange of loads between DFC and Hazira line but also between main line and DFC in both directions, viz Delhi side and Mumbai side, without any surface crossing.

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Inter connectivity is necessary. Facilities developed should take into account future doubling of Gandhidham-Palanpur line.

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Tughlakabad-Dadri rail link project that was to be executed by RVNL has been dropped in view of construction of DFC. Alignment for the link has to be done by RITES.

Decisions pertaining to Eastern DFC

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12. The corridor may be terminated at Dhandarikalan.

5)N

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

No.2005/PL/6/7/Pt-II

New Delhi, dated 26.6.2006

**Chief Operations Manager
Central Railway
Mumbai**

**Chief Operations Manager
East Central Railway
Hajipur**

**Chief Operations Manager
Western Railway
Mumbai**

**Chief Operations Manager
Eastern Railway
Kolkata**

**Chief Operations Manager
North Western Railway
Jaipur**

**Chief Operations Manager
Northern Railway
New Delhi**

DEDICATED FREIGHT CORRIDOR

1. A meeting will be held in the chamber of Adviser (Traffic) at 1200 hours on 29.6.2006 to discuss network connectivity and planning of exchange yards with the proposed Eastern and Western Dedicated Freight Corridors.
2. You are requested to kindly make it convenient to attend the meeting.



**(Girish Pillai)
EDPP/Railway Board**

Copy to :-

Shri N.Jayaram
meeting along
GGM (Traffic)
RITES
Gurgaon

- You are requested to kindly attend the
with your Consultants.

50/24629.



Shri Prakash
Adviser/Infrastructure

भारत सरकार

रेल मंत्रालय, (रेलवे बोर्ड)

नई दिल्ली-११० ००९

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

D.O. No. 2005/PL/6/7

19th June, 2006

My dear Vinay,

**Sub: Board decision for operationalising Dedicated
Freight Corridor Project.**

Board had earlier directed that Preliminary-Engineering-cum-Traffic Survey, Business Plan for Dedicated Freight Corridor Project and Final Location Survey for the Project should be done by RITES.

Chairman, Railway Board has desired that a presentation on the latest progress of the works regarding Dedicated Freight Corridor Projects assigned to RITES should be made sometime this week. Final date of presentation will be advised at short notice.

With best wishes,

Yours sincerely,

(Shri Prakash)

Shri V.K. Agarwal
Managing Director
RITES
Gurgaon

S/1033

Sub: Board decision for operationalising Dedicated Freight Corridor Project.

Railway Board in its meeting of 16th March 2006 identified the sequential steps that need to be taken for operationalising the implementation of Dedicated Freight Corridors Project. List of activities and target dates for fulfilling the activities as per the Board decision were communicated vide the undersigned's Note dated 23.3.2006.

Additional Members/ Advisors responsible for activities were requested to initiate action for compliance of Board's decision. CRB has desired that AMs/Advisors should make a presentation on the status of implementation sometime this week. Final date of presentation will be advised shortly.

✓ AM/Works 19/6/06
 AM/L 19/6
 ED/Safety
 Adv./Traffic 19/6
 AM/Signal 19/6
 AM/Tele
 AM/CE 19/6
 AM/ME 19/6
 AM/Budget 19/6
 Adviser/Infrastructure 19/6/2006

Sub: Board decision for operationalising Dedicated Freight Corridor Project.

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Additional Members/ Advisors responsible for activities were requested to initiate action for compliance of Board's decision. CRB has desired that AMs/Advisors should make a presentation on the status of implementation sometime this week. Final date of presentation will be advised shortly.



Adviser/Infrastructure
19/6/2006

AM/Works Adv./Traffic AM/CE AM/ME

AM/L AM/Signal AM/Tele AM/Budget

ED/Safety

**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt. II

14th June 2006


Shri Sanjai B. Verma
Chief coordinator Planner (NCR)
Directorate of Town & Country Planning
HUDA Complex, Sector -6
Panchkula,
Haryana

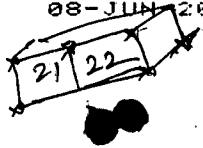
Sub: Route Alignment of Mumbai-Delhi Freight Corridor.

Ref: Your letter no. CCP(NCR)/2006/1375 dt. 8.6.2006.

With reference to your above mentioned letter regarding route alignment of Dedicated Freight Corridor concerning Haryana, it is to inform you that the tentative alignment of Mumbai-Delhi Freight Corridor will pass from Sri Madhopur – Khori-Asaoti –Tuglakabad.

Final alignment will be available after the detailed Preliminary Engineering-cum-Traffic Survey is made available by the consultants.


(Mukul Saran Mathur)
Director(Transport Planning)
Tel/Fax:23388858



C/N 39

Office of Chief Co-ordinator Planner(NCR)
DIRECTORATE OF TOWN & COUNTRY PLANNING, HARYANA
HUDA COMPLEX, SECTOR-6, PANCHKULA
Tele-Fax: 0172-2578086; Tel: 0172-2581737

Memo No. CCP(NCR)/2006/1375

Dated: 3-6-2006

FAX NO. 011-23368858

To

Sh. Mukul Mathur,
Director, Transport Planning,
Railway Board, New Delhi.

SUBJECT:

ROUTE ALIGNMENT OF "MUMBAI-DELHI FREIGHT CORRIDOR" FOR
PLANNING FURTHER INFRASTRUCTURE DEVELOPMENT ALONG THE
PROPOSED CORRIDOR.

Reference:

Telephonic Discussion held by the undersigned with Sh Mukul Mathur, Director, Transport Planning, on the above matter on 8.7.2006.

With reference to above, as discussed, the Government of Haryana intends to study infrastructure development potentials at various locations along the alignment of the Mumbai-Delhi Freight corridor being planned by the Railways. In order to move ahead with the site selection and preliminary planning of such locations it is important for us to have an idea about the route alignment being considered by the Railways for the said corridor.

We understand that the alignment is not yet final; however, a tentative alignment is already under consideration. It is accordingly requested that the tentative alignment of the said freight corridor may kindly be provided to this office, through FAX, so that preliminary work regarding selection of appropriate locations can be initiated.

(SANJAY B. VERMA)

Chief Coordinator Planner (NCR)
O/o Director, Town & Country Planning,
Haryana, Panchkula.

Recd
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B: (Alignment Via Ahmedabad-Palanpur-Phulera –Rewari-TKD)**2.11 General**

The proposed alignment passes through the states of Maharashtra, Gujarat, Rajasthan, Haryana and Delhi involving Thane district of Maharashtra state, Valsad, Navsari, Surat, Bharuch, Vadodra, Anand, Khera, Ahmedabad, Gandhinagar, Mahasena and Banas Kantha districts of Gujarat; Sirohi, Pali, Ajmer, Nagaur, Jaipur, Sikar, Jhunjhunun districts of Rajasthan, Mahendragarh (Narnaul), Rewari, Gurgaon and Faridabad district of Haryana, South Delhi district of Delhi state and Ghaziabad district of Uttar Pradesh.

While approaching Delhi from Mumbai, the route will be common up to Surat for both the alternatives. For this alternative the proposed alignment beyond Vadodra runs via Ahmedabad, Palanpur, Ajmer, Phulera, Ringus, Rewari, TKD & Dadri.

The route alignment between Surat and Dadri has been divided into five sections and uses Sectional Chainages separately for each section. The sectional chainages have been related to the nearest existing Railway kilometer, at the start and end of each sections by a mention of the Long/ Short in lengths.

2.12 Alignment in General

The proposed railway double line starts from Panvel station, about 32km short of JNPT station (near existing km 68.13, 8.7m above MSL) and ends at Dadri (about 35 km from Delhi) (near existing km1415.69 on Delhi – Howrah route./207m above MSL) via Tughlakabad (existing km1519.90, 233.93m above MSL). The proposed alignment traverses Via Ahmedabad-Palanpur-Phulera –Rewari-TKD route with diversions enroute.

Generally the proposed alignment runs as follows:

- Runs along the existing route on east side from Panvel To Gothangam and crosses Mumbai-Delhi main line.
- Runs along the existing route on west side from Gothangam To short of Palanpur and crosses Mumbai-Delhi main line
- Runs along the existing route on east side from short of Palanpur To Beawar and crosses Ahmedabad - Rewari main line.
- Runs along the existing route on west side from Beawar To Kharwa and crosses Ahmedabad - Rewari main line to East side near Kharwa.
- Runs along the existing route on east side from Kharwa to short of Kishangarh where it takes a detour and returns back to east side after Kishangarh.

There after runs on the east side of the existing line to Khori short of Rewari. Where it takes new alignment and crosses Rewari – Jaipur BG line near Rewari. Bye passing Rewari yard. Runs on a new route to Asaoti on Mathura – Tughlakabad section and runs parallel to the existing line on west side.

Crosses Tughlakabad yard on delhi end to Dadri on the side and Terminates at Dadri.

The alignment passes through almost plain cultivated terrain except for a stretch of hilly terrain between km 487 & km 545, km 389 & 391, km 285 & km 295 and km 27 & km 33 and protected forest for a length of 2 km near Krishangarh, near km 357

The proposed alignment has been designed as per standards provided in Section-IV: Engineering/Chapter-I: Standard of Construction

The alignment is almost on straight route with small percentage of curved track. All possible efforts have been made to keep flatter curves (maximum 2.5 degree curvature), so that train can run at full speed without any speed restrictions. At many places there are a numbers of

sharper curves more than 2.5. At such locations efforts have been made to make it flatter to the extent possible, wherever not possible, the same will be examined during PET survey. The length of alignment running parallel to the existing track is 1222km and 271km on diverted alignment out of total length of 1493km. The proposed alignment diverts from the existing track at the following locations :

- Surat-Gothangam
- Ankleshwar-Chavaj to avoid Bharuch
- Makarpura-Vasad to avoid Vadodara
- Anand-Jhulasan on west of Ahmedabad
- Near Beawar to avoid hills & steep grades
- Near Ajmer to avoid hills & steep grades
- Near Ladpura, Kishngarh, Phulera & Ringus

The proposed alignment crosses a number of important rivers viz Tapi, Narmada, Mahi, Sabarmati, Banas, Yamuna and Hindon.

A total of 13 Load Exchange yards and 11 Crossing Yards have been proposed for Mumbai and Delhi route which are as follows:

Load Exchange Yard

Vasai Rd-1, Udhna-1, Kosad/Gothangam-2, Vadodara-2, Sabarmati/Virangam-2, Palanpur-1, Marwar-1, Ajmer-1, Phulera-2, Rewari-1, TKD-1. Total-14

Crossing Yard

Between Vasai Rd & Udhana-2, Kosad/Gothangam & Vadodra -1, Vadodra & Sabarmati / Viramgam-1, Sabarmati / Viramgam & Palanpur -1, Palanpur & Ajmer-4, Phulera & Rewari-2. Total - 11

The proposed alignment crosses the main line and branch lines at the following locations where Rail Fly Over have been proposed:

Main Line	Branch Lines
Diva- Kalyan Main Line	Udhna Jn. – Jalgaon
Mumbai-Delhi Main Line near Gothangam	Kathana – Vasad
Ahmedabad-Rewari Main Line near Palanpur	Khambhat - Anand
Ahmedabad-Rewari Main Line near Beawar	Ahmedabad - Botad (MG)
Ahmedabad-Rewari Main Line near Kharwa	Ahmedabad – Virangam
Ahmedabad-Rewari Main Line near Kishangarh twice.	Virangam – Mehsana
Mumbai-Delhi Main Line at Tughlakabad to Dadri	Mehsana – Patan
	(IFFCO Siding will cross Delhi-Mumbai Main line through Fly Over to join DFC.)
	Marwar – Mavli Jn. (MG)
	Phulera – Jaipur
	Ringus – Jaipur (MG)
	Rewari - Alwar

The following structures have been proposed for Mumbai-Delhi route:

- Crossing Stations 11 nos.
- Load Exchange Yard 14 nos.
- Important Bridges 17Nos. (linear water way - 3927 m)

ultimately have to cross over to east again for joining with the corridor along Ajmer goods bye pass line. To achieve this alignment will blow out on west to make proper crossing and to get ramp gradient and cross from west to east. After crossing the existing track will again curve in and become parallel to existing track.

- ix. The existing alignment has gradients which are steeper than the specified and have been planned for flattening as detailed in the gradient list.

At the following locations alignment in this section will take detour:

Sl. No. Name detour.

1. Ringus.
2. Phulera.
3. Kishangarh.
4. Ladpura – Madar.

2.18 Description of Alignment: Srimadhoppurr (incl.) to TKD-Dadri (from existing km 138.210 to km 1415.69 on Delhi – Howrah route)

ALIGNMENT IN GENERAL

- Alignment has been taken parallel to the existing track at 8.5 m distance (Centre to Centre) on east side in Srimadhoppur – Khori Section and on west side in Asaoti – Tughlakabad section.
- In Khori – Asaoti section new alignment has been adopted to avoid congested area of Delhi. The new alignment takes off after Khori station at Km 10 and joins with Mathura – Delhi section at Km 1496 after Asaoti yard.
- In Asaoti – Tughlakabad section availability of land is less on west side therefore one existing line is proposed for shifting on East side to make room for laying freight tracks. The shifted lines shall be joined at approach of station yards by reverse curve of 0.5 degree.
- Since major remodeling in Tughlakabad yard is not possible therefore a freight yard has been proposed at junction cabin to function as transfer yard, from where the freight traffic shall be diverted to existing system.

ALIGNMENT IN STATION

BALLABHGARH

Station Building is although existing on west side but circulating area in on East side, therefore Station Building which is affected by corridor can be relocated on East side. Two mineral siding of 280 m CSL, shunting neck 245 m, 4 goods line of 210 m CSR and a goods platform (160 x 10 m) with goods shed (39 x 10m) are existing on west side. The circulating area near good shed is presently being used by container depot. Therefore existing small length goods siding and good shed shall have to be relocated and connected to freight corridor (approximately 1000 m). M/s. Good Year Tyer and Globe motor sidings also exist at the station but on East side & therefore remain unaffected.

FARIDABAD NEW TOWN

New Development Board and HSEB sidings are taking off from main line on west side. Therefore there take off point shall have to be modified and connected with freight corridor.

Delhi end of this yard shall require shifting of existing lines towards East as the existing main line between Faridabad New Town & Faridabad are to be relocated on East side to make room for freight corridor on west side.

FARIDABAD

High level passenger platform and Station Building is on the west side. Therefore freight corridor has been proposed after leaving space for one platform line. Station building shall be relocated and connected to platform through a FOB. Three mineral sidings totaling 600 m, 4

Goods siding totaling 600m, goods platform and goods shed are affected due to freight corridor and shall have to be relocated (Total length approximately 1200 m)

TUGLAKABAD

This is a major yard and any relocation of lines will cause major alterations to the yard and its signaling system. Therefore no major alteration in the yard has been proposed. However one nominated line in the yard shall be strengthened for running 25 t axle load up to container depot yard.

9/29

CHIEF ENGINEER
MUMBAI PORT TRUST
Port House,
Shoorji Vallabhdas Marg,
Ballard Estate,
Mumbai - 400 001
Telegram & Cable : CEPTRUST
Telex No. EDX BY 1
1181847-BPT IN
Tel. No.2261 1458, 56564031(D).
Telefax No.2261 6804

मुंबई पोर्ट ट्रस्ट
MUMBAI PORT TRUST
स्थापत्य अभियांत्रिकी विभाग
CIVIL ENGINEERING DEPARTMENT



मुख्य अभियंता
मुंबई पोर्ट ट्रस्ट
पोर्ट भवन, शूरजी वल्लभदास मार्ग,
बेलाई इस्टेट, मुंबई 400 001.
ताव त्रोट कॉमिल : सेप्ट्रस्ट
दूरसंचार क. EDX BY 1
1181847-BPT IN
दूरध्वनी क. 2261 1458,
56564031(विद्या).
फॅक्स क. 2261 6804

No. CE/M/3-79/(INFRA)/93

21 APR 2006
By Speed Post

The Advisor, Infrastructure
Railway Board, (Rail Bhavan)
New Delhi. 110001

Dear Sir,

Sub: Connectivity of Mumbai Port to the proposed
Delhi Mumbai Freight Corridor Project.

We understand that RITES are carrying out feasibility study/detailed project report for Delhi Mumbai freight corridor project. We also understand that a task force was set up for preparing the concept paper on organization structure for the Delhi Mumbai freight corridor project. Ministry of Shipping, Road Transport and Highways had called for comments of this Port Trust among others on the concept paper. The comments were forwarded vide letter dt. 14.11.2005

2. The rail borne traffic of MbPT to north and north-west India passes through congested city network of Mumbai via Bandra-King Circle-Borivali and then further via western route or Wadala-Kurla-Kalyan-Kasara via central route. In next 3 years Mumbai Port is planning to execute projects costing around Rs. 1800 crore, which would increase the present rail borne traffic of 2 million tonne per annum to 9 million tonne per annum in the year 2010 and upto 14 million tonne in the year 2019.

3. The details of project planned for execution in next 10 years together with capacity augmentation and increase in rail component due to these projects is shown in under mentioned table:

219
27/4

Handwritten notes:
It is a feeder route identified already.
27/4

Handwritten signature:
Same as file

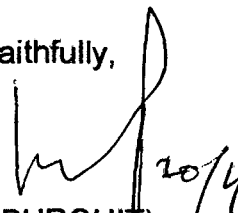
Sr. No.	Name of Project	Estimated cost in Rs. Crore.	Capacity Augmentation (MTPA)	Component Of rail borne traffic (MTPA)	Resultant No. of trains/day	Date of commission of project.
1.	Off-shore container Terminal Project (2 berths).	1228	10 (0.8 MTEU)	3.5	9	Aug.2009
2.	Deepening of Harbour Wall berths.	350	6	2.00	5	March 2009
3.	Constructio n of 3 rd off-shore container berth	450	(0.4M MTEU)	2.00	6	2019
4.	Deepening of BPS & BPX berths	400	6	2.50	6	2019
	Grand Total				26	

3. It will be seen from the above that after taking into account the existing port rail traffic of 3 trains/day the total traffic would be 17 trains/day by 2009 and 29 trains/day by 2019. The present capacity of handling port traffic at Wadala interchange point is only 6 trains/day./ Due to pressure of suburban passenger traffic in Mumbai area, there is no likelihood of improvement in time window allowed for port traffic by Central Railway at Wadala. Thus unless drastic measures are employed projected port rail borne traffic in the year 2009/2019 will not be evacuated from Wadala Interchange point with present capacity of 6 trains/day.

4. Since RITES are already undertaking feasibility studies of Delhi Mumbai freight corridor project, it would be in the fitness of things to study feasibility of establishing dedicated corridor from Wadala to Diva where MbPT's dedicated corridor can be connected to Delhi Mumbai corridor. This would be a long-term planning, which would improve the port connectivity of MbPT .

5. I have, therefore, to request you to include in the feasibility studies underway, the feasibility of connecting Mumbai Port to the proposed freight corridor between Delhi and Mumbai at Diva or any other suitable location by establishing dedicated freight corridor from Wadala to Diva.

Yours faithfully,



(N. M. PUROHIT)
CHIEF ENGINEER.

RAILWAY BOARD

RAILWAY

ER	Asansol-Kalipahari-Durgapur via slow lines only	—	42 kms
ECoR	Waltair-Kirandul section including Koraput-RGDA	—	612 "
	Daitari-Jakhpura-Cuttack-Paradeep	—	179 "
	JSG-Sambalpur-Titlagarh-Rayagada-Vijayanagaram-Vishakhapatnam	} —	757 "
	SBP-SBPY-TLHR-NRG	—	268 "
SE (excl. Baraka)	Kharagpur-Rupsa-Bhadrak	—	176 "
	Bondamunda-Barsuan-Kiriburu including BNDM-Birmitrapur	—	157 "
	Bondamunda-Nawagon-Purnapani-Hatia-Muri-Bokaro including RNC-Lohardaga	} —	318 "
	Chandil-Anara-ADA-Damodar-BURN-Kalipahari including Anara-Rukni-Bhaga and Purulia-Kotshila	} —	180 "
	BRKA-MURI-CHANDIL	—	123 "
	RKSN-DPS-Barajamda-GUA-BOLANI-BSPX	—	149 "
	JSG-BNDM-CKP-Tatanagar-KGP-Panskura-Haldia	—	513 "
SEC	Bhilai-Dhalli Rajhara	—	87 "
	Bhilai-Ahiwara	—	
	JSG-CPH-BSP-DUG including Urkura-Mandichasaud	—	360 "
SWR and SCR	Hubli-Hospet-Bellary-Guntakal-Renigunta-Arakonam-HOM/Ennore including Tornagallu-Ranjitpura and Hospet-Swami Halli branch lines	} —	848 "
	Guntakal-Nandyal-Guntur-Vijayawada-Samalkot-Vizag Port Kanakapalli including Samalkot-Kakinada branch line	} —	764 "
442 —	Hubli-Londa-Castle Rock-Sanvordem-Curchorem-Madgaon	—	202 "
	Madgaon-Roha (KRCL)	—	442 "
	Ammasandra/Banasandra-Arsikere-Birur-Chikjajur-Harihar-Hubli	—	356 "
	Bellary-Rayadurg-Chitradurg-Chikjajur-Birur	—	244 "
	Arsikere-Hasan-Mangalore	—	235 "
	Gunde Road - Kotturu } Kotturu-Harihar (new line)	—	65 "

6635

442

7077

7077 km

$$\begin{array}{r} 212.12 \\ 170.05 \\ \hline 42.17 \\ \hline \end{array}$$

KTV - KRDL -	445.598
KRPV - SPRD -	165.925
	<hr/>

KTV - KRPV.	189.907
KRPV - SPRD	165.925
KRPV -	255.691

$$\begin{array}{r} 445.598 \\ 165.925 \\ \hline 611.523 \\ \hline \end{array}$$

$$\begin{array}{r} 611.523 \\ \hline \end{array}$$

STR	377.00
JKPR -	344.607

$$\begin{array}{r} 377.00 \\ 344.607 \\ \hline 32.393 \\ \hline \end{array}$$

CTC - PRDP

32.393
64.142
82.921
<hr/>
179.456
<hr/>

JKPR - CTC -	408.749
	344.607

$$\begin{array}{r} 408.749 \\ 344.607 \\ \hline 64.142 \\ \hline \end{array}$$

JIG	744.440
JSG -	514.244
<hr/>	
JIG	230.196
<hr/>	

S/N 27



advinf

From: SrigrirKumar Mudigonda <skmudigonda@yahoo.co.in>
 To: Shri Shriprakash <advinf@rb.railnet.gov.in>
 Sent: Friday, May 12, 2006 11:42 AM
 Subject: Katni-Manikpur route

S.K.Mudigonda

Dear Shri Shriprakash,

Sub: Strengthening of the route Katni- Manikpur-Kanpur

In your busy schedule, I would request you to spare a few minutes to go through the following matter and let me have your opinion.

At present, the coal traffic from the Northern and South East Central Coal fields to the powerhouses in Delhi area, Haryana and Punjab and the steel traffic from Bhilai Steel Plant to the destinations on Meerut-Sahranpur-Ambala-Ludhiana section. is being moved via Katni-Bina-Tughlakabad. The alternative route is via Manikpur-Kanpur which is actually shorter by about 30 km. The reasons for adopting the present route are as follows:

- i. Katni-Bina-Tughlakabad is an electrified double line section.
- ii. Katni-Manikpur-Kanpur, is a single line section with some of the stations equipped with only Standard I interlocking and the permissible speed is very low.
- iii. At Kanpur station, the locomotives of the up trains have to be reversed, as there is no direct entry in the up direction.

But, the utilisation of the route Bina-Tughlakabad is more than 100% and the traffic is increasing every year. Hence , with the commissioning of the Corridor via Kanpur to Ludhiana, it is felt that the route Katni- Kanpur may be strengthened for movement of 25 tonne axle load wagons and the above traffic may be moved via Kanpur.

In fact ,CEA has indicated that they are planning to move additional quantities of coal from SECL to the powerhouses in Haryana and Punjab. Hence this becomes all the more important.

With regards,

Yours sincerely,

~~EDDP~~

Pe discuss. Is there any reversal at Manikpur - I think there is no reversal of June 15.5.

Discussed. The route may be kept in consideration for 'feeder route'. 5/13/06

Leave on feeder route file

~~EDDP~~

~~EDDP~~

P 17/5

East Central Railway

Office of the
General Manager (Optg.)
Hajipu

No. ECR/OPT/WPG_HQ/ 2005-06/505

Dated April 21,2006

Director Transport (Planning)
Railway Board
New Delhi

Sub: - Identification of feeder routes for moving double stack container trains on Western corridor and coal wagons for 25 tonne axle load on Eastern Corridor.

Ref:- DTTG / Railway Board ,s letter no2005 / PL / 6 / 7 / PT . II dated 04.04.2006.

In reference to above quoted letter, it to state that following routs are missing from above mentioned list.

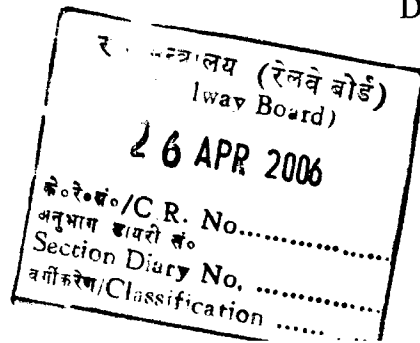
1. Patratu – Renukut – Singrauli – Mahadiya.
2. Candrapura - Durgauti
3. Pradhankhunta – Pathardih

Please include the above routes.



(D.K. Verma)

Dy Chief Operations Manager (Planning)



S/25

No.2005/Elect(TRS)/440/22/Pt.

Sub:- Board decision for operationalising DFC project – Status of Implementation.

Ref:- Adviser/Infrastructure's note No. 2005.PL/6/7 Pt.II dt. 23.2.06.

.....
Adviser/Infrastructure vide his above note has asked for status of implementation as Board decision for operationalising Dedicated Freight Corridor project. The reply of item 6.4 (decision on type of locomotives) as on 31.3.06 is put up below :-

For Dedicated Freight Corridor project, RITES have conducted PET survey which has been considered by Board. Board have decided to run freight trains upto 7500T trailing loads with maximum speed of 100 KMPH. The track structure will be constructed for 25T axle load which will be upgraded to 30T for running of 15000T trains. Ruling gradients for Delhi-Mumbai and Ludhiana-Sonnagar , DFCs will not exceed 1 in 200. For meeting the immediate demand, IR have already developed 6000 HP electric locomotive which can be deployed in multiples as per the need to haul these trains.

However, to meet the future needs, electric locomotives with higher horse power in the range of 8000-9000 HP is being developed by RDSO, as directed by Railway Board's letter No. 2005/Elect.(TRS)/440/2 dt. 02.12.2005.

This has the approval of Board (ML).

N.R. Ranjan
DEE(RS)
25.04.2006
25/4/06

Adv. (Infrastructure)

ADPP

Jane
26/4

a. ALU
h

D/28

V
28/4

Northern Railway

Headquarters office,
Baroda House,
New Delhi

No.802M/92/53/(MC-II)

DT:7th April,2006

Director Mech.Engg(Freight),
Ministry of Railway,
Railway Board,
New Delhi

Sub: Identification of Feeder routes for moving Double Stack Container Trains on Western Corridor and Coal Wagons for 25 tones axle load on Eastern Corridor.

Ref: Director/Transport Planning/Railway Board's letter NO. 2005/PL/6/7 /Pt.II dt. 4.4.06

On close scrutiny of the above letter, which has been issued with the Board's approval (ME/MT & CRB), there appears to be considerable scope for improving Railway earnings by the following additions/modifications:

- i. Double stack movement between Pipavav port and Rewari – This should be extended upto Gurgaon where container depot in private sector was earlier being planned. Since Delhi remains a major consumption area, it will ensure a considerable traffic.
- ii. In the Eastern side a number of routes are mentioned which really belong to western side and should be on diesel. These routes are:
 - Rajpura – Dhuri –Bhatinda (Lehra Mohabbat)
 - Hissar-Bhatinda –Suratgarh

These should be a part of diesel double stack route.

- iii. Dhuri –Bhatinda section should not be considered for electrification as it will infringe with the movement of double stack containers between Hissar-Ludhiana) –(identified as item 6 of Western route) .
- iv. Electrification of Hissar-BTI –Suratgarh section should not be considered, as It will again infringe with the movement of double stack containers between Hissar – Ludhiana .

Our study has shown that the route on recently opened line between Rewari and Gurgaon can be made fit for movement of double stack containers at a very nominal cost of less than Rs. 1 crores. The conversion of the line between Jaipur - RE for double stack container movement may also not be a very expensive exercise considering its benefits.

The double stack container movement will immediately bring down the cost of transportation and therefore should be the first preference. It is requested that above suggestions may be considered which will increase the Railway earnings substantially and bring down the cost of transportation.

This may please be brought to the notice of Railway Board.


(Ranjeet Saini) 7/4
For General Manager/Mech

Copy to:

1. Director(Traction), Ministry of Railways, Railway Board, New Delhi.
2. ✓ Shri Mukul Saran Mathur, Director / Transport Planning, Ministry of Railways, Railway Board, New Delhi.

Copy to CME / NR for information.

**Government of India
Ministry of Railways
(Railway Board)**

No. 2005/PL/6/7 Pt.II

4th April 2006

General Managers
NR / ECR / SER / CR / WR / NWR / NCR/ER

**Sub: Identification of feeder routes for moving Double Stack
Container Trains on Western Corridor and Coal Wagons for
25 tonne axle load on Eastern Corridor.**

Board (ME, MT, CRB) had finalized the following feeder routes for both Western and Eastern Routes for movement of double stack container trains on Western Route and for moving 25 tonne axle load coal wagons on Eastern Route:-

Western Route

1. Pipavav- Surendranagar- Viramgam- Mehsana (395 Kms)
2. Kandla Port- Gandhidham- Palanpur (312 Kms)
3. Mundra Port - Gandhidham (66 Kms)
4. Viramgram - Samakhiali (182 Kms)
5. Hazira - Surat (40 Kms)
6. Ludhiana - Hissar - Rewari (348 Kms)
7. Mumbai Port - Wadala - Kurla - Diva with connectivity with DFC
(36 Kms)

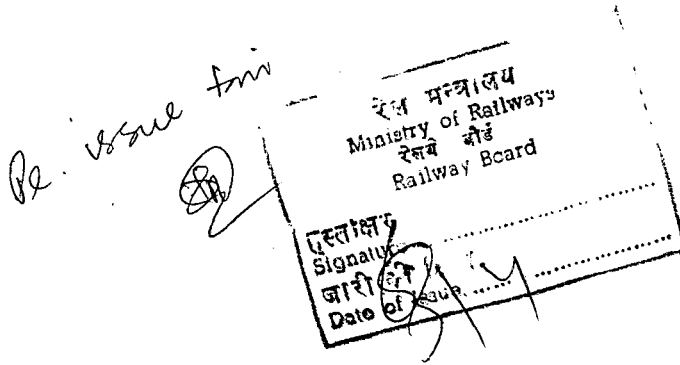
Eastern Route

1. Sonnagar- Garwa Road- Barkakana (311 Kms)
2. Patratu- Gomoh including PD Branch Line (128 Kms)
3. Sonnagar-Gaya-Gomoh (249 Kms)
4. Gomoh-Pradhankhuntha (39 Kms) including Kusunda -Tetulmari (4.5 Kms),
Katrasgarh - Nichitpur, Pradhankhuntha - Pathardih links (24 Kms)
5. Pradhankhuntha-Asansol-Andal including coal branch lines
(75 Kms)
6. Andal-Sainthia-Pakur (151 Kms)

7. Chandrapura- Dhanbad (36 Kms)
8. Bhojidihi –Mohuda –Gomoh (44 Kms)
9. Aligarh – Harduaganj (15 Kms)
10. Kanpur – Paricha (198 Kms)
11. Mughalsarai – Unchahar via Janghai, Phaphamau(205 Kms)
12. Varanasi-Sultanpur-Utratia –Rosa (558 Kms)
13. Zafrabad – Tanda (99 Kms)
14. Ludhiana –Beas-Govindwal Sahib (112 Kms)
15. Rajpura – Dhuri – Bhatinda (Lehra Mohabbat)
(173 Kms)
16. Sirhind – Rupnagar – Nangal Dam (104 Kms)
17. Hissar-Bhatinda-Suratgarh (298 Kms)
18. Suratgarh –Bivradwal
Suitable action may kindly be taken in view of the Board's decision for developing proposals for inclusion in Works Programme 2007-08.

ac (Mukul Saran Mathur)
Director/Transport Planning
Tel:011-23388858

Copy to: Managing Directors/CONCOR, PRCL and Kutch Railway Company.



2005/PL/6/7 Pt.II**Sub: Identification of feeder routes for moving Double Stack Container Trains on Western Corridor and Coal Wagons for 25 tonne axle load on Eastern Corridor.**

Board in its meeting on 16.3.06 had set an internal target for finalizing the feeder routes with approval of Member/Traffic as 30.4.2006. Board had also directed that the list of feeder routes should be given to ME as Action Plan will have to be developed by PCEs of the Railways by forming a core group under them. Zonal Railways will need to develop proposal for inclusion in Works Programme 2007-08.

Board (ME, MT, CRB) had finalized the following feeder routes for both Western and Eastern Routes for movement of double stack container trains on Western Route and for moving 25 tonne axle load coal wagons on Eastern Route:-

Western Route

1. Pipavav– Surendranagar– Viramgam– Mehsana (395 Kms)
2. Kandla Port– Gandhidham- Palanpur (312 Kms)
3. Mundra Port – Gandhidham (66 Kms)
4. Viramgram – Samakhiali (182 Kms)
5. Hazira – Surat (40 Kms)
6. Ludhiana – Hissar – Rewari (348 Kms)
7. Mumbai Port – Wadala – Kurla – Diva with connectivity with DFC (36 Kms)

Eastern Route

1. Sonnagar- Garwa Road- Barkakana (311 Kms)
2. Patratu- Gomoh including PD Branch Line (128 Kms)
3. Sonnagar-Gaya-Gomoh (249 Kms)
4. Gomoh-Pradhankhunta (39 Kms) including Kusunda -Tetulmari (4.5 Kms), Katrasgarh – Nichitpur, Pradhankhunta - Pathardih links (24 Kms)
5. Pradhankhunta-Asansol-Andal including coal branch lines (75 Kms)
6. Andal-Sainthia-Pakur (151 Kms)

7. Chandrapura- Dhanbad (36 Kms)
8. Bhojidih –Mohuda –Gomoh (44 Kms)
9. Aligarh – Harduaganj (15 Kms)
10. Kanpur – Paricha (198 Kms)
11. Mughalsarai – Unchahar via Janghai, Phaphamau (205 Kms)
12. Varanasi-Sultanpur-Utratia –Rosa (558 Kms)
13. Zafrabad – Tanda (99 Kms)
14. Ludhiana –Beas-Govindwal Sahib (112 Kms)
15. Rajpura – Dhuri – Bhatinda (Lehra Mohabbat) (173 Kms)
16. Sirhind – Rupnagar – Nangal Dam (104 Kms)
17. Hissar-Bhatinda-Suratgarh (298 Kms)

Suitable action may kindly be taken in view of the Board's decision for developing proposals for inclusion in Works Programme 2007-08.


 Director/Transport Planning
 3.4.06

AM/Works

AM/CE

AM/L

AM/P

ED/Works

ED/Plg.

ME

MT

For information.

ANNEXURE-II**Feeder Routes as identified by RITES****Western Route**

1. Pipavav – Surendra Nagar – Viramgam – Mehsana (395 kms.)
2. Kandla Port – Gandhidham – Palanpur (330 kms.)
3. Mundra Port – Gandhidham (65 kms.)
4. Okha – Rajkot – Surendranagar (370 kms.)
5. Jodhpur – Luni – Marwar Jn (80 kms.)
6. Mumbai Port – Wadala – Kurla – Diva – Vasai Road (77 kms.)
7. Trombay – Kurla (7 kms.)
8. Thal – Panvel – Diva (88 kms.)
9. Hazira – Surat (40 kms.)
10. Ludhiana – Hissar – Rewari (355 kms.)
11. Tundla – Agra – Jaipur – Phulera (275 kms.)

TOTAL : 2082 kms.

Eastern Route

1. Bondamunda – Chakradharpur – Sini – Chandil – Muri – Barkakana (292 kms.)
2. Tatanagar – Chandil (36 kms.)
3. Gomoh – Patratu – Barkakana – Garwa Road – Sonnagar (414 kms.)
4. Chandil – Bhojidih – Mohuda – Gomoh (180 kms.)
5. Pakur – Andal – Asansol – Gomoh (266 kms.)
6. Aligarh – Harduaganj (18 kms.)
7. Kanpur – Paricha (198 kms.)
8. Allahabad – Unchahar (86 kms.)
9. Allahabad – Naini – Katni (276 kms.)
10. Ludhiana – Amritsar (127 kms.)
11. Ambala – Chandigarh (46 kms.)
12. Rajpura – Dhuri – Bhatinda (Lehra Mohabbat) (173 kms.)
13. Sirhind – Rupnagar – Nangal Dam (104 kms.)
14. Dadri – Ghaziabad – Delhi – Panipat (122 kms.)
15. Gomoh – Sonnagar (249 kms.)

TOTAL : 2587 kms.



Shri Prakash
Adviser (Infrastructure)

D.O. No.2005/PL/6/7/Pt.

S/1025

भारत सरकार
रेल मंत्रालय, (रेलवे बोर्ड)
नई दिल्ली-११० ००९
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001
Dated, 23.3.2006

My dear Vinay,

Sub: Board decision for operationalising Dedicated Freight Corridor Project

Railway Board in its meeting of 16th March 2006 identified the sequential steps that need to be taken for operationalizing the implementation of Dedicated Freight Corridor Project.

Board has directed that Preliminary-Engineering-cum-Traffic Survey along with detailed Project Estimate for Dedicated Freight Corridor (DFC) Project should be submitted by 30th September 2006. Final Location Survey for the Project should be completed by 31st December 2006.

The Business Plan for DFC will be finalized and submitted by 30th September 2006. Board also desires that before the submission of final report, an inception report should be submitted by RITES by 31st May 2006.

CRB has desired that the progress of both the works relating to DFC Project assigned to RITES will be reviewed by him every month.

It is requested that appropriate action should be taken to adhere to the targets set by the Board in the above activities.

With best wishes,

Yours sincerely,


(Shri Prakash)

Shri V.K. Agarwal
Managing Director
RITES
Gurgaon


24/3/06

Sub: Board decision for operationalising Dedicated Freight Corridor Project.

Railway Board in its meeting of 16th March 2006 identified the sequential steps that need to be taken for operationalising the implementation of Dedicated Freight Corridors Project. List of activities and target dates for fulfilling the activities as per the Board decision is enclosed.

Nodal Directorates /Agency responsible for activities are requested to initiate action for compliance of Board's decision. Status of implementation may kindly be furnished by first week of every month to the undersigned for apprising the Board.


Adviser/Infrastructure
23/3/2006

AM/Works

Adv./Traffic

AM/CE

AM/ME

AM/L

AM/Signal

AM/Tele

AM/Budget

ED/Safety

ACTION PLAN FOR DEDICATED FREIGHT CORRIDOR

Sl. No.	Activities	Target Date	Agency Responsible/ Nodal Directorate
1	i) Preliminary Engineering – cum-Traffic Survey along with detailed project estimate. ii) Final location survey	30.9.2006 31.12.2006	Managing Director/RITES
2	Approval of project and submission of detailed project report to Planning Commission.	30.11.2006	Additional Member / Works, Railway Board
3.	Action for setting up SPV to be taken in parallel and clearance to be obtained from Cabinet	30.09.2006	Adviser/Infrastructure, Railway Board
4.	Business Plan to be submitted by RITES	30.09.2006	Managing Director/RITES
4.1	RITES to also submit an inception report relating to business plan ahead of submission of final business plan.	31.05.2006	
5.	Identification of feeder routes and planning of works for improving them for 25 tonnes axle load.	31.12.2006.	Adviser / Traffic, Adviser / Infra, Railway Board Northern, East Central, South Eastern, Central, Western, North Western, North Central, Eastern Railways
5.1	Internal target for finalizing the feeder routes with approval of Member Traffic should be 30.4.2006. A list of these feeder routes should be given to Member Engineering, Railway Board. An Action Plan will have to be developed by PCEs of the Railways by forming a core group under them. Action will be then taken by the Zonal Railways to develop proposals for inclusion in Works Programme 2007-08.		

6.	Finalization of technical specifications		
6.1	Finalization of maximum moving dimensions, track loading density and axle load A Committee consisting of Addl. Member/CE, Addl. Member/ME, Adviser/Traffic and Adviser/Infrastructure to be nominated with Convener as Addl. Member/CE to finalize these issues and furnish their report by 30.05.2006. Terms of reference to be got approved from Board by Adviser/Infrastructure.	30.5.2006.	Additional Member/Civil Engg. to coordinate
6.2	Wagon Design finalization (final Board's approval)	31.08.2006.	Addl. Member / ME, Adviser /Infra, Adviser / Traffic, Railway Board. Addl. Member/ME to coordinate
6.3	Finalization of track and bridge parameters	30.06.2006	Addl. Member / CE, Adviser / Infra., Railway Board. Addl. Member/CE to coordinate
6.4	Decision on type of locomotive	31.08.2006.	Addl. Member / ME, Addl. Member / Electrical, Adviser / Traffic, Adviser / Infra, Railway Board. Addl. Member / ME to coordinate for Diesel and Addl. Member / Electrical for Electric Locomotives
6.5	Decision on signalling and telecommunication.	30.06.2006.	Addl. Member/Signal, Adviser / Traffic, Adviser / Infra, Addl. Member/Telecom,ED/Safety, Railway Board. Addl. Member/Signal to coordinate
6.6	Decision on height of contact wire	30.6.2006.	Addl. Member / Electrical, Adviser / Traffic, Adviser /Infra, Railway Board. Addl. Member / Electrical to coordinate
7.	Finalisation of funding arrangements	31.08.2006.	Addl. Member / Budget, Adviser / Infra, Railway Board. Addl. Member / Budget to coordinate

Shri Prakash
Adviser (Infrastructure)

D.O. No.2005/PL/6/7/Pt.

Dated, 23.3.2006

My dear Vinay,

Sub : Board decision for operationalising Dedicated Freight Corridor Project

Railway Board in its meeting of 16th March 2006 identified the sequential steps that need to be taken for operationalizing the implementation of Dedicated Freight Corridor Project.

Board has directed that Preliminary-Engineering-cum-Traffic Survey along with detailed Project Estimate for Dedicated Freight Corridor (DFC) Project should be submitted by 30th September 2006. Final Location Survey for the Project should be completed by 31st December 2006.

The Business Plan for DFC will be finalized and submitted by 30th September 2006. Board also desires that before the submission of final report, an inception report should be submitted by RITES by 31st May 2006.

CRB has desired that the progress of both the works relating to DFC Project assigned to RITES will be reviewed by him every month.

It is requested that appropriate action should be taken to adhere to the targets set by the Board in the above activities.

With best wishes,

Yours sincerely,



(Shri Prakash)

Shri V.K. Agarwal
Managing Director
RITES
Gurgaon

o/c.

CONFIDENTIAL**MINUTES OF BOARD MEETING
HELD ON 16th MARCH, 2006****PRESENT**

Shri J.P. Batra	:	Chairman
Shri R. Sivadasan	:	Financial Commissioner
Shri R.R. Jaruhar	:	Member Engineering
Shri Ramesh Chandra	:	Member Electrical
Shri R.R. Bhandari	:	Member Mechanical
Shri R.S. Varshneya	:	Member Staff
Shri S.B. Ghosh Dastidar	:	Member Traffic
Shri M.K. Agarwal	:	Secretary

Action by**A. STANDING AGENDA****1. Rolling Stock Production.****AM/RS
AM/PU**

Note put up by EDRS(S) on the above subject was discussed by the Board and following observations were made :-

- i) The Budget Estimate for wagon production for the year 2005-06 was 23300 FW units. This has been reduced to 18000 FW units in the Revised Estimate. This reduction has been primarily made on account of inadequate production of wagons by PSUs.
- ii) During the month of February'06, the total wagon production was 1350 FWUs, including production against WIS(Wagon Investment Scheme) as against wagon production of 1779 FWUs during February'05.
- iii) There is increased requirement of wagons and special steps would need to be taken to ensure higher level of production during 2006-07.
- iv) Cumulative production of EMUs from ICF up to February'06 has been 109 against target of 144 and that of DEMUs 12 against the target of 42. Production levels of EMUs/DEMUs need stepping up by close monitoring.

B. File/Note

1. Milestones for activities planned for implementation of Adv/Infra Dedicated Freight Corridor Project. Note No. 2005/PL/6/7 Pt. II

The note put up by Adviser/Infrastructure on the above subject was discussed in great details and following Action Plan was indicated by the Board :-

<u>S.No.</u>	<u>ACTIVITIES</u>	<u>TARGET DATE</u>
1.	i) Preliminary engineering-cum-traffic survey along with detailed project estimate	30.09.2006
	ii) Final location survey	31.12.2006
2.	Approval of project and submission of detailed project report to Planning Commission.	30.11.2006
3.	Action for setting up SPV to be taken in parallel and clearance to be obtained from Cabinet.	30.09.2006
4.	Business Plan to be submitted by RITES	30.09.2006
4.1	RITES to also submit an inception report relating to business plan ahead of submission of final business plan.	31.05.2006
5.	Identification of feeder routes and planning of works for improving them for 25 tonne axle load.	31.12.2006
5.1	Internal target for finalizing the feeder routes with approval of MT should be 30/04/06. A list of these feeder routes should be given to ME. An Action Plan will have to be developed by PCEs of the Railways by forming a core group under them. Action will be then taken by the	

Zonal Railways to develop proposals for inclusion in Works Programme 2007-08.

- | | | |
|-----|--|------------|
| 6. | Finalisation of technical specifications. | |
| 6.1 | Finalisation of maximum moving dimensions, track loading density and axle load. | 30.05.2006 |
| | A Committee consisting of AM/CE, AM/ME, Adviser/TT and Adviser(Infrastructure) to be nominated with Convenor as AM/CE to finalise these issues and furnish their report by 30/05/06. Terms of reference to be got approved from Board by Adviser/Infrastructure. | |
| 6.2 | Wagon design finalisation(final Board's approval) | 31.08.2006 |
| 6.3 | Finalisation of track and bridge parameters | 30.06.2006 |
| 6.4 | Decision on type of locomotive | 31.08.2006 |
| 6.5 | Decision on signalling and telecommunication. | 30.06.2006 |
| 6.6 | Decision on height of contact wire | 30.06.2006 |
| 7. | Finalisation of funding arrangement. | 31.08.2006 |

C. Other Item Discussed.

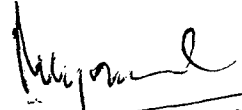
1. Surrender of Posts.

AM/Staff

As already communicated to Zonal Railways and other Units vide AM/Staff's D.O. letter No. E(MPP) 2005/1/54/Vol. II, dated 27/02/06, a total of 63725 vacant posts have to be surrendered by the Zonal Railways and other Units. Board decided that all GMs should be spoken to by AM/Staff to achieve this surrender urgently and report compliance to Board latest by 25/03/06.

All other items were deferred for the next Board Meeting.

**No: 2006/Secy/Bd Mtg/05
Dated : 20.03.2006**


(M.K. Agarwal)
Secretary

Copy to :-

MR, MSR(N), MSR(V)

CRB, FC, ME, ML, MM, MS, MT

DG/RPF, DG/RHS

AM/B, AM/CE, AM/Fin, AM/L, AM/ME, AM/PU, AM/RS, AM/IT,

AM/Staff, AM/Sig, AM/Tele, AM/T&C, AM/W, AM/Vig, AM/Plg,

Adv/TT, Adv/Comml., Adv/Confdl, Adv.Elect.(R.S), Adv/Fin,

Adv/Infrastructure, Adv/IR, Adv/L&A, Adv/AR

EDCC, US/A.

No. 2005/PL/6/7 Pt. II


51276
FOR DISCUSSION AT A BOARD MEETING
Date of Circulation

**Sub: Milestones for activities planned for implementation of
Dedicated Freight Corridor Project.**

PMO had requested that Railway Board may identify the sequential steps that need to be taken for operationalising the implementation of Dedicated Freight Corridors Project, list of milestones and dates for achieving the milestones to enable close monitoring of implementation.

Accordingly milestones for certain identified activities were furnished to PMO. An action plan indicating the activities and milestones to be achieved for operationalising the Dedicated Freight Corridor Project has been drawn in view of the milestones furnished to the PMO. Action plan indicating the activity, milestone and Directorate responsible is placed at Annexure -I.

Board may kindly review the action plan and approve.


Adv. /Infra 10/2/2006
9.3.2006.

ANNEXURE –I

Activities and Milestones for operationalising Dedicated Freight Corridor Project

Sl. No.	Activity	Milestone(As fixed by PMO)	Internal Target	Agency Responsible (Nodal Directorate)
1	Preliminary Engineering – cum-Traffic Survey			
1.1	Preliminary Engineering Survey Feasibility Study including Traffic Survey has already been completed for Eastern and Western routes. The consultants have begun work on Preliminary Engineering Survey for the above routes. The study will provide the detailed alignment for the Corridors. Final location survey will be taken up along with this survey.	October 2006	30.9.2006	RITES/ Adv.(Infrastructure)
1.2	Approval for the project	December 2006	30.11.2006	Works Directorate
1.2.1	Examination of RITES Report (Preliminary Engineering Survey) by Ministry of Railways		15.10.2006	Works Directorate
1.2.2	Report to Planning Commission and Finance Ministry		15.10.2006	Works Directorate

1.2.3	Expanded Board Meeting		15.11.2006	Works Directorate
1.2.4	Inputs regarding Business Plan for Expanded Board meeting		15.10.2006	Adviser/Infrastructure
1.2.5	CCEA Note to be sent for clearance		20.11.2006	Works Directorate
2.	Business Plan			
2.1	Business Plan will be required for firming up the proposal for financing of the project. Freight revenue accruals and the sharing of these between the existing and the new proposed organization for implementing the Project have to be determined.	October 2006	30.9.2006	RITES
2.2	Examination of Business Plan		15.10.2006	Adviser/Infrastructure
2.3	Sending Inputs to Planning Commission		15.10.2006	Adviser/Infrastructure
2.4	Inputs to AM/W regarding Business Plan for Expanded Board meeting		15.10.2006	Adviser/Infrastructure
3.	Identification of Feeder Routes			
3.1	The capacity created on the new Corridors in terms of higher axle load can only be utilized if the feeder routes are also strengthened. Comprehensive proposals will be	December 2006	30.11.2006	Additional Member / Plg., AM / W and Adviser / -Infrastructure

	developed for including in the Railways Works Programme for 2007-2008.		
3.2	Routes identified by RITES to be firmed up	31.3.2006	Adviser/Infrastructure
3.3	General Managers of Zones to be informed about identified routes	31.3.2006	Adviser/Infrastructure
3.4	Zonal Railways to develop proposals and furnish to Board for PWP 2007-08.	30.6.2006	AM/Works and AM/Plg.
3.5	Proposals to be reviewed in Board for sanctioning	31.10.2006	AM/Works and AM/Plg.
4.	Finalization of Technical Specifications		
4.1	The Feasibility Study of RITES has thrown open a number of technological options for the Freight Corridors. Relevant issues relate to High Axle Loads, Double Stack Container operations, Track Standards, Signalling System, Standard and Maximum Moving Dimensions etc. Suitable options after evaluation will be finalized.	June 2006	31.05.06 Adviser/ Infrastructure to coordinate
4.3.1	Wagon Design finalization by the Directorate	31.03.2006	AM/Mechanical

4.3.2	Wagon Design Finalisation by RDSO		15.4.06	AM/Mechanical
4.3.3	Wagon Design finalization by Directorate with Boards Approval		30.04.2006	AM/Mechanical
4.3	MMD Finalization		30.04.2006	AM/Civil
4.4	Track Parameters –Standard, Track Spacing, Curves, Gradients, Ballast etc.		30.04.2006	AM/Civil
4.5	Bridge Parameters		30.04.2006	AM/Civil
4.6	Type of Locomotive		30.04.2006	AM/ME, AM/L, AM/Traffic (To Coordinate)
4.7	Type of Signaling & Telecommunication		30.04.2006	AM/Signal, AM/Tel AM/Traffic (To coordinate)
4.8	Height of Contact Wire		30.04.2006	AM/L
5.	Creation of Implementing Agency			
5.1	Creation of Core Group	April 2006	15.04.2006	Adviser/Infrastructure

The details of funding for the SPV, the revenue streams accruing to it and the nature and scope of its operations have to be worked out and evaluated. For this purpose Ministry of Railways will constitute a Core Group under an officer in the rank of the General-Manager.

5.2	Creation of SPV			
5.2.1	A Task Force was created under Planning Commission pursuant to decision taken by Committee for Infrastructure. As per draft recommendations of the Task Force, a Special Purpose Vehicle (SPV) is proposed to be created for implementing the Project. Ministry of Railways will obtain necessary CCEA approval for setting up of an SPV.	October 2006	30.09.2006	Adviser/Infrastructure
5.2.2	Finalization of CCEA Note		15.03.2006	Adviser/ Infrastructure
5.2.3	Circulation of CCEA Note to Planning Commission, Finance Ministry and PMO		15.04.2006	Adviser/ Infrastructure
5.2.4	Finalization of CCEA Note with comments of concerned Ministries		30.04.2006	Adviser/ Infrastructure
5.2.5	CCEA Note for Cabinet decision		15.05.2006	Adviser/ Infrastructure
5.2.6	Registration of Company		15.06.2006	AM/Planning
5.2.7	Approval of PSEB for Posts of Directors		15.07.2006	Secretary/RB ,AM/Planning
5.2.8	Selection Process		30.09.2006	Secretary/RB

6 **Funding**

6.1	The detailed financing arrangements can be determined only after Business Plan for the SPV is available. The possibility of developing a well-structured mechanism, in which investors and multilateral agencies specializing in financing infrastructure projects participate, will need to be explored. The funding options need to be finalized.	December 2006	15.10.2006	AM/Budget
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2/15


No. 2005/PL/6/7 Pt. II

Sub: Milestones for activities planned for implementation of Dedicated Freight Corridor Project.

PMO had requested that Railway Board may identify the sequential steps that need to be taken for operationalising the implementation of Dedicated Freight Corridors Project, list of milestones and dates for achieving the milestones to enable close monitoring of implementation.

Accordingly milestones for certain identified activities were furnished to PMO. An action plan indicating the activities and milestones to be achieved for operationalising the Dedicated Freight Corridor Project has been drawn in view of the milestones furnished to the PMO. Action plan indicating the activity, milestone and Directorate responsible is placed at Annexure -I.

Board may kindly review the action plan and approve.


Adv. /Infra 10/3/2006
9.3.2006.

Activities and Milestones for operationalising Dedicated Freight Corridor Project

Sl. No.	Activity	Milestone(As fixed by PMO)	Internal Target	Agency Responsible (Nodal Directorate)
1	Preliminary Engineering – cum-Traffic Survey			
1.1	Preliminary Engineering Survey Feasibility Study including Traffic Survey has already been completed for Eastern and Western routes. The consultants have begun work on Preliminary Engineering Survey for the above routes. The study will provide the detailed alignment for the Corridors. Final location survey will be taken up along with this survey.	October 2006	30.9.2006	RITES/ Adv.(Infrastructure)
1.2	Approval for the project	December 2006	30.11.2006	Works Directorate
1.2.1	Examination of RITES Report (Preliminary Engineering Survey) by Ministry of Railways		15.10.2006	Works Directorate
1.2.2	Report to Planning Commission and Finance Ministry		15.102006	Works Directorate

1.2.3	Expanded Board Meeting		15.11.2006	Works Directorate
1.2.4	Inputs regarding Business Plan for Expanded Board meeting		15.10.2006	Adviser/Infrastructure
1.2.5	CCEA Note to be sent for clearance		20.11.2006	Works Directorate
2.	Business Plan			
2.1	Business Plan will be required for firming up the proposal for financing of the project. Freight revenue accruals and the sharing of these between the existing and the new proposed organization for implementing the Project have to be determined.	October 2006	30.9.2006	RITES
2.2	Examination of Business Plan		15.10.2006	Adviser/Infrastructure
2.3	Sending Inputs to Planning Commission		15.10.2006	Adviser/Infrastructure
2.4	Inputs to AM/W regarding Business Plan for Expanded Board meeting		15.10.2006	Adviser/Infrastructure
3.	Identification of Feeder Routes			
3.1	The capacity created on the new Corridors in terms of higher axle load can only be utilized if the feeder routes are also strengthened. Comprehensive proposals will be	December 2006	30.11.2006	Additional Member / Plg., AM / W and Adviser / Infrastructure

developed for including in the Railways Works Programme for 2007-2008.

3.2	Routes identified by RITES to be firmed up		31.3.2006	Adviser/Infrastructure
3.3	General Managers of Zones to be informed about identified routes		31.3.2006	Adviser/Infrastructure
3.4	Zonal Railways to develop proposals and furnish to Board for PWP 2007-08.		30.6.2006	AM/Works and AM/Plg.
3.5	Proposals to be reviewed in Board for sanctioning		31.10.2006	AM/Works and AM/Plg.
4.	Finalization of Technical Specifications			
4.1	The Feasibility Study of RITES has thrown open a number of technological options for the Freight Corridors. Relevant issues relate to High Axle Loads, Double Stack Container operations, Track Standards, Signalling System, Standard and Maximum Moving Dimensions etc. Suitable options after evaluation will be finalized.	June 2006	31.05.06	Adviser/ Infrastructure to coordinate
4.3.1	Wagon Design finalization by the Directorate		31.03.2006	AM/Mechanical

4.3.2	Wagon Design Finalisation by RDSO		15.4.06	AM/Mechanical
4.3.3	Wagon Design finalization by Directorate with Boards Approval		30.04.2006	AM/Mechanical
4.3	MMD Finalization		30.04.2006	AM/Civil
4.4	Track Parameters –Standard, Track Spacing, Curves, Gradients, Ballast etc.		30.04.2006	AM/Civil
4.5	Bridge Parameters		30.04.2006	AM/Civil
4.6	Type of Locomotive		30.04.2006	AM/ME, AM/L, AM/Traffic (To Coordinate)
4.7	Type of Signaling & Telecommunication		30.04.2006	AM/Signal, AM/Tel AM/Traffic (To coordinate)
4.8	Height of Contact Wire		30.04.2006	AM/L
5.	Creation of Implementing Agency			
5.1	Creation of Core Group	April 2006	15.04.2006	Adviser/Infrastructure

The details of funding for the SPV, the revenue streams accruing to it and the nature and scope of its operations have to be worked out and evaluated. For this purpose Ministry of Railways will constitute a Core Group under an officer in the rank of the General Manager.

5.2 **Creation of SPV**

5.2.1	A Task Force was created under Planning Commission pursuant to decision taken by Committee for Infrastructure. As per draft recommendations of the Task Force, a Special Purpose Vehicle (SPV) is proposed to be created for implementing the Project. Ministry of Railways will obtain necessary CCEA approval for setting up of an SPV.	October 2006	30.09.2006	Adviser/Infrastructure
5.2.2	Finalization of CCEA Note		15.03.2006	Adviser/ Infrastructure
5.2.3	Circulation of CCEA Note to Planning Commission, Finance Ministry and PMO		15.04.2006	Adviser/ Infrastructure
5.2.4	Finalization of CCEA Note with comments of concerned Ministries		30.04.2006	Adviser/ Infrastructure
5.2.5	CCEA Note for Cabinet decision		15.05.2006	Adviser/ Infrastructure
5.2.6	Registration of Company		15.06.2006	AM/Planning
5.2.7	Approval of PSEB for Posts of Directors		15.07.2006	Secretary/RB ,AM/Planning
5.2.8	Selection Process		30.09.2006	Secretary/RB

6 Funding

6.1 The detailed financing arrangements can be determined only after Business Plan for the SPV is available. The possibility of developing a well-structured mechanism, in which investors and multilateral agencies specializing in financing infrastructure projects participate, will need to be explored. The funding options need to be finalized.

December 2006 15.10.2006 AM/Budget

S/2 14

DRAFT

D.O. No.

New Delhi dated....2.2006.

Respected Pradhan Mantri Ji,

Under your dynamic leadership and guidance, Indian Railways has achieved excellence in all areas of work. I am also greatly indebted for encouragement and guidance given by you for various major initiatives launched by the Ministry of Railways for enhancement and augmentation of the capacity of its network.

One of the path-breaking initiatives being launched by Indian Railways is development of Dedicated Multi-Modal High Axle Load Freight Corridors with Computerized Control System on Eastern and Western Corridors at an estimated cost of Rs. 21,000 crores. Eastern Corridor will start from Ludhiana in Punjab and will end at Sonnagar in Bihar in first part of the work. Western Corridor will be from Jawahar Lal Nehru Port near Mumbai to Dadri in Uttar Pradesh. A feeder route will be developed from Rewari to Ludhiana to carry container traffic to States of Punjab and Haryana. I am indeed grateful to you for giving approval for these projects.

Considering the importance of the initiative in building the country's infrastructure, your kind consent is solicited for inaugurating the initiative at Ludhiana at your convenience.

With regards,

Yours sincerely,

(M.R.)

Dr. Manmohan Singh

Hon'ble Prime Minister of India

New Delhi

SP 13

NIndo-Japan

DRAFT

D.O.No.

New Delhi, dated2.2006

Respected Pradhan Mantri Ji,

Under your dynamic leadership and guidance, ^{greatly indebted} Indian Railways has achieved excellance in all areas of work. ^{I am also extremely grateful to you for} ~~We have been greatly encouraged~~ ^{encouragement and guidance given by you} ~~by you~~ for various major initiatives launched by the Ministry of Railways for enhancement and augmentation of the capacity of its network. -

One of the ^{path-breaking} ~~historical~~ initiatives being launched by Indian Railways is development of Dedicated Multi-Modal High Axle Load Freight Corridors with Computerised Control System on Eastern and Western Corridors at an estimated cost of Rs. ^{21,000} ~~22,000~~ crore. Eastern Corridor will start from Ludhiana in Punjab and will end at Sonnagar in Bihar in first part of the work. Western Corridor will be from Jawahar Lal Nehru Port near Mumbai ^{up} to Dadri in Uttar Pradesh ^{sw}. A feeder route will be developed from Rewari to Ludhiana to carry container traffic to States of Punjab and Haryana. I am indeed grateful to you for ^{giving approval for} ~~approving~~ these projects.

May I request you to lay the foundation stone of the Dedicated Freight Corridor at Ludhiana at your convenience.

With regards,

Yours sincerely,

(M.R.)

Dr. Manmohan Singh,
Prime Minister,
New Delhi.

DRAFT

D.O.No.

New Delhi, dated2.06²⁰⁰⁶

Respected Pradhan Mantri Ji,

Under your dynamic leadership and guidance, Indian Railways has ^{excellence in all ~~other~~ areas of work.} achieved historical milestones in its performance. We have ~~also~~ been ^{greatly} encouraged by you for various major initiatives launched by the Ministry of Railways for enhancement and augmentation of the capacity of its network.

One of the historical initiatives being launched by Indian Railways is development of Dedicated ^{Multimodal} Freight Corridors ^{with computerised control system} between JNPT-Dadri ^(Western Corridor) and Ludhiana-Sonmargar ^(Eastern Corridor) at an estimated cost of Rs.22,000 crore. I am indeed grateful to you for approving these projects. || May I request you to lay the foundation stone of the ^{Eastern Corridor} at Ludhiana at your convenience ^{in near future.}

With regards,

Yours sincerely,

Dr. Manmohan Singh,
Prime Minister,
New Delhi.

(M.R.)
~~Eastern~~ Eastern Corridor will start from Ludhiana in Punjab and will end at Ludhiana in Bihar in first part of the route. Western Corridor will be from Sonmargar to Dadri in Uttar Pradesh. A fresh route will be developed for Mumbai to Ludhiana to lay cables between to steel & pipes & bridges.

a lot work

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No. 2005/W1/Genl/DFC New Delhi, Dated: 13.2.2006

NOTE FOR THE CABINET COMMITTEE ON ECONOMIC AFFAIRS

Sub: Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between Sonnagar-Ludhiana.

1.0 INTRODUCTION

- 1.1 The 10th Plan Document had envisaged that the freight traffic on Indian Railways will increase @5% per annum. Against the envisaged growth of 5% the average annual growth rate of freight (Originating Tonnage) in the first 3 years of the 10th Plan is around 7%. Freight output in Tonne Kilometer has already been surpassed in the 3rd year of the 10th Plan i.e. 2004-2005. Similarly the target of originating freight in Million Tonnes is likely to be achieved in the 4th Year of the 10th Plan itself i.e. 2005-06. In 2005-06 till December 2005, the growth rate of originating freight tonnage is more than 9%.
- 1.2 The recently concluded mid-term review of 10th Plan has highlighted the need for Dedicated Freight Corridor on selected routes to meet the long-term requirements of movement for

enhanced freight traffic. This will reduce unit cost of transportation making Indian goods competitive in the world market.

- 1.3 Hon'ble Minister of Railways during reply to the debate on Railway Budget 2005-06 in Rajya Sabha on 27.4.2005 announced that it has been decided to undertake development of Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System on high density routes.
- 1.4 The need for having such Dedicated Freight Corridor between Delhi-Mumbai and Delhi-Howrah was highlighted by Planning Commission during their presentation to Committee of Infrastructure under the Chairmanship of Hon'ble Prime Minister of 12.5.2005.
- 1.5 Ministry of Railways through RITES had already prepared a Feasibility Study for the project and it has been considered necessary to have Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System on both Eastern and Western routes. The projects have been appraised by the Expanded Board in its meeting on 10.2.2006.
- 1.6 Delhi-Howrah route has heavy passenger and freight traffic. The major commodities moving towards Delhi/Punjab are large quantities of coal, iron and steel, and cement. The commodities moving towards Howrah are foodgrains, fertilizers, limestone, salt and general goods. Most sections from Mugalsarai to Khurja are over saturated with line capacity utilization ranging from 114 to 160

per cent. Current capacity enhancement works including doubling and electrification of the 'B' route from Mugalsarai to Moradabad will only help relieve the existing over saturation and provide for future increase in passenger services. They cannot provide for the anticipated increase in freight traffic over the long term.

- 1.7 Besides paucity of line capacity, the various constraints on the existing route include a mixed pattern of passenger and freight services running on a common set of tracks, an inter se priority schedule between different types of services which assigns the lowest priority to freight services and passage difficulties across many junction stations. Consequently, the performance of freight services is affected adversely, resulting in heavy detentions enroute, poor average speeds and high turn around. Hence, the need for a dedicated freight corridor along the existing route, which while largely independent, will at the same time, have inter connectivity with the existing route at its terminals and at principal traffic entry and exit points.
- 1.8 Substantial increase in movement of coal and steel from Eastern region is projected to the Northern parts of the country. Number of trains on Sonnagar-Mugalsarai Section (both ways) is likely to increase from present average of 64 trains to 127 by 2011-12 and 177 by 2021-22.

2.0 OBJECTIVES OF THE PROJECT

- i. Create Rail Infrastructure To Carry High Levels Of Freight
- ii. Reduction In Unit Cost Of Transportation & Inventory Costs
- iii. Achieving Greater Customer Satisfaction
- iv. Increase IR's Share In Freight Market
- v. Speed Up Freight Train Operations, Achieve Higher Productivity Through Better Utilization Of Railway Assets
- vi. Introduction Of High End Technology In Freight Operations
- vii. Increase Throughput By Higher Axle Loads, Moving Dimensions, Track Loading Density, Improved Payload/Tare Ratio
- viii. Relieving Existing Rail Corridor
- ix. Decongesting Busy Terminals & Junction Stations.
- x. Improving Safety in Passenger Train Operations

2.1 PROPOSAL

- 2.1.1 The present proposal is for a double line Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between Sonnagar-Khurja and single line between Khurja-Ludhiana (Total 1232 kms from Sonnagar to Ludhiana) with a link line between Khurja and Dadri (45.87 kms) for connecting Eastern

and Western freight corridors. The cost of the project is estimated at Rs. 9695 crore. The Map of the proposed corridor is placed at Annexure-II.

2.1.2 Feeder routes of approximately 2587 kms will be strengthened for moving higher axle load wagons. In Part-I the following primary feeder routes will be developed:

- i. Sonnagar-Gaya-Dhanbad-Durgapur
- ii. Sonnagar-Garwa Road-Barkakana-Chandil-Tatanagar
- iii. Barkakana-Chandrapura-Bokaro

2.2 INVESTMENT COMPONENT

The cost of double line Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between Sonnagar-Ludhiana is estimated as Rs. 9695 crore and the cost per kilometer for this project is estimated as Rs. 8.58 crore for Sonnagar-Khurja double line and is estimated as Rs. 5.5 crore per kilometer for single line between Khurja-Ludhiana.

2.3 RATE OF RETURN

The financial rate of return with rolling stock owned by Railways works out to be 25.7% under realistic scenario.

2.4 PHASING OF INVESTMENT

The completion period of the project is expected to be 5 years after setting up of SPV. The entire investment is likely to be incurred during the balance 10th Plan and full 11th Plan period.

2.5 PROJECT FINANCING

The project will be financed through a mix of internal generation, budgetary and non-budgetary resources including multi-lateral and bilateral funding. The appropriate mix and modalities relating to funding of the project would be finalized once the implementing agency is in position.

3.0 ENVIRONMENT CLEARANCE

No environmental clearance is required.

4.0 PROJECT IMPLEMENTATION

The project is proposed to be implemented through a Special Purpose Vehicle (SPV).

5.0 VIEWS OF EXPANDED BOARD

The project proposal was considered by Expanded Board in their meeting held on 10th February 2006. The Expanded Board has recommended for "in principle clearance" of the project. A copy of the minutes of the meeting is placed at Annexure-III.

6.0 SUMMARY

- i. Sonnagar-Ludhiana Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System with primary feeder routes between Sonnagar –Durgapur, Sonnagar – Garwa Road – Tatanagar and Barkakana – Bokaro in Part I is

proposed. The Corridor will be double line Corridor except between Ludhiana to Khurja which will be single line.


ii. Both Eastern and Western Corridors will be connected between Dadri and Khurja to facilitate transfer from one Corridor to the other.

iii. The Corridor along with feeder routes will be developed for movement of higher axle load wagons.

7.0 Approval of the CCEA is solicited for taking up the project of new double line Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between Sonnagar-Khurja, new single line Freight Corridor between Khurja-Ludhiana and the link line between Dadri and Khurja at an estimated cost of Rs. 9695 crore to be funded through internal generation/budgetary support/non-budgetary resources including multilateral and bilateral funding.

8.0 The statement of implementation schedule is placed at Annexure-I to the note.

9.0 The proposal has been seen and approved by the Minister of Railways.

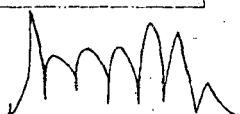


(S. K. Suri)
Advisor Planning
Railway Board

Annexure-I**STATEMENT OF IMPLEMENTATION SCHEDULE**

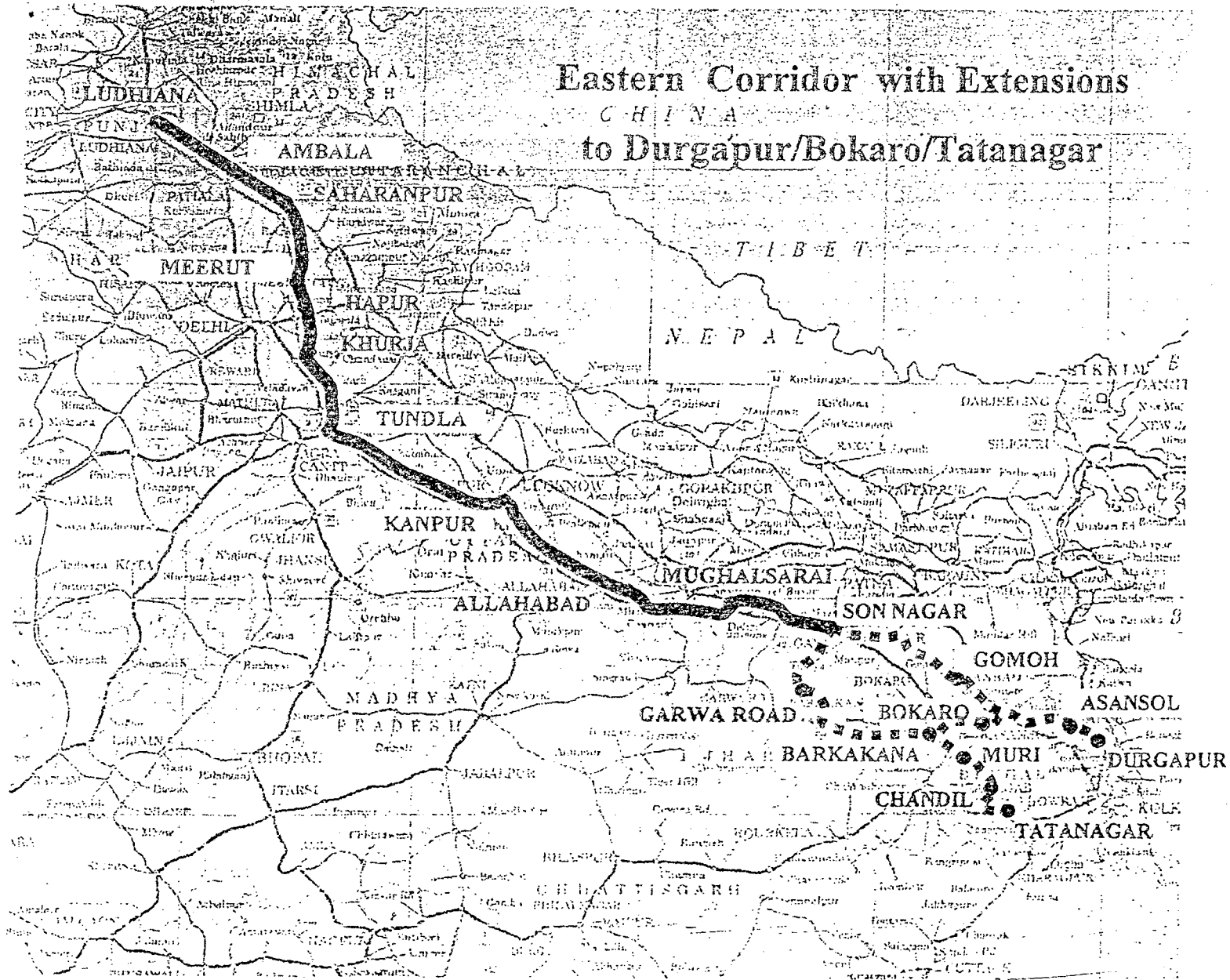
Sub: Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between Sonnagar-Ludhiana.

GIST OF DECISION REQUIRED	PROJECT BENEFITS/RESULTS	TIME SCHEDULE FOR IMPLEMENTATION
Approval of the CCEA is solicited for taking up the project of new double line Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between Sonnagar-Khurja, new single line Freight Corridor between Khurja-Ludhiana and the link line between Dadri and Khurja at an estimated cost of Rs. 9695 crore to be funded through internal generation / budgetary support / non-budgetary resources including multilateral and bilateral funding.	The project will immensely benefit ports, steel plants, collieries and other consumers of rail transport. The project will provide the much needed rail infrastructure for growth of Indian economy. The project will also generate indirect employment during construction phase.	The completion period of the project is expected to be 5 years after setting up of implementing agency (SPV).



(S. K. Suri)

Advisor Planning
Railway Board



No.2005/W-1/Gen/DFC

10.02.2006

OFFICE MEMORANDUM**Sub: Meeting of Expanded Board of Railways**

The undersigned has been directed to enclose the minutes of the meeting of the Expanded Board of Railways held on 10.02.2006 in Rail Bhawan, New Delhi.


(P K Sanghi)

Executive Director/Works
Phone No. 011-2338 2102

Encl: as above.

To:

1. Secretary (Expenditure), Ministry of Finance, North Block, New Delhi (Fax No.23092546, 23092929)
2. Secretary, Ministry of Statistics & Programme Implementation, Sardar Patel Bhawan, New Delhi (Fax No.23742067)
3. Secretary, Planning Commission, Yojana Bhavan, New Delhi (Fax No.23096575, 23096574)

Copy to:

1. Adviser (PAMD), Planning Commission, Yojana Bhavan, New Delhi
2. Adviser (Transport), Planning Commission, Yojana Bhavan, New Delhi

CRB, FC, ME, MT, ML, MS, MM, Secretary

AM(P), AM(B), AM(T), AM(W), Advisor/Infrastructure, A.C.E.A.,

ED(P), EDPP, EDF(X)-I.

**MINUTES OF THE MEETING OF THE EXPANDED BOARD
FOR RAILWAYS (EBR) HELD ON 10.02.2006**

- 1.0** An overview of 6 projects - 4 New Lines including 2 Dedicated Freight Corridors, 1 Gauge Conversion and 1 MTP project - alongwith a brief presentation was made for consideration of the EBR. The plan head over view of the likely throw-forward for New Lines, Gauge Conversion, Doubling and MTP were given. It has been explained that lot of initiatives have been taken for the completion of various doubling, gauge conversion and new lines projects. These initiatives include funding through National Projects, Rail Vikas Nigam Limited, Defence funding and State sharing. With these initiatives doubling and gauge conversions works are likely to be completed in 3-5 years time. However, for the new line projects which have been sanctioned on socio-economic considerations Hon'ble MR in his budget speech 2004-05 has already announced the scheme of (RARSY) Remote Area Rail Sampark Yojana which envisages sharing of cost by the respective state governments, Ministry of Railways and budgetary support from Central Govt.
- 2.0 Dedicated Freight Corridor on Western Corridor between JNPT and Tuglakabad/Dadri Dedicated Freight Corridor on Eastern Corridor between Sonnagar and Ludhiana**
- 2.1 The proposal for The Development of Dedicated Multimodal High Axle Load Freight Corridor with Computerized Control on Eastern and Western Corridors at the anticipated cost of about Rs.21,140 crore was discussed by Expanded Board for Railways.
- 2.2 While appreciating the need for Dedicated Freight Corridors, Principal Adviser (Transport), Planning Commission stated that the proposed alignment, traffic projects, cost of traction and reduction in operation and maintenance cost should be examined in detail. He also mentioned that, if future traffic projections do not

materialize as anticipated in the Report, it would affect the financial viability of the Project adversely. The anticipated reduction in operation cost by 35 per cent also appears to be optimistic.

- 2.3 Member Traffic, Railway Board clarified that the proposed alignment, for both Eastern and Western Corridors, is the best possible option and is based on detailed origin and destination analysis. It was also advised that the 35 per cent reduction in cost of operation and maintenance as indicated in the proposal, appears to be reasonable, in view of the introduction of modern concepts like higher axle load, double stack container trains and increase in standard moving dimensions. Better operating practices will not only increase the speed of freight trains but also result into considerable reduction in cost of operation. Introduction of double stack containers on Western Corridor will again result in substantial reduction in cost of operation.
- 2.4 RITES is conducting the detailed Engineering-cum-Traffic Survey of the Dedicated Freight Corridors and it is likely to be completed in next 6-8 months. They will be advised to carry out in-depth examination of traffic projections and reduction in operation and maintenance costs.
- 2.5 The choice of traction depends upon the inter-operability with Indian Railways network. Diesel traction was recommended for Western Corridor, as it will help in movement of double stack containers. Nowhere in the world, electric traction is being used for movement of double stack containers. The Eastern Corridor is proposed to be electrified in view of the movement of heavier trains of coal and steel and inter-operability and operational flexibility.
- 2.6 Ministry of Finance and Planning Commission raised the issue of cost of upgrading the feeder routes. Financial Commissioner and Member Engineering, Railway Board, clarified that cost of increasing the ballast cushion from 250 mm to 300 mm is already included in the project cost. However, cost of upgrading such routes will be met

through SRSF/DRF in normal course and hence such cost need not be included in the project cost.

- 2.7 Planning Commission also sought clarifications on use of forest land. Member Engineering clarified that no forest land is to be acquired on Eastern Corridor and only two kilometers of forest land would be acquired on the Western Corridor.
- 2.8 Finance Ministry raised the issue of funding and implementing agency. Railways clarified that once the implementing agency (SPV) is in place, the requisite funds will be generated through internal generation and other sources of funding. Ministry of Railways will separately approach the Cabinet for setting up implementing agency.
- 2.9 Expanded Board recommended, in principle, the Projects for Development of Dedicated Multimodal High Axle Load Freight Corridor with Computerized Control for both Eastern & Western Corridors for consideration of CCEA and also for including in Works Programme 2006-07.

3.0. New Line from Chhapra to Muzaffarpur (84.65 kms)

- 3.1 It was brought out that this line will be providing a direct connectivity between Chhapra and Muzaffarpur shorter by 28 kms than the existing route. It was also explained that North Bihar remains inundated during monsoon season and reliable transport communication is essential for socio-economic growth of the region. River Ganges divides Bihar into two parts i.e. North and South Bihar and proper transport facility is a must for overall development. ME mentioned that Muzaffarpur is an industrial hub and the area will have direct access even during monsoon.

4.0. New Line from Manoharabad to Kothapalli (148.9 kms)

- 4.1 It was brought out that this line passes through the Telangana region of Andhra Pradesh covering Medak, Karimnagar and Rangareddy Districts where there have been demands for this railway line connecting Karimnagar Districts Headquarter with Secunderabad.

- 4.2 ME mentioned that Telangana region is backward and is most affected by naxalitie activities. The socio-economic development through a railway line may go a long way in upliftment of the society.
- 4.3 Advisor (Transport), Planning Commission mentioned that for such socio-economic projects, economic principle should be laid and uniformly followed for the evaluation cum calculation of EIRR on the basis of which such projects should be justified.
- 4.4 During discussions, Chairman, Railway Board mentioned that a reference is being made to state governments for sharing of cost of such projects taken up on socio-economic considerations.
- 4.5 After deliberations, Expanded Board decided **“not to recommend”** both the new line projects being financially unviable and considering huge Throwforward of ongoing new line projects.

5.0. Gauge conversion of Dindigul-Pollachi-Coimbatore (225 kms).

- 5.1 It was brought out that this line provides direct connection between Rameshwaram and Coimbatore/Palghat which was broken due to gauge conversion of Madurai-Manamadurai section. The gauge conversion of Madurai-Dindigul and Manamadurai-Rameshwaram sections is in progress. With the conversion of these sections, this section will become isolated and will have associated problems in maintenance of MG rolling stock. The conversion of this line with the other ongoing works will restore direct connection between South East Tamil Nadu and North Kerala.
- 5.2 Planning Commission in their appraisal note has supported the proposal considering it inescapable and also as a part of Uni-gauge Policy.

After deliberations, Expanded Board decided **“to recommend”** the project.

6.0. Mass Rapid Transit System, Chennai – extension from Velachery to St. Thomas Mount (5 kms).

- 6.1 It was brought out that MRTS, Chennai has been planned in five phases. Phase I from Chennai Beach to Thirumailai (8.97 kms) has already been commissioned. Phase-II from Thirumailai to Velachery (11.16 kms) is also partly commissioned and balance would be commissioned during 2006-07. With the commissioning of MRTS from Chennai Beach to Velachery, the link from Velachery to St. Thomas Mount will become inescapable and necessary. This will provide inter change facility at St. Thomas Mount with existing suburban corridor from Chennai Beach to Tambaram. By having this connection, the financial viability of the project will also go up besides improved transport facilities for densely populated area of Puzhuvakkam and Adambakkam. Expanded Board cleared the proposal.
- 6.2 After deliberations, Expanded Board decided **“to recommend”** the project subject to the observation that since such rail based urban transport systems are never financially viable, State Govt. be approached for bearing O&M losses of the project.
- 6.3 FC and MT mentioned that huge subsidies are being provided to other metro systems in the country and as such Planning Commission should suggest some formula for the sharing of cost and bearing of operational losses.

Copy No.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.2005/W1/Genl/DFC

New Delhi, Dated:

13.2.2006

NOTE FOR THE CABINET COMMITTEE ON ECONOMIC AFFAIRS

Sub: Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between JNPT- Tughlakabad-Dadri via Ahmedabad and Palanpur.

1.0 INTRODUCTION

- 1.1 The 10th Plan Document had envisaged that the freight traffic on Indian Railways will increase @5% per annum. Against the envisaged growth of 5% the average annual growth rate of freight (Originating Tonnage) in the first 3 years of the 10th Plan is around 7%. Freight output in Tonne Kilometer has already been surpassed in the 3rd year of the 10th Plan i.e. 2004-2005. Similarly the target of originating freight in Million Tonnes is likely to be achieved in the 4th Year of the 10th Plan itself i.e. 2005-06. In 2005-06 till December 2005, the growth rate of originating freight tonnage is more than 9%.
- 1.2 The recently concluded mid-term review of 10th Plan has highlighted the need for Dedicated Freight Corridor on selected routes to meet the long-term requirements of movement for

enhanced freight traffic. This will reduce unit cost of transportation making Indian goods competitive in the world market.

- 1.3 Hon'ble Minister of Railways during reply to the debate on Railway Budget 2005-06 in Rajya Sabha on 27.4.2005 announced that it has been decided to undertake development of Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System on high density routes.
- 1.4 The need for having such Dedicated Freight Corridor between Delhi-Mumbai and Delhi-Howrah was highlighted by Planning Commission during their presentation to Committee of Infrastructure under the Chairmanship of Hon'ble Prime Minister of 12.5.2005.
- 1.5 Ministry of Railways through RITES had already prepared a Feasibility Study for the project and it has been considered necessary to have Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System on both Eastern and Western routes. The projects have been appraised by the Expanded Board in its meeting on 10.2.2006.
- 1.6 On Mumbai-Delhi Corridor, both the routes via Ratlam-Kota and via Ahmedabad-Palanpur have a predominance of passenger services, both routes being over saturated with line capacity utilization ranging from 115 to 150%.

- 1.7 The traffic from Western India ports to North India has been growing at a rapid rate over the past decade. This traffic is expected to almost triple in the next 15 – 20 years.
- 1.8 The maximum number of trains on an average per day on Marwar-Palanpur Section (both ways) under realistic scenario will increase from present 24 to 75 by 2011-12 and 139 by 2021-22.
- 1.9 To cater to the inevitable growth of EXIM container traffic to and from ports of Mumbai (JNPT), Kandla, Mundra, Pipavav and Hazira, it is proposed that a double line Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between JNPT and Tuglakabad/Dadri via Ahmedabad and Palanpur with a track structure fit for running 25 tonne axle load with bridges fit for 30 tonne axle load for enabling running of double stack container trains may be constructed. The map of the proposed corridor is placed at Annexure –II.

2.0 OBJECTIVES OF THE PROJECT

- i. Create Rail Infrastructure To Carry High Levels Of Freight
- ii. Reduction In Unit Cost Of Transportation & Inventory Costs
- iii. Achieving Greater Customer Satisfaction
- iv. Increase IR's Share In Freight Market

- v. Speed Up Freight Train Operations, Achieve Higher Productivity Through Better Utilization Of Railway Assets
- vi. Introduction Of High End Technology In Freight Operations
- vii. Increase Throughput By Higher Axle Loads, Moving Dimensions, Track Loading Density, Improved Pay Load/Tare Ratio
- viii. Relieving Existing Rail Corridor
- ix. Decongesting Busy Terminals & Junction Stations.
- x. Improving Safety in Passenger Train Operations

2.1 PROPOSAL

- 2.1.1 The present proposal is for construction of a 1469 Km double line, diesel, Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System from Dadri to JNPT via Palanpur – Ahmedabad at an overall cost of Rs 11445.60 crore.
- 2.1.2 Feeder routes of approximately 2082 kms will be strengthened for moving higher axle load wagons.

2.2 INVESTMENT COMPONENT

The cost of double line Dedicated Freight Corridor between JNPT-Tuglakabad-Dadri is estimated as Rs. 11445.60 crore and the cost per kilometer for this project is estimated as Rs. 8.32 crore.

2.3 RATE OF RETURN

The financial rate of return with rolling stock owned by Railways works out to be 17.7% under realistic scenario.

2.4 PHASING OF INVESTMENT

The completion period of the project is expected to be 5 years after setting up of SPV. The entire investment is likely to be incurred during the balance 10th Plan and full 11th Plan period.

2.5 PROJECT FINANCING

The project will be financed through a mix of internal generation, budgetary and non-budgetary resources including multi-lateral and bilateral funding. The appropriate mix and modalities relating to funding of the project would be finalized once the implementing agency is in position.

3.0 ENVIRONMENT CLEARANCE

No environmental clearance is required.

4.0 PROJECT IMPLEMENTATION

The project is proposed to be implemented through a Special Purpose Vehicle (SPV).

5.0 VIEWS OF EXPANDED BOARD

The project proposal was considered by Expanded Board in their meeting held on 10th February 2006. The Expanded Board has recommended for "in principle clearance" of the project. A copy of the minutes of the meeting is placed at Annexure-III.

6.0 SUMMARY

- i. A double line JNPT- Tuglakabad-Dadri Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System fit for diesel traction, double stack container movement and higher axle load wagons is proposed.
- ii. The Corridor along with feeder routes will be developed for movement of higher axle load wagons.

7.0 Approval of the CCEA is solicited for taking up the project of new double line Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between JNPT-Tuglakabad-Dadri via Ahmedabad and Palanpur at an estimated cost of Rs. 11445.60 crore to be funded through internal generation/budgetary support/non-budgetary resources including multilateral and bilateral funding.

8.0 The statement of implementation schedule is placed at Annexure-I to the note.

9.0 The proposal has been seen and approved by the Minister of Railways.


(S. K. Suri)
Advisor Planning
Railway Board

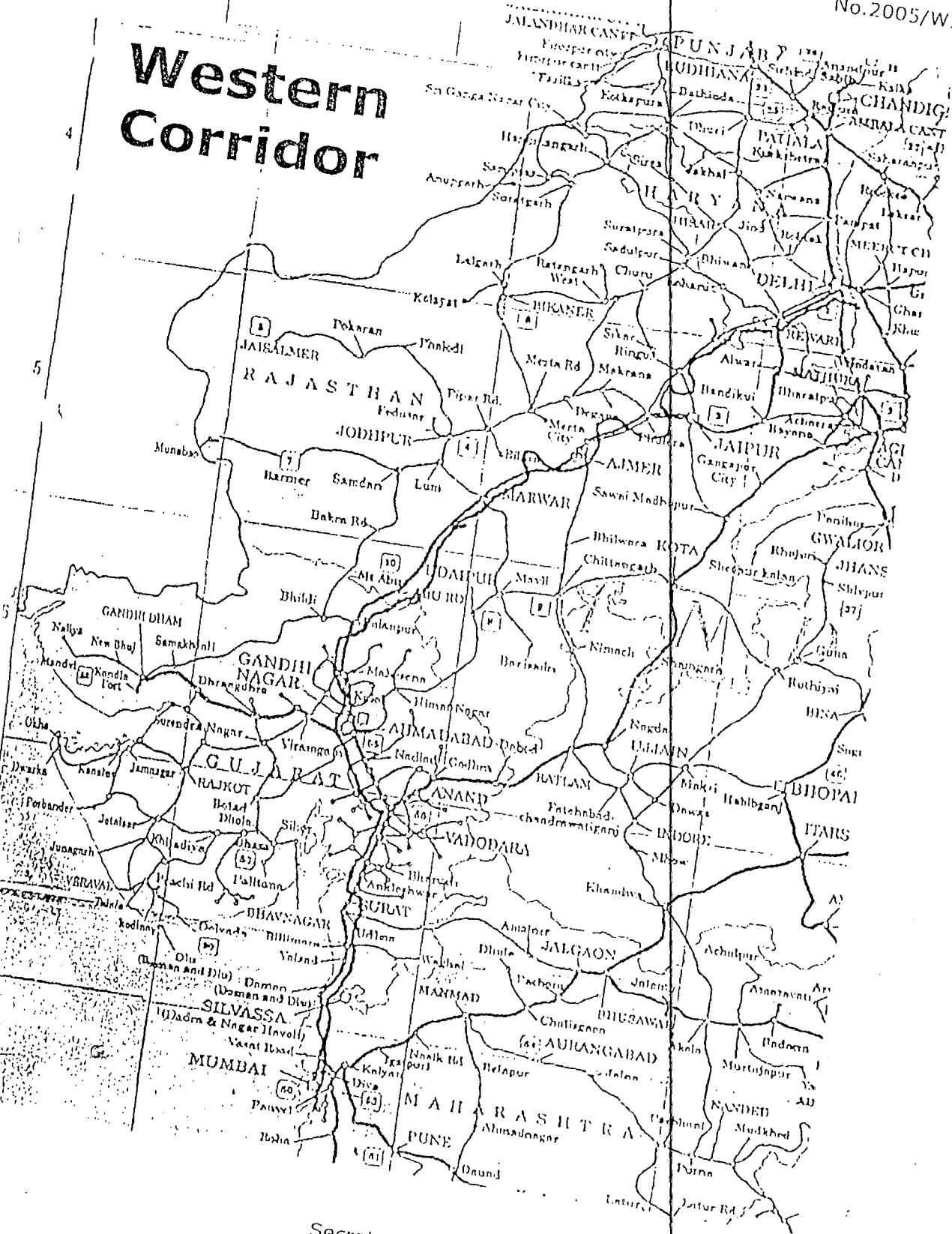
Annexure-I**STATEMENT OF IMPLEMENTATION SCHEDULE**

Sub: Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between JNPT-Tughlakabad-Dadri via Ahmedabad and Palanpur.

GIST OF DECISION REQUIRED	PROJECT BENEFITS/RESULTS	TIME SCHEDULE FOR IMPLEMENTATION
Approval of the CCEA is solicited for taking up the project of new double line Dedicated Multi-Modal High Axle Load Freight Corridor with Computerised Train Control System between JNPT-Tughlakabad - Dadri via Ahmedabad and Palanpur at an estimated cost of Rs. 11445.60 crore to be funded through internal generation / budgetary support / non-budgetary resources including multilateral and bilateral funding.	The project will immensely benefit ports and other consumers of rail transport. The project will provide the much needed rail infrastructure for growth of EXIM trade and Indian economy. The project will also generate indirect employment during construction phase.	The completion period of the project is expected to be 5 years after setting up of implementing agency (SPV).


(S. K. Suri)
Advisor Planning
Railway Board

Western Corridor



S/129

CONFIDENTIAL

**MINUTES OF BOARD MEETING
HELD ON 13TH JANUARY, 2006**

PRESENT

- Shri J.P. Batra : Chairman
- Shri R. Sivadasan : Financial Commissioner
- Shri R.R. Jaruhar : Member Engineering
- Shri Ramesh Chandra : Member Electrical - (On leave)
- Shri R.R. Bhandari : Member Mechanical
- Shri R.S. Varshneya : Member Staff
- Shri S.B. Ghosh Dastidar : Member Traffic

- Shri M.K. Agarwal : Secretary

Action by

A. STANDING AGENDA

Board took note of the papers put up on the Standing Agenda as under:-

- 1. Note on Manpower Planning put up by ED/T&MPP. **ED/T&MPP**
- 2. Note on Progress of throughput enhancement works put up by ED/W. **AM/W**
- 3. Note on IR's Reform Programme put up by DP(Spl). **AM/P**
- 4. Note on FOIS generated reports on various aspects of trains put up by EDTT/S. **EDTT/S**

B. MEMORANDA

- 1. **Rules for Rail Land Development Authority (RLDA).
No.2005/LML/2/13** **AM/B
AM/CE
Adv/L&A**

The memorandum put up by Adv/L&A on the above subject was discussed by the Board. Board expressed dissatisfaction over the deliberations of the Committee

at EDs' level which was formed to scrutinize the draft rules formulated by the Core Cell of RLDA. Board felt that a thorough analysis is needed and a review is necessary *ab initio*. A Committee consisting of Additional Member (Budget) and Additional Member (Civil Engineering) was nominated by the Board to take up this review and *ab initio* scrutiny of the draft rules formulated for RLDA. Report of AMs' Committee should be put up by L&A Directorate in a memorandum for discussion in a Board Meeting.

2. **Retention of railway accommodation at the previous place of posting on transfer to new Zones – decision regarding retention in favour of employees posted during the period from 1/4/2001 to 1/9/2002.**

AM/Staff

The memorandum put up by AM/Staff on the above subject was discussed and Board approved that retention of railway accommodation at the previous place of posting may be allowed to the employees posted to the New Zones/Divisions who were posted to such Zones/Divisions during the period from 01-04-2001 to 01-09-2002 as proposed in the memorandum.

3. **Selection/addition of railway projects for transfer to Rail Vikas Nigam Limited(RVNL) for execution through ADB funding.
No. 2005/PL/15/2**

ED/W

Deferred.

C. FILES/NOTES

1. **Review of decision to drop projects under technology mission on Railway Safety.**

ED/E&R

Deferred.

- 2 **Dedicated Freight Corridors.
No.2005/PL/6/7 Pt.II**

**Adv/Infra-
structure
EDPP**

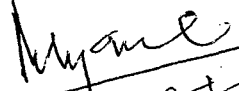
1. In Phase-I of Dedicated Freight Corridor, the Western Corridor will start from JNPT and will terminate at Tughlakabad/Dadri via Ahmedabad, Palanpur, Phulera

and Rewari.

2. The Eastern Corridor will start from Ludhiana and will terminate at Durgapur/Bokaro/Tatanagar.
3. The Eastern Corridor will be constructed in two parts. In Part-I of the Project, a separate freight corridor will be built from Ludhiana to Sonnagar. Remaining following links will be developed as Primary Feeder Routes for Dedicated Freight Corridor:-
 - i) Sonnagar-Gaya-Dhanbad-Durgapur
 - ii) Sonnagar-Garwa Road-Barkakana-Chandil-Tatanagar
 - iii) Barkakana-Chandrapura-Bokaro
4. Dedicated Freight Corridor from Ludhiana to Khurja Jn. may be single line initially. From Khurja Jn. to Sonnagar double line will be provided. The freight corridor from JNPT to Tughlakabad/Dadri will be double line.
5. Both the Eastern and Western Corridors will be connected between Dadri and Khurja Jn. to facilitate transfer from one corridor to the other.
6. The Primary Feeder Routes will be developed as fit for movement of 25 tonne axle load wagons. Later, these routes will be developed as Dedicated Freight Corridor as per requirement of traffic in Part II of the DFC Project.
7. On Eastern and Western freight Corridors, the new lines will be on 30 tonne sub-structure and 25 tonne super structure of track.
8. Vertical clearance on new lines of the freight corridors will be at 7 metres to permit movement of double stack containers. Other technical parameters including MMD will be decided later after in-depth examination of concerned Directorates.

9. Only basic conventional signaling including MACL and panel interlocking with absolute block system may be provided at the stations and junctions of the corridor. In due course, the signaling system will be upgraded as per traffic needs.
10. The provision of track machines for maintenance of track should be kept in the estimates for dedicated freight corridors.
11. New works for development of sub-structure including bridges etc. on feeder routes of the DFC will be suitable for movement of 30 tonne axle load.

No: 2006/Secy/Bd Mtg/01
Dated : 23.01.2006


23-01-06
(M.K. Agarwal)
Secretary

Copy to :-

MR, MSR(N), MSR(V)

CRB, FC, ME, ML, MM, MS, MT

DG/RPF, DG/RHS

AM/B, AM/CE, AM/Fin, AM/L, AM/ME, AM/PU, AM/RS,

AM/Staff, AM/Sig, AM/Tele, AM/T&C, AM/W, AM/Vig,

Adv/AR, Adv/Comml., Adv/Confdl, Adv.Elect.(R.S), Adv/Fin,

Adv/Infrastructure, Adv/IR, Adv/L&A, Adv/Plg., Adv/PM, Adv/TT,

EDCC, US/A

Sub: Dedicated Freight Corridors

Board considered the Draft Feasibility Report on Dedicated Freight Corridors in a meeting held on 29.12.2005. The observations and directives of the Board were communicated to RITES on 30.12.2005 for further examination and preparation of Final Feasibility Report.

RITES submitted the Final Feasibility Report on 9.1.2006. Salient Features of the Report are given below:

1. Project highlights at a glance:

Features	Delhi-Mumbai	Delhi-Howrah
Route Description	Ahmedabad-Palanpur-Phulera-Rewari-TKD/Dadri	Sonnagar-Mugalsarai-Allahabad-Khurja
Route Kilometers	1493	821
Standards of Construction	60 Kg., 90 UTS rails, PSC 1660 per kilometer, 300 MM ballast cushion	
Axle Load	25 Tonne double stack container movement with 15,000 Tonne trailing loads. 30 Tonne for bridges and substructure.	25 Tonne with 15,000 Tonne trailing loads. 30 Tonne for bridges and substructure.
Crossing Stations	11+14 Exchange Yards	10+6 Exchange Yards
Total Cost	Rs. 11446 crores (Cost per kilometer: Rs. 7.83 Crores)	Rs. 7039 crores (Cost per Kilometer: Rs. 8.58 Crores)
Breakup of Cost:	Civil: 9741 crores S&T: 1493 crores Electrical: 62 crores Mechanical: 150 crores	Civil: 5439 crores S&T: 978 crores Electrical: 408 crores Mechanical: 214 crores
FIRR under realistic scenario (FIRR I) with rolling stock owned by Indian Railways	17.7	31.6
FIRR under realistic scenario (FIRR I) with rolling stock on lease.	18.3	35.8
FIRR under optimistic scenario (FIRR II) with rolling stock owned by Indian Railways	18.6	32.4
FIRR under optimistic scenario (FIRR II) with rolling stock on lease.	19.3	36.6

2. Traffic Projections:

2.1 JNPT – Tughlakabad/Dadri via Ahmedabad and Palanpur:

Draft Feasibility Report did not take into account increase in imported coal for powerhouses in Northern India in its traffic projections. The Final Report has now projected that total import of coal for power houses located in Western and Northern India through ports in Gujarat will increase to over 13 million tonnes in 2021-22 from current level of 4.5 million tonnes. Of this, about 4.3 million tonnes equivalent to 4 trains per day will move on DFC. The earnings have been taken into account in financial appraisal.

Potential of domestic container traffic, consolidation of piece meal traffic and automobile traffic has been assessed as 10 trains per day by 2011-12 and 24 trains per day by 2021-22. However, for financial appraisal only half of anticipated traffic has been considered under the optimistic scenario (FIRR II).

2.2 Sonnagar-Khurja

On Sonnagar-MGS-Khurja section, the original traffic projections included movement of three RO-RO trains by 2021-22. While studying the traffic potential under optimistic scenario, following additional trains have been estimated: -

(a)	Domestic containers	-	4
(b)	Freight Consolidation	-	5
(c)	RO-RO trains	-	7
(d)	Automobile	-	3

	Total		19
			==

50 per cent of the traffic as anticipated above has been taken into account for financial evaluation of the project. (FIRR II).

3. **Identification of alignment for DFC**

3.1 JNPT-TKD/Dadri

The proposed route for JNPT – TKD/ Dadri corridor is via Ahmedabad, Palanpur and Rewari. The total length of the feeder routes is 2082 KMs. For upgrading the feeder routes, raising ballast cushion from 250 MM to 300 MM has been recommended at the cost of Rs.31.23 crores. The report has indicated that other works of upgradation of the track may form part of the normal track renewal programme of IR.

3.2 Sonnagar-Khurja Corridor

The report has recommended alignment of DFC from Sonnagar to Khurja via Mughal Sarai and Allahabad. Most of the traffic likely to move on this DFC will terminate at destinations located in Punjab and Haryana. For this purpose, doubling of Khurja -Saharanpur section has been recommended at a cost of 423 crores.

It is suggested that the end point of this corridor may be shifted from Khurja to Ludhiana. The distance from Khurja to Ludhiana is 400 kms and the cost for this extension will be Rs.3432 crores at an average cost of construction indicated in the project report. The rolling stock required for the project has been assessed for full movement from origin to destination. Similarly, earnings for the entire movement of traffic have been taken into consideration for financial evaluation. A quick estimate indicates that revised FIRR of DFC from Sonnagar to Ludhiana via Khurja and Saharanpur would be around 25 per cent.

It will be necessary to integrate two corridors terminating at Dadri and Khurja and for this purpose, connectivity can be provided between them. This would facilitate movement of double stack containers right from JNPT to Dhandari

Kalan without any problem. This would also be needed in view of a new Thermal Power Station coming up at Chola between Khurja and Dadri.

The two major routes from Grand Chord and CIC merges at Sonnagar. For carrying coal and steel traffic, it is suggested that the following feeder routes should be upgraded on priority:-

- (i) Durgapur-Gomoh-Sonnagar
- (ii) Sonnagar-Garhwa Road-Barkakana-Bokaro/Tatanagar

It may be necessary, at a later stage, to develop these feeder route as DFCs. It is suggested that development of these feeder routes as DFCs may be treated as Part II of the Project.

The report has suggested development of logistic parks as an instrument of attracting piece-meal traffic to Railways. RITES have been advised to suggest the locations of the logistic parks and land required for their development.

The cost of providing vertical clearances for movement of double stack containers has not been taken into account in the cost of construction of Road-Over-Bridges (ROBs) on the feeder routes. The cost of modification/upgrading bridges has also not been taken into account.

4. **Single Line Vs. Double Line**

The consultants have recommended double line for both corridors. This is primarily on account of the traffic projection, which indicate that the single line corridor would be saturated almost immediately after they are commissioned 5 to 6 years from now.

The cost of construction of single line and double line on JNPT-TKD corridor is given as under: -

	JNPT-TKD	SONNAGAR-KHURJA
Single Line -	8140 crores	4516 crores
Double Line -	9741 crores	5439 crores

It is seen that cost of construction of single line is lower by only 16/17 per cent.

Single line will also affect the transit time and quality of service. In the context of a long-term view, it appears that both the corridors would ultimately have double line. The conversion of a single line corridor into double line would imply that a large share of the infrastructure (station buildings, signaling at stations, manpower etc.) becoming redundant. The envisaged savings in construction cost of the single line corridor would, therefore, get more than completely offset by cost of redundancy created at the time of conversion to double line. Financial analysis has been done with provision of double line on DFC.

5. **Signalling System**

The consultants have presented a comparative analysis of conventional vis-à-vis communication based modern signaling in their reports and recommended the latter in the light of its superior economics as well as reliability.

It is, prima-facie, felt that the system requirements as well as the associated cost of conventional signaling adopted in the RITES report could be pruned down to a basic level to begin with and thereafter build upon commensurately with growth in traffic. The annexes at '1A' and '1B' respectively outline a rough and ready estimate of a basic conventional signaling system in juxtaposition with both the advanced conventional as well as the modern communication based signaling systems described in the report. A comparison of the revised conventional signalling system with the modern signalling system recommended in the report indicates a possible saving of Rs. 454 crores on the JNPT – TKD corridor and Rs. 132 crores on the Sonnagar – Khurja corridor. This expenditure can also be done in a phased manner with the growth of traffic.

It may then be prudent to initially consider a very basic conventional signalling system as the starting point. At the same time adequate flexibility can be kept to permit upgradation to modern state of the art signalling and communication facility commensurate with the growing traffic volumes and

intensity in utilization of the dedicated freight corridor. It is suggested that the provision for signalling system in the report can be kept without any pruning but the expenditure will be staggered in a phased manner with growing traffic need.

6. Maximum Moving Dimension (MMD) and Axle load

On JNPT-TKD corridor, freight stock with 25 tonnes axle load has been recommended largely on the ground that 80 per cent of exim container traffic would be amenable to double stack container operations. The supporting data pertains to actual traffic handled at ICD TKD in 2004-05. However, this data also clearly indicates that the traffic to and from Mundra and Pipavav has a much higher proportion of heavy containers than JNPT traffic and may not, therefore, lend itself readily to double stack operations on 25 Tonne axle load wagons. The traffic originating for export from Rajasthan is largely stone. Similarly, a large proportion of traffic to and from Punjab area comprises of scrap and rice respectively, which are both heavy commodities. Also, seasonal variations in traffic composition would need to be reckoned with. As such, the viability of double stacking with 25 Tonne axle load cannot be taken as established on the basis of average annual composition.

With 25 Tonne axle load corridor, all the container traffic may not be amenable to double stack operation. A 30 Tonne axle load corridor may permit higher proportion of double stacking, particularly in view of current traffic mix.

The report has recommended that the fixed structure should be provided for MMD height of 6.3 meters from rail level for double stack operation with well wagons. The overall width of 4.890 meters has been kept for 3.6 meters wide stock. An additional provision of minimum 950 millimeters on height should be kept for vehicle dynamic envelope, electrical clearance and overhead electrification. With the recommended MMD, it will not be possible to run double stack containers on flat wagons.

The height of double stack containers on flat wagons is 6.930 meters. Also the tri-level auto wagons will have to be designed within 6.100 meter height from rail level which will permit for transporting motor cars for about 1600 millimeters height on each of the three decks. However, some of the height of the Indian cars goes up to 1800 millimeters and sports utility vehicles can be as high as 2000 millimeters.

With the recommended MMD the ratio of maximum height from rail level to gauge will be 3.76 and ratio of maximum width to gauge will be 2.96. Thus recommended MMD would be still less than what is obtained on smaller Railways like Botswana and Kenya.

RDSO has already conducted initial trials for movement of Double Stack Container on flat wagons.

It is suggested that for the construction of Dedicated Freight Corridor, the MMD should be more liberal to permit future double stack operations on flat wagons and also movement of tri-level auto rake wagons.

7. Height of contact wire of OHE on DFC

Report has recommended that the height of contact wire on dedicated freight corridor should be raised to 6.7 metres so as to facilitate movement of double stack containers under wire. However, these double stack containers will be loaded in well wagons.

Running of double stack containers is not envisaged on Sonnagar-Khurja dedicated freight corridor. In any case, the height of contact wire has to be raised on feeder routes to permit movement of double stack containers.

It is suggested that the height of contact wire on Sonnagar-Khurja route should also be kept at existing 5.8 metres. However, taller masts can be provided for future need of raising the height of contact wire.

8. Board may kindly consider: -

- i) Extension of Sonnagar-Khurja dedicated freight corridor to Ludhiana and also its connectivity with Western Corridor by joining Khurja with Dadri as Part I of DFC Phase I Project.
- ii) Upgradation of Sonnagar-Gomoh-Durgapur and Sonnagar-Gharwa Road-Barkakana-Bokaro/Tatanagar as Primary Feeder routes. Later these routes will be developed as dedicated freight corridors as Part II of the Project.
- iii) Double line on both Western (JNPT-TKD) and Eastern Corridors (Sonnagar-Ludhiana)
- (iv) MMD height for the rail level to be fixed as 7000 mm for facilitating double stack containers on flat wagons. MMD width may also be increased from proposed limit of 4890 mm to facilitate running of wider wagons in future.
- (v) No change in the height of contact wire from existing 5.8 metres on DFC. However, taller masts can be provided to take care of future increase in height of contact wire.


BDA

Annexure I-A

**Cost of Signalling System on Dedicated Freight Corridor on Delhi-Mumbai
Section (Double Line)**

S. No	Description of Items	Cost of Conventional Signalling (in Rs/crore) as per RITES report	Cost of Communication based Signalling (in Rs/crore) as per RITES report	Cost of proposed system
1	Telecomm system OFC/STM and GSM(R) *	219.15	219.15	-*
2	Misc. Telecomm. Services*	40	40	-*
3	GPS based train location system			-
(i)	Train borne equipment	40	40	-
(ii)	Fixed location equipment including central equipment	125	125	-
4	Station interlocking	95	95	95
5	Automatic signalling with 1 Km. Inter-signal distance and gate interlocking**	438.3	-	438.3**
5(a)	Communication based signalling – track side equipments	-	365.25	-
5(b)	Communication based signalling – train borne equipment	-	20	-
6	Train Protection system			-
a)	Train borne equipment	20	-	-
b)	Line side equipment	525	-	-
7	Cost of junctions and terminal stations	40	40	40
8	Re-commissioning/ shifting of existing gears	100	100	100
9	Centralised operation system	125	125	125
10	Training Infrastructure	50	50	50
11	Total	1817.45	1219.40	848.3
12	Execution & Supervision cost @ 20%	363.49	243.88	169.6
13	Total of 11 and 12	2180.94	1463.28	1017.9
14	Contingency @ 2%	43.62	29.27	20.35
	Grand Total	2224.56	1492.55	1038.2

* Telecommunication arrangements would be required. However this has not been included keeping in view the possibility of exploring provision of the same by RailTel.

** The cost of automatic signalling has been taken according to the RITES report based on 1 km inter-signal distance. The cost would need revision if longer inter-signal distance is considered or IBH is considered.

Annexure I-B

**Cost of Signalling System on Dedicated Freight Corridor on Delhi-Howrah Section
(Double Line)**

S. No	Description of Items	Cost of Conventional Signalling (in Rs/crore) as per RITES report	Cost of Communication based Signalling (in Rs/crore) as per RITES report	Cost of proposed system
1	Telecomm system OFC/STM and GSM(R)*	123.15	123.15	-*
2	Misc. Telecomm. Services*	38	38	-*
3	GPS based train location system			-
(i)	Train borne equipment	30	30	-
(ii)	Fixed location equipment including central equipment	87.5	87.5	-
4	Station interlocking	95	30	95
5	Automatic signalling with 1 Km. Inter-signal distance and gate interlocking**	246.3	-	246.3**
5(a)	Communication based signalling – track side equipments	-	205.25	-
5(b)	Communication based signalling – train borne equipment	-	15	-
6	Train Protection system		-	-
a)	Train borne equipment	15	-	-
b)	Line side equipment	450	-	-
7	Cost of junctions and terminal stations	135	35	135
8	Re-commissioning/shifting of existing gears	100	85	100
9	Centralised operation system	100	100	100
10	Training Infrastructure	15	50	15
11	Total	1434.95	798.9	691.3
12	Execution & Supervision cost @ 20%	286.99	159.78	138.2
13	Total of 11 and 12	1721.94	958.68	829.4
14	Contingency @ 2%	34.44	19.17	16.5
	Grand Total	1756.38	977.85	845.9

* Telecommunication arrangements would be required. However this has not been included keeping in view the possibility of exploring provision of the same by RailTel.

** The cost of automatic signalling has been taken according to the RITES report based on 1 km inter-signal distance. The cost would need revision if longer inter-signal distance is considered or IBH is considered.

Action Taken by RITES on Board's Observations on Draft Feasibility Report on Dedicated Freight Corridors

Board considered draft feasibility report on 29.12.2005. The observations of the Board were given to RITES for examining and incorporating the same in the Final Report. Action taken by RITES is given below:

1. The route alignment for Delhi-Mumbai Corridor would via Ahmedabad-Palanpur-Ajmer-Phulera-Rewari.

As indicated by Board, RITES has done a detailed study (including financial appraisal) on both Delhi-Ahmedabad-Palanpur-TKD and Sonnagar-Khurja Corridors.

2. The bulk traffic on Delhi-Mumbai route would be in containers. Movement of imported coal through western ports which is expected to progressively grow on this route has not been accounted for in the RITES' report. Otherwise, the level of traffic projected in the RITES' report was in general endorsed by the Board. The ROR has been calculated based on the old rates based on the containerized traffic. The ROR should be calculated as per the revised freight rates for the containers and taking into account coal and other traffic expected to move on DFC.

The current level of import of coal for powerhouses located in Northern and Western India is 4.5 million tonnes. Of this, the requirement of imported coal on proposed Dedicated Freight Corridor via Palanpur is assessed as 1.5 million tonnes.

It is assumed in the RITES Report that import of coal for powerhouses will be around 13.3 million tonnes through ports located in Gujarat in 2021-22. Of this 4.3 million tonnes equivalent to 4 trains per day will be carried on Dedicated Freight Corridor. Earnings on this account has been taken into account in calculation of FIRR.

For calculation of FIRR, TEU rates as applicable with effect from 1.12.2005 for container traffic has been adopted. For non-containerized freight traffic, earnings have been calculated in accordance with current freight rates with effect from 1.4.2005.

3. As dispersal points on the routes would be many, the existing customers need to be sounded that they should get ready for handling heavy axle load wagons.

This would be done by Railways.

4. Bridges and fixed structures, which have long life, would be laid on this route for 30 tonne axle load. However, track structure, i.e. concrete sleepers and rails, which have smaller life span of 15-20 years, would be laid for 25 tonne axle load.

The study provides for bridges and sub-structure fit for 30 tonne axle load and super structure suitable for 25 tonne axle load. The cost of development of feeder routes fit for 25 tonne axle load has been indicated.

5. Initially the route may operate with single line but the provision of infrastructure will be kept for double line. The route should be capable of running at least 20 trains either way at the initial stage itself. RITES may evaluate both single line and double line options in detail.

The study has analyzed the growth of traffic on both the routes and recommended double line in view of the rapid growth of traffic in next few years. The cost of construction of single line is about 16 per cent lower than the cost of double line.

6. All the spokes (feeder routes) in Haryana and Punjab area would need to be upgraded for running of 25 tonne axle loads wagons. RITES to indicate priority of routes for upgradation.

The study has identified feeder routes required to be upgraded to 25 tonne axle load. On JNPT-TKD route, cost of upgradation of 2082 kilometers of feeder lines has been indicated as Rs. 31 crores. The study has suggested doubling of Khurja-Saharanpur line as a feeder line to Sonnagar-Khurja dedicated freight corridor at the cost of 423 crores. In addition, development of 3044 kilometers have been identified at the cost of Rs. 46 crores. The cost of providing increased ballast cushion has been considered for upgrading the feeder routes. The priority of upgrading feeder routes has been given.

7. Delhi-Mumbai route would be operated on diesel traction and fit for double stack containers.

The study has recommended a diesel traction on JNPT-TKD route. The study has suggested a maximum height of 6.3 meters on both the routes. Since the height of Double Stack Container on flat wagons is 6.93 meters, the study has suggested running of Double Stack Containers on well wagons. It has been further indicated that there may be a need to increase the MMD to run Double Stack Container on flat wagons.

8. For running double stack containers on the feeder routes, necessary modifications to the platform copings and lifting of foot over bridges can be planned where necessary on the feeder lines. However, study will have to be undertaken in respect of road over bridges and through girder bridges.

The cost for rebuilding of ROBs to revised standards of vertical clearance for double stack container traffic has not been taken into account. Existing bridges will have to be re-evaluated for carrying double stack container traffic axle loads feeder routes.

9. The loops provided on the route should have length to accommodate double trains.

A loop length of 1.5 kilometers has been taken in the study.

10. Type of signaling to be provided on the route should be evaluated keeping in view that the maximum speed of the train on this route would be 100 kmph.

The study has recommended communication based signalling on both the routes of Dedicated Freight Corridor.

11. Board observed that rolling stock cost has not been deliberated in the RITES' report. The rolling stock may be leased through IRFC or private operators. Financial analysis may also be done taking into account leasing option.

The Financial analyses provides for both the options of owning and leasing the rolling stocks. The leasing option is more beneficial.

12. The maintenance cost of the infrastructure i.e. track, rolling stock and signaling equipments may be evaluated taking into account costs incurred by other similar organization like Konkan Railway.

Line haul cost for different maintenance and operating activities have been depressed by 35 per cent for financial evaluation.

13. The traffic materializing on the routes for the feeder lines as also the cost involved in upgradation should be evaluated and shown separately in the project report.

Cost of upgradation of feeder routes has been taken into account in financial analyses. Similarly the earnings for the entire movement from origins to destinations has been considered for financial evaluation.

14. RITES may also evaluate economics of removing level crossing gates altogether by providing RUBs where TUV is less.

About 70 per cent of manned-level crossings have been converted into road under bridges and its cost has been included in the cost of project. However some level crossings will remain on both the routes as the height of embankment may not permit construction of road- under -bridges and the road traffic is low (142 on Mumbai-Delhi Corridor and 55 on Delhi-Howrah).

15. Another Hub at Marwar may become necessary in order to take into stream of traffic coming from other end for Delhi-Mumbai.

This will be done.

812?

Sub: Final RITES Feasibility Report on Dedicated Freight Corridor between Delhi-Mumbai and Delhi-Howrah.

The Final Report has been received from RITES. The copies of the Final Report have been distributed to the Members of the Task Force (EDPP, EDCE(P), ED/ME(Traction), ED/Tele, EDEE/Dev., EDFX-I, EDTT/M) and to Economic Adviser.

Copies of the Executive Summaries of both the Reports are enclosed for kind information and perusal.

[Signature]
EDPP
9.1.06

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EXECUTIVE SUMMARY

Dedicated Freight Corridor (Delhi – Howrah Route)

GENERAL – Section – I

- 1.0 In July, 2005 the Railway Board commissioned RITES to carry out a Preliminary Engineering-cum-Traffic Survey for a dedicated multimodal high axle load freight corridor for the Mumbai-Delhi and Delhi-Howrah routes. The work was split into 2 parts – Phase I comprising a Feasibility Study and Phase II consisting of a PET survey. An Inception Report was submitted in August, 2005 followed by a Draft Feasibility Report in December 2005. Following detailed interaction with the Ministry of Railways, the Feasibility Report has been finalized, completing the first phase of the study.
- 2.0 As required by the Terms of Reference, the study of the alignment has been done on either side of existing tracks along the Delhi-Howrah route via the Grand Chord. As also required by the TOR, the issues of double stack container trains, 25/30 tonne axle loads and diesel versus electric traction have also been examined.

TRAFFIC – Section - II

- 3.0 The route has heavy passenger traffic – exceeding freight services all along – so that Gomoh-Gaya and most sections from Mughalsarai to Ghaziabad are over-saturated, with line capacity utilization ranging from 114% to 160%. Current capacity enhancement works, including doubling and electrification of the ‘B’ route from Mughalsarai to Moradabad, will only help relieve the existing over-saturation and provide for future increase in passenger services. They cannot provide for the anticipated increase in freight traffic over the long term.
- 4.0 Besides paucity of line capacity, the various constraints on the existing route include a mixed pattern of passenger and freight services running on a common set of tracks, an inter se priority schedule between different types of services which assigns the lowest priority to freight services and passage difficulties across many junction stations. Consequently, the performance of freight services is affected adversely, resulting in heavy detentions enroute, poor average speeds and high turn around. Hence, the need for a dedicated freight corridor along the existing route, which while largely independent, will at the same time, have inter connectivity with the existing route at its terminals and at principal traffic entry and exit points.
- 5.0 The major commodities moving in the up direction (towards Delhi) are large quantities of coal, iron and steel, and cement. The commodities moving in the down direction (towards Howrah) are food grains, fertilizers, limestone, salt and general goods. Empties move in substantial numbers in both directions – covered empties in up direction for food grain loading, open empties in down direction for coal loading.
- 6.0 **Origin-Destination Flows and Projections of Traffic :** O-D flows for freight traffic moving by the route have been analysed in detail. The major streams of traffic flowing towards the north in future will be additional power house coal from the very large deposits of CCL and iron and steel products from expansion of the existing plants and the setting up of new steel plants in the eastern region of the country.
 - **Coal :** CCL production is slated to quadruple in the next 2 decades, with 90% for the power sector. Of this load center power houses will consume 65%, with 35% being for pit head power plants. 85% of the former is linked to northern India power houses. Little

incremental coal is expected from BCCL or ECL, though 4 mtpa of coal from Pakur is expected for PSEB plants. Increasing beneficiation of coal will reduce the volumes to be carried by rail – 50% of the coal has been assumed to be beneficiated. This route also caters to public coal and coal for fertilizer plants. While the former is expected to grow at 2%, no increase in the latter is expected as expansion and additional capacities are based on gas as feedstock.

- **Steel** : In conformity with the National Steel Policy's production target of 110 mtpa by 2020, both the public and private sectors are planning to step up production at the existing steel plants and to set up new mega steel plants in ore rich Orissa and Jharkhand. This will add to the existing stream of traffic of finished products from this region.

- 7.0 Thus, appropriate forecasts have been prepared depending upon allocation of coal from the various coalfields and the expansion and commissioning plans for power houses coming up upto the XI Plan. After that, planning has been based upon Coal India's 'Vision 2025'. For other commodities, growth percentages have been applied for projections of traffic for the different reference years upto 2021-22.
- 8.0 The traffic generated does not appear to be significant enough to justify extension of the corridor beyond Son Nagar. While future coal from CCL will enter the route here, future traffic of finished products from the steel plants will also join it here being routed via Barkakana. Hence, there appears to be little justification to extend the corridor beyond Son Nagar in the east. However, there is a possibility of Kolkata Port creating container handling facilities, so that the present container traffic to the northern Indian heartland from South East Asia and the US west coast can be routed via Kolkata Port, instead of the present circuitous pattern of movement via the Indian west coast. In addition large deposits of coal have been discovered in North West Bangladesh. If imported and linked to power plants in north India, these two streams of traffic would necessitate extension of corridor further east, possibly in Phase II.
- 9.0 Considering the major developments in the mining and steel industries in the eastern region, this pattern of movement of traffic is expected to continue. The report, therefore, recommends a Dedicated Freight Corridor between Son Nagar and Khurja in Phase-I with the track structure fit for running with 25 tonne axle load, but with bridges and fixed structures (which have long life) fit for 30 tonne axle load. Its subsequent extension further east may be considered only when large scale container movement from the eastern ports commences or large volumes of coal from Bangladesh come onto this route.
- 10.0 The section wise number of trains estimated according to the present axle load are as follows :

Direction	2004-05		2021-22		Additional Trains	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
UP	28.5	40.1	69.9	108.9	41.4	68.8
DN	22.8	37.3	55.7	104.2	32.9	66.9

However, increasing the axle load to 25 tonnes and revising the MMD, the number of trains reduces to :

Direction	2004-05		2021-22		Additional Trains	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
UP	23.6	33.3	58.5	90.7	34.9	57.4
DN	18.8	30.8	46.5	86.3	27.7	55.5

- 11.0 Since most of the traffic originates and terminates on stations outside the DFC, the spokes feeding and dispersing traffic from the Son Nagar-Khurja DFC would perforce need to be upgraded for 25 tonne axle load. These have been identified to cater to the major streams, totaling about 3044 km.
- 12.0 The option of constructing a single line initially, adding the second line as and when traffic develops, has been examined. Construction is estimated to take a minimum of 5 years, that is, till 2011-12. By that time, the number of additional up trains is expected to range between 23 and 38, while in the down direction, these will range between 19 and 38. A single line section with stations 10 km apart can run – after catering to maintenance blocks - a maximum of 20 freight trains each way. Hence, most of the sections will become saturated either immediately on commissioning or within a couple of years. Besides, though transfer of freight traffic from the existing line to the DFC has not been considered, this might become inevitable on account of the increase in the number of passenger trains on the route and also to improve the quality of passenger and freight services. Moreover, construction of a part single line and part double line will not be operationally effective. A double line dedicated freight corridor can space stations even 50 km apart, thus saving both capital and operating costs. **In view of this, construction of a double line throughout the route between Son Nagar and Khurja is recommended.**
- 13.0 Connectivity with the existing railway system is proposed to be provided at 6 locations, namely, Son Nagar, Mughalsarai, Karchana (Allahabad), Bhaupur (Kanpur), Tundla and Khurja. In addition, loops have been provided at approximately 50 km intervals for operational reasons.
- 14.0 The future estimates of traffic on the proposed DFC have been largely confined to core sector bulk, break-bulk and containerised traffic (mainly EXIM containers) traditionally moving on the IR system, for which rail transport provides the optimal mode of transport. There has been a significant growth in volume of non-bulk and piecemeal traffic during the past fifty years, which has by and large gone to the road sector. Consultants feel that with intensive marketing initiatives on the part of IR in providing logistic support facilitation, appropriate rate structure, customer care and assured transit time etc. a sizeable part of the above traffic can come to the railways. More so with the coming of the DFC in horizon, which will not only increase IR's carrying capacity but also the quality of service.

Keeping the above in view, an appraisal of emerging demands in the traffic, which can be attracted to rail by special initiatives was also attempted for a greater appreciation of the potential of the proposed DFC.

MAXIMUM MOVING DIMENSIONS– Section – III

- 15.0 Compared to the MMD of major world railway systems which are on standard gauge, the existing MMD on IR for BG is restrictive, resulting in low productivity. The construction of a dedicated freight corridor offers an opportunity to rectify this by increasing the MMD envelope.
- 16.0 While the Delhi-Howrah route does not indicate any substantial movement of container traffic upto 2021-22, on the Delhi-Mumbai route, container traffic from JNPT/Mumbai and ports on the West coast constitute the major share of traffic. Running of double stack container train requires a higher MMD. For uniformity of MMD for all future corridors on IR, **a higher MMD and fixed structure line even for the Son Nagar - Khurja corridor is recommended to permit running of double stack container trains after 2021-22.**
- 17.0 The MMD required for 30 tonnes axle load and 12 tonnes per metre track loading density for various kinds of traffic are as follows:

- Roll-on-Roll-off wagon - 4900 mm to 5300 mm
- Open gondola wagons - 4300 mm to 4500 mm
- Covered hoppers & BCN type general service covered wagons - 4700 mm to 5150 mm
- Double Stack Containers on flat cars - 6930 mm (with 915 mm Wheels)
- Double Stack Containers on independent well type cars - 6230 mm
- Auto Rack - 6100 mm to 6700 mm (Preferred minimum 6300 mm)

18.0 Therefore, MMD of 6300 mm height and 4890 mm width (for 3660 wide stock with open doors & projection) has been proposed.

ENGINEERING – Section – IV

ALIGNMENT

- 19.0 Survey of entire length of the route was done to see the technical feasibility of the corridor. The survey team picked up the details of land boundaries, existing Right of Way (ROW) etc. On completion of survey the proposed alignment has been marked with the following considerations.
- Both lines of DFC are on one side of existing route as per TOR.
 - As far as possible the proposed alignment is parallel to the existing track providing specific track parameters.
 - Detouring proposed is minimum. Detouring is proposed at locations of heavily populated areas.
 - Providing flyovers over the existing branch lines.
 - Minimum dismantling to the existing structures.
 - Minimum changes to the existing yards / running lines.
- 20.0 Based on survey, the total proposed length of the corridor between Son Nagar and Khurja is 819.06 km. The proposed alignment has the following major features:
- The alignment detours at 5 locations (Aligarh, Hathras, Tundla, Kanpur and Allahabad).
 - There will be 1 No. of fly over on the mainline near Khurja to establish connection of DFC to the Khurja – Saharanpur feeder line and 6 Nos. of rail fly overs for crossing the branch lines.
 - The proposed alignment will pass through 3 important bridges on rivers - Yamuna near Allahabad, Sone near Dehri and Tons near Meja Road, the total length of waterways being 4049.61 meters.
- 21.0 There are 293 level crossings on the existing route between Son Nagar and Khurja. In view of the increase in rail as well as road traffic during the execution of the DFC, it is proposed that provision of ROBs should be made at level crossings which carry more than 50,000 TVUs at present. Accordingly cost of construction of 111 ROBs has been included in the estimate.
- On level crossings having less than 50000 TVUs at present, it is proposed to provide road-under-bridges across the proposed freight lines as well as under the existing railway lines. Due to the problems of less bank height available at site in the existing track, it may not be possible to provide RUBs at all the level crossings. While detailed survey to be undertaken in Phase II will indicate the actual number of RUBs feasible at site, it is presumed that 70% of such level crossing can be replaced by RUBs for the purpose of cost estimation at this stage.

- 22.0 **Staff quarters** – Since the organizational set up for the proposed DFC is yet to be decided; construction of 4000 new staff quarters for the purpose of cost estimate of the project has been included. This, however, will require firming up after assessing demand from concerned railway department. This will be further examined while preparing Preliminary Engineering survey report.
- 23.0 **Land requirement** – The proposed alignment will require 1758.62 hectares of additional land for Double line and 2073.61 hectares for Single line option. There shall be no requirement of additional land in the forest area. The identification of ownership of land shall be examined during Preliminary Engineering survey.
- 24.0 The proposed ruling gradient of the DFC is 1 in 200 (compensated). Maximum degree of curvature proposed is 2.5 degree. The track structure has been proposed for 25 tonne axle load. Accordingly, 60 kg rails on PSC mono block sleepers with 1660 per km sleeper density and 300 mm ballast cushion has been recommended.
- 25.0 Since the origin and destination of traffic is not necessarily within the proposed DFC, it would be essential to upgrade the feeder routes, which have been indicated in the report, for running of 25 tonne axle load. It is understood that track standards for 25 tonne axle load are under finalization in the Railway Board. The works of up-gradation of track, if necessary, after the finalisation of the standards will form part of the track renewal works chargeable to DRF. However, cost of raising ballast cushion from 250 mm to 300 mm on the feeder lines has been included in the cost estimates. It is presumed that bridges needing replacement have been / would be taken up under SRSF/DRF.

As Indicated in the report, cost of doubling of 210 km long Khurja – Saharanpur section and cost of increasing of ballast cushion from 250 mm to 300 mm on feeder routes has been included in the estimate for the purpose of working of FIRR.

- 26.0 The cost of construction of single line has also been assessed. In this case, provision of infrastructure i.e. land and bridge substructures has been made for double line standards while the cost of formation, P.Way and bridge superstructure has been considered for single line.

Since the spacing of stations shall stand reduced to 10 Km in case of single line for operating reasons, cost of providing stations and loops at 10 Km interval has been taken in consideration. In case of single line, provision of 2015 staff quarters (as against 4000 quarters for Double line) has been considered for cost estimation.

SIGNALLING & TELECOMMUNICATION – Section - V

- 27.0 The Delhi-Howrah double line section is mostly equipped with multi-aspect colour light signals. The Sahibabad-Ghaziabad section has 4 lines with automatic signaling. Modernization of Signalling & Telecom is in progress between Ghaziabad-Kanpur and the 3rd line work is slated to commence soon on Ghaziabad-Aligarh. The OFC and mobile-train radio communication work in Ghaziabad-Mughalsarai section is also in progress.
- 28.0 Due to fog in winter, visibility of colour-light signals is severely affected retarding train operation, especially because of the mix of high and low speed trains on the same route restricting line capacity. Besides where block sections are not track circuited, the monitoring of trains is done manually, endangering safety. End-cabin working involves excessive verbal communication, slowing down operation. No arrangements are provided to guard against human error by a driver. The existing system being based on old technology with poor reliability, about 20% of line capacity is lost on account of failures.

- 29.0 The world over freight has dedicated railway corridor. While earlier systems are managing with the technology that was then available, new systems like the Tibet line in China, are adopting state of the art technology. This is communication based signaling, not requiring any track side signals and track circuits. It directly conveys to the driver the speed at which he should run. For locating the train, GPS receivers are installed so that the cab equipment communicates with the 'control centre' through a mobile train radio system. This system effectively overcomes the constraints of the existing signaling system.
- 30.0 The capital and maintenance costs have been worked out both for the conventional and communication based signaling. The former being more economical than that of the latter, Communication based signaling is, therefore, recommended for installation on the DFC.

TRACTION ECONOMICS – Section - VI

- 31.0 The factors determining the economics of diesel / electric traction are complex and generate considerable comments from both Electrical and Mechanical Departments of IR. Various committees have been set up by Ministry of Railways in the past to examine the comparative economics of diesel and electric traction. Some of them are – Raj Committee Report, Sahay Committee Report, Director's Committee and Khosla Committee.
- 32.0 All these committees have adopted more or less the similar procedure for calculating the break even level of traffic at which electrification offers advantage over diesel traction. In the reports of the earlier committees, the input data & parameters have been taken from Annual Statistical Statement (ASS). However, the figures given in the ASS do not reflect the characteristics of operation of two modes of traction particularly for the proposed DFC because of the various reasons explained in the report. In view of above, consultant has recommended choice of traction mainly on operational considerations.

ELECTRIFICATION – Section - VII

- 33.0 The existing Delhi-Howrah route and connecting lines are electrified on 25KV B.T. System. Considering the projected traffic and system of electrification on the contiguous sections and feeder lines, same system of electrification has been suggested. However, the remote control centres have been assumed to control traction power in much longer sections compared to those on existing route.
- 34.0 The current stipulation in SOD for contact wire is to be at least 340 mm above the height of rolling stock. Considering various types of present rolling stocks on IR, this height has been kept at 5.80 m. It is recommended that contact wire height be kept at 6.70 m in DFC. The pantograph already on IR can reach up to a maximum extension of 6.80 m.

PROJECT ENGINEERING & CONSTRUCTION SCHEDULE – Section - VIII

- 35.0 Total cost of Civil Engineering works is Rs. 5439.44 crores for Double line and Rs. 4516.30 crores for Single line. In case of Single line, provision of infrastructure i.e. land and bridge substructures has been made for double line standards while the cost of formation, P.Way and bridge superstructure has been considered for single line.
- 36.0 In addition to above, cost of doubling of 210 km long Khurja – Saharanpur section works out to Rs. 423.15 crore based on current average (per km) sanctioned cost of Doubling of similar works on Northern Railway and cost of increasing of ballast cushion from 250 mm to 300 mm on 3044 km feeder routes works out to Rs. 45.66 crore.

FINANCIAL ANALYSIS – Section - IX

- 37.0 In financial analysis of the project, the project viability has been carried out based on the incremental traffic taking 2004-05 as the base year traffic. Further, FIRR has been arrived at under two scenarios- FIRR-I and FIRR-II. Under the FIRR-I, the commodity and origin-destination wise projected traffic indicated under para 2.7 (Section-II Chapter 2) of this report has been taken into account for working out the financial return, while in FIRR-II, the financial return has been worked out by taking also into account the additional 'emerging traffic projections' indicated under para 2.9 (Section-II Chapter 2).

The two FIRR figures have been presented in the report, keeping in view the fact that although the Consultants would like to stand by the firm traffic projections, an appraisal of emerging demands in the traffic, which can be attracted to rail by special initiatives was considered appropriate for a greater appreciation of the potential of the proposed DFC.

Further, the financial analysis has only been done for 'double line' in view of the inadequacy of single line for the corridor brought out in the report. It may however, be mentioned that since the percentage reduction in cost will not be in proportion to the reduction in the traffic to be carried, the anticipated rate of return for single line option will be lower than that for a double line.

- 38.0 As per TOR the study was required to undertake economic appraisal of the project which would reflect the viability of the project from the point of view of the country's economy. The appraisal would be required to be carried out following the cost minimisation approach, which would require accounting of total cost inputs from origin to destination, including feeder and dispersal routes and match these costs with cost incurred on alternative modes of transport.

For doing the above exercise it would therefore be necessary to have all the actual cost inputs from origin to destination, including the feeder/dispersal routes and match these with costs incurred for alternative modes of transport. The urgency in submission of the report did not leave adequate time with the Consultants to carry out this exercise. Moreover, it is felt that the exercise would be better executed once the firm view is taken on the assumptions and approach for the financial evaluation carried out in the extant appraisal. However, the Consultants feel that the Economic Rate of Return (EIRR) in the extant case is likely to be higher than the FIRR. The detailed appraisal of the considerations effecting the EIRR has been indicated in Chapter 1 under the Section-IX: Financial Analysis.

- 39.0 The capital cost of construction of Son Nagar-Khurja DFC works out to Rs. 7039.44 crore. The break up is as under:

ITEMS	COST (Rs. Crore)
Civil	5439.44
Electrical	408.44
Mechanical Costs (Maintenance facilities for Rolling Stock)	213.70
Signaling & Telecommunication	977.85
Total	7039.44

Note: Mechanical costs include Rs. 50 crore towards construction of electric loco shed.

In addition, the cost of upgrading the feeder routes will be Rs 468.81 crores, including the cost of doubling of Khurja-Saharanpur section..

40.0 The rolling stock costs over the project period have been worked out as under:

ITEM	Total Cost (Rs. Crores)		
	2011-12	2016-17	2021-22
Wagons	1843.02	2851.32	3323.62
Locomotives	716.18	1097.29	1312.21
Total	2559.20	3948.61	4635.83

41.0 As indicated above, the FIRR for the project has been arrived at under two scenarios- FIRR-I and FIRR-II. Financial rates of return for both the scenarios is as under:

Items	FIRR-I	FIRR-II
1] Rolling Stock Owned by IR	31.6	32.4
2] Rolling Stock on Lease	35.8	36.6

EXECUTIVE SUMMARY

Dedicated Freight Corridor (Delhi-Mumbai Route)

Section I – General

- 1.0 The Railway Board commissioned RITES to carry out a Preliminary Engineering-cum-Traffic Survey for a dedicated multimodal high axle load freight corridor for the Mumbai-Delhi and Delhi-Howrah routes in July, 2005. The work was split into 2 parts – Phase I comprising a Feasibility Study and Phase II consisting of a PET survey. An Inception Report was submitted in August, 2005 followed by a Draft Feasibility Report in December 2005. Following detailed interaction with the Ministry of Railways, the Feasibility Report has been finalized, completing the first phase of the study.
- 2.0 As required by the Terms of Reference, the study of the alignment has been done on either side of existing tracks along the Mumbai-Delhi corridor but for two route alignments – one via Ratlam-Kota and the other via Ahmedabad-Palanpur - the JN Port-Vadodara segment being common to both. As also required by the TOR, the issues of double stack container trains, 25/30 tonne axle loads and diesel versus electric traction have also been examined.

Section II – Traffic

- 3.0 On the Mumbai-Delhi corridor, both the routes via Ratlam-Kota and via Ahmedabad-Palanpur have a predominance of passenger services, both routes being oversaturated with line capacity utilization ranging from 115% to 150%.
- 4.0 Besides paucity of line capacity, the various constraints on the existing route include a mixed pattern of passenger and freight services running on a common set of tracks, an inter se priority schedule between different types of services which assigns the lowest priority to freight services and passage difficulties at many junction stations. Consequently, the performance of freight services is affected adversely, resulting in heavy detentions enroute, poor average speeds and high turn around. Hence, the need for a dedicated freight corridor along the existing route, which while largely independent, will at the same time, have inter connectivity with the existing route at its terminals and at principal traffic entry and exit points.
- 5.0 A number of line capacity enhancement works are in progress on both routes. On the Ratlam-Kota route these are mainly between JNPort and Vadodara. They are expected to provide immediate relief, but cannot ease the situation in the long term. On the Ahmedabad-Palanpur route a number of gauge conversion and doubling works are in progress, which will have a long term impact and will provide two alternative routes between Ahmedabad and Delhi and up to the northern states. This capacity will be fully utilized by the anticipated growth in traffic to and from the ports of Kandla, Mundra and Pipavav and other traffic nodes in the Kutch and Saurashtra regions of Gujarat.
- 6.0 On the route via Ratlam-Kota, only about 20% of the traffic, comprising rail borne Exim containers, foodgrains and fertilizers moves from end to end. The rest (mainly coal, iron and steel, POL, salt and fertilizers) enters and exits the route at intermediate junctions (Udhna, Godhra, Nagda, Kota) moving on the trunk route for a short distance (Udhna to Vadodara or Nagda to Godhra).

- 7.0 On the route via Ahmedabad–Palanpur, freight traffic is much less and through traffic mainly comprises foodgrains and fertilizers, the rest entering and exiting at intermediate junctions (Mahesana, Palanpur, Ajmer, Phulera). Only some cement traffic originates on the Abu Road–Ajmer section of the route.
- 8.0 **O-D Flows and Projections of Traffic:** Container traffic handled at the existing ports in the western region in 2003-04, amounted to 2.7 million TEUs, of which 24% moved to/from hinterland destinations by rail. This traffic is expected to grow rapidly reaching 15.5 million TEUs in 2021-22. The rail share of the traffic is also expected to increase to about 38% with increased quality of service. The level of nearly 10 container trains each way in 2003-04 is thus expected to increase to more than 70 trains each way by 2021-22.
- 9.0 O-D flows for freight traffic moving by both routes under study during 2004-05 have been analysed in detail. Of these only traffic moving on the existing route for more than 200 km has been allocated to the DFC. Appropriate commodity-wise growth percentages have been applied for projections of traffic for different reference years upto 2021-22.
- 10.0 To cater to the inevitable growth in respect of Exim container traffic to and from the ports of (JNPT) Mumbai, Kandla, Mundra, Pipavav and Hazira, the report therefore, recommends a Dedicated Freight Corridor between JNPort and Tughlakabad/Dadri with the track structure fit for running with 25 tonne axle load, but with bridges and fixed structures (which have long life) fit for 30 tonne axle load to enable the running of double stack container trains.
- 11.0 The section wise number of trains estimated according to the present axle load are as follows :

Direction	2004-05		2021-22		Additional Trains	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
UP	8	16	43	76	35	60
DN	7	19	48	97	41	78

- 12.0 By adopting double stack container train operation with well type wagons, through put per train will increase by 42%. However, all rail borne container traffic will not be amenable to double stack operations due to limitation of axle road and moving dimensions on the existing routes and as such, of the rail borne container traffic which moves from origin to destination on the DFC, that is from JNPort to Tughlakabad/Dadri, only 50% will initially be amenable to DSC operations. The number of trains with 25 tonne axle load then reduces to :

Direction	2004-05		2021-22		Additional Trains	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
UP	7	14	36	56	29	42
DN	6	16	41	83	35	67

- 13.0 Since traffic also originates and terminates on stations outside the DFC, the spokes feeding and dispersing traffic from the JNPort-TKD/Dadri DFC would perforce need to be upgraded for 25 tonne axle load. These have been identified to cater to the major streams, totaling about 2100 km. Similarly, upgradation requirements for the end terminals have been brought out in the report.
- 14.0 The option of constructing a single line initially, adding the second line as and when traffic develops, has been examined. Construction is estimated to take a minimum of 5 years, that is, till 2011-12. By that time, the number of additional up trains is expected to range between 17 and 30, while in the down direction, these will range between 17 and 28. A single line section with stations 10 km apart can run – after catering to maintenance blocks - a maximum of 20 freight trains each way. Hence, most of the sections will become saturated either immediately

on commissioning or within a couple of years. Besides, though transfer of freight traffic from the existing line to the DFC has not been considered, this might become inevitable on account of the increase in the number of passenger trains on the route and also to improve the quality of passenger and freight services. Moreover, construction of a part single line and part double line will not be operationally effective. A double line dedicated freight corridor can space stations even more than 50 km apart, thus saving both capital and operating costs. **In view of this, construction of a double line throughout the route between JNPort and TK/Dadri is recommended.**

- 15.0 In order to provide connectivity of DFC with the existing lines, it is proposed to provide connections at 8 points in respect of route via Ratlam-Kota and at 10 points in respect of route via Ahmedabad-Palanpur.
- 16.0 The alignment of the corridor via Ahmedabad-Palanpur is preferable because:
- Traffic moving on the DFC will be more on this alignment.
 - The Gujarat ports of Mundra, Kandla and Pipavav and other traffic nodes (Ahmedabad, Rajkot) will be better served by this alignment.
 - It will relieve substantially the Vadodara-Ratlam-Delhi section by taking away a considerable portion of the freight traffic between Mumbai and Delhi.

Thus this alignment is recommended.

- 17.0 By adopting double stack container trains operations with well type wagons through put per train will increase by 42%. However, all rail borne container traffic will not be amenable to double stack operations due to limitation of axle load and moving dimensions on the existing rail routes and as such the rail borne container traffic which moves from origin to destination on the DFC i.e. from JN Port to Tughlakabad/Dadri will initially be amenable to double stack operations.
- 18.0 While recommending the construction of double line between JN Port and Tughlakabad/Dadri for 30 tonne axle load and higher moving dimensions, up-gradation of the existing feeder lines to similar standards is also recommended in a phased manner.
- 19.0 Though traction economics has been discussed in Section VI, this has not been considered as a basis for recommending the traction because of the various reasons explained in Section VI. Diesel Traction to be adopted for DFC via Ahmedabad-Palanpur mainly on operational considerations as at present all the length in this region are on diesel traction except Mumbai-Vadodara –Ahmedabad.
- 20.0 The future estimates of traffic on the proposed DFC have been largely confined to core sector bulk, break-bulk and containerised traffic (mainly EXIM containers) traditionally moving on the IR system, for which rail transport provides the optimal mode of transport. There has been a significant growth in volume of non-bulk and piecemeal traffic during the past fifty years, which has by and large gone to the road sector. Consultants feel that with intensive marketing initiatives on the part of IR in providing logistic support facilitation, appropriate rate structure, customer care and assured transit time etc. a sizeable part of the above traffic can come to the railways. More so with the coming of the DFC in horizon, which will not only increase IR's carrying capacity but also the quality of service.

Keeping the above in view, an appraisal of emerging demands in the traffic, which can be attracted to rail by special initiatives was also attempted for a greater appreciation of the potential of the proposed DFC.

Section III – Maximum Moving Dimension

- 21.0 Compared to MMD of major world railways systems, which are on standard gauge, the existing MMD on Indian Railways for Broad Gauge is quite restrictive, resulting in low productivity. In order to optimize productivity, we need to consider increasing the envelop of maximum moving dimensions. The construction of a dedicated freight corridor has offered such opportunity.
- 22.0 On Mumbai-Delhi corridor, container traffic from JN Port and other ports of western coast shall constitute a major share of traffic and accordingly running of double stack container trains on the route has been recommended for the obvious advantages. However, running of double stack container trains needs higher MMD. In view of this there is a need to revise the existing MMD.
- 23.0 The maximum moving dimensions required for 30 tonnes axle load and 12 tonnes per meter TLD for various kind of traffic shall be as under:
- Roll-on-Roll-off wagon - 4900 mm to 5300 mm
 - Open gondola wagons - 4300 mm to 4500 mm
 - Covered Hoppers & BCN Type general service covered wagons - 4700 mm to 5150 mm
 - Double Stack Containers on flat cars - 6930 mm (with 915 mm wheels)
 - Double Stack Containers on well independent type cars - 6230 mm
 - Auto Rack - 6100 mm to 6700 mm (preferred minimum 6300 mm)
- 24.0 Therefore, MDD of 6300 mm height and 4890 mm width (for 3660 wide stock with open doors & projection) has been proposed.
- 25.0 After examining various options the running of double stack container trains, on independent well type cars is recommended based on the information/experience of other world railways. Although running of DSC trains with flat cars provides 100% increase in capacity theoretically as against 42% increase in case of well type car, there will be a need to further increase the MMD beyond the recommended level to run DSC on flat wagons if decided after taking into consideration results of trial being conducted by RDSO as and when they are available.

Section IV – Engineering

Alignment

- 26.0 Survey of the entire length on both alternative routes was done to see the technical feasibility of the corridor. The survey team picked up the details of land boundaries, existing Right of Way (ROW) etc. On completion of survey the proposed alignment has been marked with the following considerations.
- Both lines of DFC are on one side of existing route as per TOR.
 - As far as possible the proposed alignment is parallel to the existing track providing specified track parameters.
 - Detouring proposed is minimum. Detouring is proposed at locations of heavily populated areas and difficult terrains.
 - Providing flyovers over the existing branch lines.
 - Minimum dismantling to the existing structures.
 - Minimum changes to the working existing yards / running lines.

- 27.0 Based on the survey, the total proposed length of the corridor between JN Port and Dadri via Ratlam-Kota shall be 1447 kms. The total proposed alignment of the corridor between JN Port and Dadri via Ahmedabad-Palanpur route shall be 1493 km.
- The proposed alignment via Ratlam-Kota detours at 7 locations. (Surat, Godhra, Darra, Kota, Gangapur, Bharatpur, Mathura) and on hilly terrain between Godhra – Ratlam. The alignment via Ahmedabad-Palanpur detours at 10 locations. These are Surat, Bharuch, Vadodara, Ahmedabad, Beawar, Ajmer, Ladpura, Kishangarh, Phulera and Ringus.
 - There will be 5 Nos. of fly overs on the mainline and 4 Nos. of rail fly overs for crossing the branch lines via Ratlam-Kota route. In case of alternative alignment via Ahmedabad-Palanpur, there shall be 8 number of fly overs on the mainline and 12 fly-overs on the branch lines. **In addition the proposed line shall cross the existing road by Rail fly Overs at two locations on new line between Tughlakabad –Dadri.**
 - The proposed alignment via Ratlam-Kota will pass through 26 important bridges main rivers being Tapi, Narmada, Chambal, Yamuna and Hindon. The total length of waterways of these important bridges is 7710 meters. In case of alternative alignment via Ahmedabad-Palanpur, the alignment will pass through 9 important bridges main rivers being Tapi, Narmada, Sabarmati, Banas, Yamuna and Hindon. The total length of the waterways of these important bridges is 4987 meters.
- 28.0 There are 597 level crossings on the existing route between JN Port and Dadri via Ratlam-Kota route. In case of existing route via Ahmedabad-Palanpur, the number of level crossings **encountered is 579 in addition to road crossing requirements along the detoured alignment.** In view of the increase in rail as well as road traffic during the execution of the DFC, it is proposed that provision of ROB should be made at level crossings, which carry more than 50,000 TVUs at present. Accordingly, the cost of construction of 168 and 155 ROB's have been included for routes via Ratlam-Kota and via Ahmedabad-Palanpur respectively.
- On level crossings having less than 50000 TVU at present, it is proposed to provide road-under-bridges across the proposed freight lines as well as under the existing railway lines. Due to less bank height available at site in the existing track, some of the level crossings may not be amenable to be replaced with RUB's. While detailed survey to be undertaken in Phase II will indicate the actual number of RUB's feasible at site, it is presumed that 70% of such level crossing can be replaced by RUB's for the purpose of cost estimation at this stage.
- 29.0 **Staff quarters** – Since the organizational set up for the proposed DFC is yet to be decided; construction of 3500 new staff quarters for the purpose of cost estimate of the project has been included. This, however, will require firming up after assessing demand from concerned railway department. This will be further examined while preparing preliminary engineering survey report.
- 30.0 **Land requirement** – The proposed alignment Via Ratlam - Kota will require 2572 hectares of additional land. In case of alignment via Ahmedabad-Palanpur, the requirement of additional land shall be 3275 hect. As mentioned earlier a part of additional land falls in the forest area. Efforts will be made to avoid acquisitions of forest land by suitably modifying the alignment at preliminary survey stage. The identification of ownership of balance land shall also be examined during preliminary engineering survey.
- 31.0 The proposed ruling gradient of the DFC is 1/200 (compensated). Maximum degree of curvature is proposed to be 2.5 degree. The track structure has been proposed for 25 tonne

axle load. Accordingly, 60 kg rails on PSC mono block sleepers with 1660 per km sleeper density and 300 mm ballast cushion has been recommended.

- 32.0 Since the origin and destination of traffic is not necessarily within the proposed DFC, it would be essential to upgrade the feeder routes, which have been indicated in the report, for running of 25 tonne axle load. It is understood that track standards for 25 tonne axle load track are under finalization in the Railway Board. The works of up-gradation of track, if necessary, after the finalisation of the standards will form part of the track renewal works chargeable to DRF. However, cost of raising ballast cushion from 250 mm to 300 mm on the feeder lines has been included in the cost estimates. It is presumed that bridges needing replacement have been/would be taken up under SRSF/DRF.

Section V- Signaling & Telecommunication

- 33.0 On Delhi-Mumbai section two alternative routes have been studied. The route via Ratlam is having double line broad gauge with Railway Electrification and is equipped with multi aspect colour light signals. The microwave communication and OFC (partially in progress) are provided in the section. Other route has single line/double line and electrification is only between Mumbai-Ahmedabad. The different types of signaling existing on the route is being replaced by multi aspect colour light signaling. The communication arrangement is partly by OFC and microwave /UHF/VHF etc.
- 34.0 Due to fog in winter, visibility of colour-light signals is severely affected retarding train operation, especially because of the mix of high and low speed trains on the same route restricting line capacity. Besides where block sections are not track circuited, the monitoring of trains is done manually, endangering safety. End-cabin working involves excessive verbal communication, slowing down operation. No arrangements are provided to guard against human error by a driver. The existing system being based on old technology with poor reliability, about 20% of line capacity is lost on account of failures.
- 35.0 The world over freight has dedicated railway corridors. While earlier systems are managing with the technology that was then available, new systems like the Tibet line in China, are adopting state of the art technology. This is communication based signaling, not requiring any track side signals and track circuits. It directly conveys to the driver the speed at which he should run. For locating the train, GPS receivers are installed and the cab equipment communicates with the 'control centre' through a mobile train radio system. This system effectively overcomes the constraints of the existing signaling system.
- 36.0 The capital and maintenance costs have been worked out both for the conventional and communication based signaling. The former being more economical than that of the latter, Communication based signaling is, therefore, recommended for installation on the DFC.

Section VI- Traction Economics

- 37.0 The factors determining the economics of diesel / electric traction are complex and generate considerable comments from both Electrical and Mechanical Departments of IR. Various committees have been set up by Ministry of Railways in the past to examine the comparative economics of diesel and electric traction. Some of them are – Raj Committee Report, Sahay Committee Report, Director's Committee and Khosla Committee.
- 38.0 All these committees have adopted more or less the similar procedure for calculating the break even level of traffic at which electrification offers advantage over diesel traction. In the reports of the earlier committees, the input data & parameters have been taken from Annual Statistical Statement (ASS). However, the figures given in the ASS do not reflect the characteristics of operation of two modes of traction because of the various reasons explained

in the report. In view of above, consultant has recommended choice of traction particularly for the proposed DFC mainly on operational considerations.

Section VII- Electrification

- 39.0 The current stipulation in SOD for contact wire is to be at least 340 mm above the height of rolling stock. Considering various type of present rolling stock on IR, this height has been kept at 5.8 m. The proposed DFC is planned to cater for DSC on well wagons with a maximum height of 6.3 m from RL. The consultant has recommended that contact wire height be kept at 6.7 m in DFC. The pantographs already on IR can reach upto a maximum extension of 6.80 m.
- 40.0 With the availability of wide variety of pantographs for even higher heights and different speed / current requirement, it appears technically feasible to run DSC with even higher MMD. However, no large scale movement of DSC with electric traction could be located after scanning of the world railway literature.

Section VIII- Project Engineering And Cost Estimates

- 41.0 The Panvel – Jasai -JN Port section is already a goods carrying line and no passenger traffic runs over this line. The goods traffic also mainly consists of container traffic. This section is already sanctioned for doubling and the doubling work is in progress. In view of above the section from Panvel – Jasai – JN Port has not been considered for providing additional dedicated freight corridor lines and cost of the same has not been considered in the cost estimates.

42.0 Alignment Via Ratlam-Kota

Total cost of Civil Engineering works for the proposed route via Ratlam – Kota (double line) is Rs.10095.562 Crores. Cost of single line via this alignment has not been worked out in view of the recommendation for alignment via Ahmedabad-Palanpur route.

43.0 Alignment Via Ahmedabad-Palanpur-Phulera-Rewari

Total cost of Civil Engineering works for the proposed route is Rs. 9740.939 Crores for double line. The cost of strengthening of feeder route (about 2082 kms) has been considered at Rs. 31.23 Crores.

- 44.0 The cost of construction of single line has also been assessed to be at Rs. 8139.843 crores. While working out the cost for single line, provision of infrastructure i.e. land and bridge substructures has been made for double line standards while the cost of formation, P.Way and bridge superstructure has been considered for single line.

Since the spacing of stations shall stand reduced to 10 Km in case of single line for operating reasons, cost of providing stations and loops at 10 Km interval has been taken in consideration. In case of single line, provision of 2500 staff quarters (as against 3500 quarters for Double line) has been considered for cost estimation.

Section IX- Financial Analysis

- 45.0 In financial analysis of the project, the project viability has been carried out based on the incremental traffic taking 2004-05 as the base year traffic. Further, FIRR has been arrived at under two scenarios- FIRR-I and FIRR-II. Under the FIRR-I, the commodity and origin-destination wise projected traffic indicated under para 3.7 (Section-II Chapter 3) of this report has been taken into account for working out the financial return, while in FIRR-II, the

financial return has been worked out by taking also into account the additional ‘emerging traffic projections’ indicated under para 3.8 (Section-II Chapter 3).

The two FIRR figures have been presented in the report, keeping in view the fact that although the Consultants would like to stand by the firm traffic projections, an appraisal of emerging demands in the traffic, which can be attracted to rail by special initiatives was considered appropriate for a greater appreciation of the potential of the proposed DFC.

Further, the financial analysis has been done for proposed alignment via Ahmedabad-Palanpur route only for ‘double line’ in view of the inadequacy of single line for the corridor brought out in the report. It may however, be mentioned that since the percentage reduction in cost will not be in proportion to the reduction in the traffic to be carried, the anticipated rate of return for single line option will be lower than that for a double line.

- 46.0 As per TOR the study was required to undertake economic appraisal of the project, which would reflect the viability of the project from the point of view of the country’s economy. The appraisal would be required to be carried out following the cost minimisation approach, which would require accounting of total cost inputs from origin to destination, including feeder and dispersal routes and match these costs with cost incurred on alternative modes of transport.

For doing the above exercise it would therefore be necessary to have all the actual cost inputs from origin to destination, including the feeder/dispersal routes and match these with costs incurred for alternative modes of transport. The urgency in submission of the report did not leave adequate time with the Consultants to carry out this exercise. Moreover, it is felt that the exercise would be better executed once the firm view is taken on the assumptions and approach for the financial evaluation carried out in the extant appraisal. However, the Consultants feel that the Economic Rate of Return (EIRR) in the extant case is likely to be higher than the FIRR. The detailed appraisal of the considerations effecting the EIRR has been indicated in Chapter 1 under the Section-IX: Financial Analysis.

- 47.0 The capital cost of construction of Delhi-Mumbai DFC works out to Rs. 11445.59 crore. The break up is as under:

ITEMS	COST (Rs. Crore)
Civil	9740.94
Electrical	62.11
Mechanical Costs (Maintenance facilities for Rolling Stock)	150.00
Signaling & Telecommunication	1492.55
Total	11445.59

In addition, the cost of upgrading the feeder routes will be Rs 31.23 crores.

- 48.0 The rolling stock costs over the project period have been worked out as under:


ITEM	Total Cost (Rs. Crores)		
	2011-12	2016-17	2021-22
Wagons	155.93	299.10	455.42
Locomotives	603.28	1017.02	1418.24
Total	759.21	1316.11	1873.65

49.0 As indicated above, the FIRR for the project has been arrived at under two scenarios- FIRR-I and FIRR-II. Financial Rates of Return for both the scenarios is as under:

Items	FIRR-I	FIRR-II
1] Rolling Stock Owned by IR	17.7	18.6
2] Rolling Stock on Lease	18.3	19.3

Sub: Final RITES Feasibility Report on Dedicated Freight Corridor
between Delhi-Mumbai and Delhi-Howrah.

The Final Report has been received from RITES, a copy of which
is being enclosed for information and necessary action of concerned
Directorates.


BTP
9.1.06

EDPP EDCE(P) EDME(Traction) EDTT/M EDFX-I


EDEE/Dev. ED/Tele Economic Adviser

Copy for information: Adv./Infrastructue

SIN 4

Sub: Final RITES Feasibility Report on Dedicated Freight Corridor between Delhi-Mumbai and Delhi-Howrah.

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DTP
9.1.06

<i>188</i> <u>9/1/06</u>	<i>1009/1/06</i>	<i>Wali</i>		
EDPP	EDCE(P)	EDME(Traction)	EDTT/M	EDFX-I
<i>Paragita</i> EDEV/Dev.	<i>[Signature]</i> ED/Tele	Economic Adviser	<i>[Signature]</i> <u>9.1.06</u>	<i>[Signature]</i> 9/1/06

Copy for information: Adv./Infrastructue

Routine Note for Discussion in the Board Meeting on 28.12.05

RITES has submitted Feasibility Report on Dedicated Freight Corridor between Mumbai-Delhi & Delhi-Howrah. The report was circulated to all Board Members as well as to various Directorates for general comments. Soft copies of the report have also been given.

A meeting was also conducted on 26.12.2005 with concerned Additional Members and Executive Directors for discussions/ comments on the Feasibility Report for both the Corridors. The meeting was also attended by RITES team.

The following relevant issues were raised by various Directorates:

1. Whether double line or single line is required; possible phasing.
2. Comparative Unit Cost of transportation.
3. Methodology of calculating FIRR needs to be checked by Economic and Finance Directorates.
4. Economics of diesel Vs. electric traction.
5. Unit Costs for traffic haulage of DFC.
6. Maintenance facilities to be created on the corridor.
7. Feeder routes needing upgradation and its cost.
8. RITES have presumed construction of corridor with 30 tonnes axle load right from the beginning. It was clarified that DFC will start with sub structure of 30 tonnes axle load with track structure of 25 tonnes.
9. Terminal capacity to absorb the projected traffic; additions required.
10. Alignment of both DFCs: For Delhi-Mumbai whether corridor should be routed via Palanpur-Ahmedabad or Ratlam-Kota; for Delhi-Howrah via Gaya or CIC route.
11. Reliability and sourcing of signaling system proposed.
12. Rolling stock types and numbers required. Verify Wagon loadability to axle load of 30 tonnes/track loading density of 12 tonne per meter.

After the discussions, the following Directorate-wise meetings have been scheduled with RITES team on 27th & 28th December 2005:

1. Signalling matters.
2. Traffic Projections.
3. FIRR calculation modality.
4. Relative Costs of diesel and electric traction.
5. Rolling Stock types and maintenance.

It is proposed that after such consultations, Board decide on acceptance of RITES report in principle. Subsequently Works Directorate will process for sanctioning of Works.

The "Executive Summary" of the RITES Feasibility Report for Mumbai-Delhi route and Delhi-Howrah route are enclosed.

Board may please consider and guide for further course of action.


EDPP
27/12/2005

EXECUTIVE SUMMARY

Dedicated Freight Corridor (Mumbai-Delhi Route)

GENERAL – Section - I

- 1.0 Railway Board commissioned RITES Ltd., to carry out a Preliminary Engineering-cum-Traffic Survey for dedicated multimodal high axle load freight corridor on Mumbai-Delhi and Delhi-Howrah routes with computerized train control system. The Letter of Award was issued on 12.07.2005. The work involves study in two phases i.e. Phase I- Feasibility Study and Phase II - PET Survey. As a part of Phase-I of feasibility study, inception report was submitted to Railway Board on 31.8.2005. The present report is draft Feasibility Report completing Phase-I of the study.
- 2.0 Mumbai-Delhi corridor has been examined for two route alignments – one via Ratlam-Kota and the other via Ahmedabad-Palanpur, the JN Port-Vadodara segment being examined on both the alignments. As detailed in the Terms of Reference (TOR) the study has been conducted on either side of existing tracks. The other important features of the TOR are running of double stack container trains, 30 tonnes axle load and diesel/electric traction economics.

TRAFFIC – Section-II

- 3.0 On Mumbai-Delhi corridor both the routes i.e. via Ratlam-Kota and via Ahmedabad-Palanpur have a predominance of passenger services. Both the routes are over saturated with line capacity utilization ranging from 115% to 150%.
- 4.0 Besides the line capacity saturation, the various constraints on the existing route include pattern of passenger and freight services running on a common set of tracks, an inter se priority schedule between different types of services which assigns the lowest priority to freight services, passage difficulties at many junction stations. Consequently, the performance of freight services is affected adversely, resulting in heavy detentions enroute, poor average speeds and high turn around.
- 5.0 A number of works are in progress on both the routes. On Ratlam-Kota route these are mainly line capacity enhancement works between JN Port and Vadodara. These will provide immediate relief, but will not ease the situation in the long terms. On the Ahmedabad-Palanpur route a number of gauge conversion and doubling works are in progress, which will have a long term impact and will provide two alternative routes between Ahmedabad-Delhi and up to northern states. This capacity will be fully utilized by the anticipated growth in traffic to/from Kandla, Mundra, Pipavav ports and to/from other traffic nodes in Kutch and Saurashtra regions of Gujarat.
- 6.0 The major commodities moving in Dn direction (towards Delhi) are Exim containers, food grains and fertilizers. These commodities move from end to end. The rest (mainly coal, iron & steel, POL and salt) enters/exits the route at intermediate junctions.
- 7.0 **O-D Flows and Projections of Traffic:** Container traffic handled at existing ports in the western region, in 2003-04, amounted to 2.7 million TEUs, of which 24% moved to/from hinterland destinations by rail. This traffic is expected to grow rapidly reaching 15.5 million TEUs in 2021-22. The rail share of the traffic is also expected to increase to about 38% with increased quality of service.

- 8.0 In respect of both route alignments, the end terminals have been taken as JN Port at Mumbai end and Tughlakabad/Dadri marshalling yards at Delhi end. Upgradation requirements for the above terminals have been brought out in the report.
- 9.0 In order to provide connectivity of DFC with the existing lines, it is proposed to provide connections at 8 points in respect of route via Ratlam-Kota and at 10 points in respect of route via Ahmedabad-Palanpur.
- 10.0 The traffic apportioned to the DFC in respect of either of the two alternative alignments is beyond the capacity of a single line sections. Besides, a single line route will suffer from the various draw backs as mentioned in the report. **Accordingly a double line alignment throughout the route is recommended right from the start irrespective of the route selected.**
- 11.0 The alignment of the corridor via Ahmedabad-Palanpur is preferable for the reasons given below:
- Traffic moving on the DFC will be higher on the Ahmedabad-Palanpur alignment.
 - The alignment will better serve the ports of Mundra, Kandla and Pipavav in Gujarat and other traffic nodes on Ahmedabad, Rajkot and Bhavnagar Divisions of WR.
 - It will provide substantial relief to the Vadodara-Ratlam-Delhi segment of the existing route by taking away a considerable chunk, of traffic between Mumbai and Delhi.
- Thus this alignment is recommended.**
- 12.0 By adopting double stack container trains operations with well type wagons through put per train will increase by 42%. However, all rail borne container traffic will not be amenable to double stack operations due to limitation of axle load and moving dimensions on the existing rail routes and as such the rail borne container traffic which moves from origin to destination on the DFC i.e. from JN Port to Tughlakabad/Dadri will initially be amenable to double stack operations.
- 13.0 While recommending the construction of double line between JN Port and Tughlakabad/Dadri for 30 tonne axle load and higher moving dimensions, up-gradation of the existing feeder lines to similar standards is also recommended in a phased manner.
- 14.0 Though traction economics has been discussed in Section VI, this has not been considered as a basis for recommending the traction because of the various reasons explained in Section VI. Diesel Traction to be adopted for DFC via Ahmedabad-Palanpur mainly on operational considerations as at present all the length in this region are on diesel traction except Mumbai-Vadodara –Ahmedabad.
- MAXIMUM MOVING DIMENSIONS– Section - III**
- 15.0 Compared to MMD of major world railways systems, which are on standard gauge, the existing MMD on Indian Railways for Broad Gauge is quite restrictive, resulting in low productivity. In order to optimize productivity, we need to consider increasing the envelope of maximum moving dimensions. The construction of a dedicated freight corridor has offered such opportunity.
- 16.0 On Mumbai-Delhi corridor, container traffic from JN Port and other ports of western coast shall constitute a major share of traffic and accordingly running of double stack container trains on the route has been recommended for the obvious advantages. However, running of double stack container trains needs higher MMD. In view of this there is a need to revise the existing MMD.

- 17.0 The maximum moving dimensions required to utilize 30 tonnes axle load and 12 tonnes per meter TLD for various kind of traffic shall be as under:
- Roll-on-Roll-off wagon - 4900 mm to 5300 mm
 - Open gondola wagons - 4300 mm to 4500 mm
 - Covered Hoppers & BCN Type general service covered wagons - 4700 mm to 5150 mm
 - Double Stack Containers on flat cars - 6930 mm (with 915 mm wheels)
 - Double Stack Containers on well independent type cars - 6230 mm
 - Auto Rack - 6100 mm to 6700 mm (preferred minimum 6300 mm)
- 18.0 Therefore, MDD of 6300 mm height and 4890 mm width (for 3660 wide stock with open doors & projection) has been proposed.
- 19.0 After examining various options the running of double stack container trains, on independent well type cars is recommended based on the information/experience of other world railways. Although running of DSC trains with flat cars provides 100% increase in capacity theoretically as against 42% increase in case of well type car, there will be a need to further increase the MMD beyond the recommended level to run DSC on flat wagons if decided after taking into consideration results of trial being conducted by RDSO as and when they are available.

ENGINEERING – Section – IV ALIGNMENT

- 20.0 Survey of the entire length on both alternative routes was done to see the technical feasibility of the corridor. The survey team picked up the details of land boundaries, existing Right of Way (ROW) etc. On completion of survey the proposed alignment has been marked with the following considerations.
- Both lines of DFC are on one side of existing route as per TOR.
 - As far as possible the proposed alignment is parallel to the existing track providing specific track parameters.
 - Detouring proposed is minimum. Detouring is proposed at locations of heavily populated areas and difficult terrains.
 - Providing flyovers over the existing branch lines.
 - Minimum dismantling to the existing structures.
 - Minimum changes to the working existing yards / running lines.
- 21.0 Based on the survey, the total proposed length of the corridor between JN Port and Dadri via Ratlam-Kota shall be 1447 kms. The total proposed alignment of the corridor between JN Port and Dadri via Ahmedabad-Palanpur route shall be 1493 km. The proposed alignment via Ratlam-Kota has following major features:
- The alignment detours at 7 locations. (Surat, Godhra, Darra, Kota, Gangapur, Bharatpur, Mathura) and on hilly terrain between Godhra – Ratlam. The alignment via Ahmedabad-Palanpur detours at 10 locations. These are Surat, Bharatpur, Vadodara, Ahmedabad, Bewar, Ajmer, Ladpura, Kishangarh, Phulera and Ringus.
 - There will be 4 Nos. of fly overs on the mainline and 4 Nos. of rail fly overs for crossing the branch lines via Ratlam-Kota route. In case of alternative alignment via Ahmedabad-Palanpur, there shall be 8 number of fly overs on the mainline and 12 fly-overs on the branch line.

- The proposed alignment via Ratlam-Kota will pass through 26 important bridges main rivers being Tapi, Narmada, Chambal, Yamuna and Hindon. The total length of waterways of these important bridges is 7710 meters. In case of alternative alignment via Ahmedabad-Palanpur, the alignment will pass through 9 important bridges main rivers being Tapi, Narmada, Sabarmati, Banas, Yamuna and Hindon. The total length of the waterways of these important bridges is 4987 meters.
- 22.0 There are 597 level crossings on the existing route between JN Port and Dadri via Ratlam-Kota route. In case of existing route via Ahmedabad-Palanpur, the number of level crossings is 550. In view of the increase in rail as well as road traffic during the execution of the DFC, it is proposed that provision of ROB should be made at level crossings, which carry more than 50,000 TVUs at present. Accordingly the cost of construction of 168 and 158 ROB's have been included for routes via Ratlam-Kota and via Ahmedabad-Palanpur respectively.
- 23.0 **Staff quarters** – Since the organizational set up for the proposed DFC is yet to be decided; construction of 4000 new staff quarters for the purpose of cost estimate of the project has been included. This, however, will require firming up after assessing demand from concerned railway department. This will be further examined while preparing preliminary engineering survey report.
- 24.0 **Land requirement** – The proposed alignment Via Ratlam - Kota will require 2500 hectares of additional land. In case of alignment via Ahmedabad-Palanpur, the requirement of additional land shall be 3200 hect. As mentioned earlier a part of additional land falls in the forest area. Efforts will be made to avoid acquisitions of forest land by suitably modifying the alignment at preliminary survey stage. The identification of ownership of balance land shall also be examined during preliminary engineering survey.
- 25.0 The proposed ruling gradient of the DFC is 1/200 (compensated). Maximum degree to curvature is proposed to be 2.5 degree. The track structure has been proposed for 30 tonnes axle load and 12 tonne per meter TLD. As per this 68 kg rails on PSC mono block sleepers with 1660 per km sleeper density and 350 mm ballast cushion has been recommended.

SIGNALLING & TELECOMMUNICATION – Section - V

- 26.0 On Delhi-Mumbai section two alternative routes have been studied. The route via Ratlam is having double line broad gauge with Railway Electrification and is equipped with multi aspect colour light signals. The microwave communication and OFC (partially in progress) are provided in the section. Other route has single line/double line and electrification is only between Mumbai-Ahmedabad. The different types of signaling existing on the route is being replaced by multi aspect colour light signaling. The communication arrangement is partly by OFC and microwave /UHF/VHF etc.
- 27.0 Due to fog in winter, visibility of colour-light signals is severely affected retarding train operation, especially because of the mix of high and low speed trains on the same route restricting line capacity. Besides where block sections are not track circuited, the monitoring of trains is done manually, endangering safety. End-cabin working involves excessive verbal communication, slowing down operation. No arrangements are provided to guard against human error by a driver. The existing system being based on old technology with poor reliability, about 20% of line capacity is lost on account of failures.
- 28.0 The world over freight has dedicated railway corridors. While earlier systems are managing with the technology that was then available, new systems like the Tibet line in China, are adopting state of the art technology. This is communication based signaling, not requiring any track side signals and track circuits. It directly conveys to the driver the speed at which he should run. For locating the train, GPS receivers are installed and the cab equipment

communicates with the 'control centre' through a mobile train radio system. This system effectively overcomes the constraints of the existing signaling system.

- 29.0 The capital and maintenance costs have been worked out both for the conventional and communication based signaling. The former being more than that of the latter. **Communication based signaling is, therefore, recommended for installation on the DFC.**

TRACTION ECONOMICS – Section - VI

- 30.0 The factors determining the economics of diesel / electric traction are complex and generate considerable comments from both Electrical and Mechanical Department of IR. Various committees have been set up by Ministry of Railways in the past to examine the comparative economics of diesel and electric traction. Some of them are – Raj Committee Report, Sahay Committee Report, Director's Committee and, Khosla Committee.
- 31.0 All these committees have adopted more or less the similar procedure for calculating the break even level of traffic at which electrification offers advantage over diesel traction. In the reports of the earlier committees, the input data & parameters have been taken from Annual Statistical Statement (ASS). There is, however, our view that the figures given in the ASS do not reflect the characteristics of operation of two modes of traction because of the various reasons explained in the report. In view of above, consultant has recommended choice of traction mainly on operational considerations.

ELECTRIFICATION – Section - VII

- 32.0 The current stipulation in SOD for contact wire is to be at least 340 mm above the height of rolling stock. Considering various type of present rolling stock on IR, this height has been kept at 5.8 m. The proposed DFC is planned to cater for DSC on well wagons with a maximum height of 6.3 m from RL. The consultant has recommended that contact wire height be kept at 6.7 m in DFC.
- 33.0 The pantographs already on IR can reach upto a maximum extension of 6.80 m. The running of DSC on well wagons with 6.7 m contact height with existing locomotives appear to be theoretically feasible.
- 34.0 With the availability of wide variety of pantographs for even higher heights and different speed / current requirement, it appears technically feasible to run DSC with even higher MMD. However, no large scale movement of DSC with electric traction could be located after scanning of the world railway literature.

PROJECT ENGINEERING AND COST ESTIMATES – Section - VIII

- 35.1 Total cost of Civil Engineering works for the proposed route via Ratlam - Kota is Rs.10258.88 Crores, which includes Rs.60.05 Crores towards Preliminary Expenses on Survey, Design and Investigation; Rs.953.48 Crores for Additional Land; Rs.1295.03 Crores for Formation including Rs.129.53 Crores for construction of Tunnels; Rs.3745.75 Crores for P-Way; Rs.3072.88 Crores for Rail Bridges/ ROB/RUBs; Rs.318.27 Crores for Service & Residential Buildings; Rs.9.72 Crores for Plants & Equipments; Rs.680.77 Crores towards the General Charges (Establishment) and Rs.122.92 Crores for General Charges (other than Establishment).

In case of 60Kg Rails with existing PSC Sleepers, the total cost of Civil Engineering Works will be Rs.9834.47 Crores.

- 35.2 **Alignment Via Ahmedabad-Palanpur-Phulera-Rewari**
Total cost of Civil Engineering works for the proposed route is Rs. 9662.90 Crores, which includes Rs.62.99 Crores towards Preliminary Expenses on Survey, design and Investigations; Rs.673.74 Crores for Additional Land; Rs.1217.75 Crores for Formation; Rs.3855.11 Crores

for P-Way; Rs.2791.58 Crores for Rail Bridges/ ROBs/RUBs; Rs.295.00 Crores for Service & Residential Buildings; Rs.9.72 Crores for Plants & Equipments; Rs.641.22 Crores towards the General Charges (Establishment) and Rs.115.78 Crores for General Charges (other than Establishment).

In case of 60 Kg Rails with ordinary PSC Sleepers, the total cost of Civil Engineering Works will be Rs.9221.27 Crores.

FINANCIAL ANALYSIS – Section - IX

36.0 As per TOR the study was required to undertake economic appraisal of the project, which would reflect the viability of the project from the point of view of the country's economy. As the appraisal is carried out by following the cost minimisation approach, the same would require accounting of total cost inputs from origin to destination including feeder and dispersal routes and match these costs with cost, incurred on alternative modes of transport. As the cost of up-gradation of feeder route is not available, it will not be possible to attempt the economic appraisal at this stage.

37.0 The financial viability has been carried out under two alternative scenarios, viz.:

Alternative-I: Financial Internal Rate of Return (FIRR) for the DFC without considering costs and benefits on account of rail movements on feeder and dispersal lines outside the DFC. Under this alternative, barring the cost of construction of the DFC, the rolling stock cost, working expenses and the earnings have been apportioned to the DFC on the basis of transit turn round and lead.

Alternative-II: Financial Internal Rate of Return (FIRR) for the DFC has been arrived at by taking costs incurred and revenues accruing due to movement of the projected traffic on the feeder routes as well. In other words, project viability has been attempted for the entire movement of each commodity from origin to destination. However, the cost of up-gradation of infrastructure of the existing feeder routes is not available at this stage. Therefore, for arriving at the FIRR the same has been treated as sunk cost. Ultimately, FIRR arrived at under this alternative would get depressed if capital costs to be incurred on up-gradation of the existing feeder routes are also taken into account. The level of investment required on up-gradation of existing feeder rail routes would determine the degree of change in the FIRR.

38.0 Financial Analysis for JN Port- Dadri Corridor via Ratlam-Kota is as under:

The capital cost of construction for the corridor works out to Rs.12437.19 Crores as per following break up :

• Civil	-	10258.88
• Electrical	-	568.82
• S & T	-	<u>1609.50</u>
Total	-	12437.19

The rolling stock costs over the project period for both scenarios have been worked out as under for the:

	2011 – 12	2016-17	2021-22
Alternative – I	386.93	285.02	199.01
Alternative – II	763.21	591.81	496.73

Financial rates of return have been worked out as under:

	FIRR
Alternative – I	10.0%
Alternative – II	13.9%

39.0 Financial Analysis for JN Port- Dadri Corridor via Ahmedabad-Palanpur is as under:

The capital cost of construction of DFC works out to Rs.11346.80 Crores as per following break up:

• Civil	-	9662.90
• Electrical	-	50.00
• S & T	-	<u>1633.90</u>
Total	-	11346.80

The rolling stock costs over the project period for both scenarios have been worked out as under:

	2011 – 12	2016-17	2021-22
Alternative – I	897.08	566.23	459.17
Alternative – II	1144.28	719.78	654.38

Financial rates of return have been worked out as under:

	FIRR
Alternative – I	7.6 %
Alternative – II	10.8 %

EXECUTIVE SUMMARY

Dedicated Freight Corridor (Delhi – Howrah Route)

GENERAL – Section – I

- 1.0 In July, 2005 the Railway Board commissioned RITES to carry out a Preliminary Engineering-cum-Traffic Survey for a dedicated multimodal high axle load freight corridor for the Mumbai-Delhi and Delhi-Howrah routes. The work was split into 2 parts – phase I comprising a Feasibility study and phase II consisting of a PET survey. Following an Inception report submitted in August, 2005 this Draft Feasibility Report completes the first phase of the study.
- 2.0 As required by the Terms of Reference, the study of the Delhi-Howrah route has been conducted on either side of existing tracks along the Ghaziabad-Tundla-Mughalsarai-Gaya-Gomoh alignment. As also required by the TOR, the issues of double stack container trains, 30 tonne axle loads and diesel versus electric traction have also been examined.

TRAFFIC – Section-II

- 3.0 The route has heavy passenger traffic – exceeding freight services all along – so that Gomoh-Gaya and most sections from Mughalsarai to Ghaziabad are over-saturated, with line capacity utilization ranging from 114% to 160%. Current capacity enhancement works, including doubling and electrification of the ‘B’ route from Mughalsarai to Moradabad, will only help relieve the existing over-saturation and provide for future increase in passenger services. They cannot provide for the anticipated increase in freight traffic over the long term.
- 4.0 Besides paucity of line capacity, the various constraints on the existing route include a mixed pattern of passenger and freight services running on a common set of tracks, an inter se priority schedule between different types of services which assigns the lowest priority to freight services and passage difficulties across many junction stations. Consequently, the performance of freight services is affected adversely, resulting in heavy detentions enroute, poor average speeds and high turn around.
- 5.0 The major commodities moving in up direction (towards Delhi) are coal, iron & steel, and cement. The commodities moving in the down direction (towards Howrah) are foodgrains, fertilizers, limestone, salt and general goods. Empties move in substantial numbers in both directions.
- 6.0 **O-D Flows and Projections of Traffic:** O-D flows for freight traffic moving by both routes under study during 2004-05 have been analysed in detail. The major streams of traffic flowing towards the north in future will be additional power house coal from the very large deposits of CCL and iron & steel products from expansion of existing plants and setting up of new steel plants on the eastern region of the country.
 - **Coal:** CCL production is slated to quadruple in the next 2 decades, with 90% for the power sector. Of this load center power houses will consume 65%, with 35% being for pit head power plants. 85% of the former is linked to northern India power houses. Little incremental coal is expected from BCCL or ECL, though 4 mtpa of coal from Pakur is expected for PSEB plants. Increasing beneficiation of coal will reduce the volumes to be carried by rail – 50% of the coal has been assumed to be beneficiated. This route also caters to public coal and coal for fertilizer plants. While the former is expected to grow at 2%, no increase in the latter is expected as expansion and additional capacities are based on gas as feedstock.

- **Steel** : In conformity with the National Steel Policy's production target of 110 mtpa by 2020, both the public and private sectors are planning to step up production at the existing steel plants and to set up new mega steel plants in ore rich Orissa and Jharkhand. This will add to the existing stream of traffic.

7.0 At present, iron & steel traffic from South Eastern Railway enters the corridor at Gomoh, while coal traffic joins it at Sone Nagar. Considering the major developments in the mining and steel industries in the eastern region, this pattern of movement of traffic is expected to continue. The report, therefore, recommends a Dedicated Freight Corridor between Gomoh-Dadri in Phase-I. Its subsequent extension towards Howrah may be considered only when large-scale container movement from the eastern ports commences or large volumes of coal from Bangladesh come onto this route.

8.0 The number of trains estimated according to the present axle load norms are as follows :

Direction	2004-05		2021-22		Additional Trains	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
UP	19.6	37.2	53.6	108.9	34	71.7
DN	20.3	37.3	52.2	104.2	35.2	66.9

However, considering 30T axle load and revised MMD, the number of train shall be as under:-

Direction	2004-05		2021-22		Additional Trains	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
UP	11.7	22.6	34.1	68.1	22.4	45.5
DN	11.9	22.3	32.7	64.5	20.8	42.2

- 9.0 Since most of the traffic originates from stations outside the DFC, until the feeder lines are upgraded to higher axle loads, the train composition will have to continue to be of the existing standards. Upgradation of these feeder routes may not coincide with the construction of the DFC due to constraint of resources. **To carry the increase in the number of trains, therefore, justifies the construction of a double line corridor.**
- 10.0 The option of constructing a single line initially, adding the second line as and when traffic develops has been examined. Construction is estimated to take a minimum of 5 years, that is till 2011-12. By that time, the number of additional up trains is expected to range between 20.4 (40 – 19.6) and 41.2 (78.4 – 37.2), while in the down direction, these will be between 20.3 (40.6 – 20.3) to 38.3 (75.6 – 37.3). A single line section with stations 30 km apart can run a maximum of 30 to 35 trains. Hence, most of the sections will become saturated either immediately on commissioning or within a couple of years. Though transfer of freight traffic from the existing line to the DFC has not been considered, this might become inevitable on account of the increase in the number of passenger trains on the corridor and also to improve the quality of passenger and freight services. Moreover, construction of part single line and part double line will not be operationally effective. **In view of this, construction of a double line throughout the route between Gomoh-Dadri is recommended.**
- 11.0 This will also require upgradation of the existing feeder lines to the higher standards of 30 tonnes axle load and higher maximum moving dimensions in a phased manner.
- 12.0 Connectivity with the existing railway system is proposed to be provided at 7 locations, namely, Gomoh, Sone Nagar, Mughalsarai, Kanchana (Allahabad), Bhaupur (Kanpur), Tundla and Dadri. In addition, loops have been provided at approximately 50 km intervals for operational reasons.
- 13.0 Though the traction economics has been discussed in Section VI, this has not been considered

as a basis for recommending the traction because of the various reasons explained in Section VI. The 'Electric' traction for the corridor from Dadri to Gomoh is recommended mainly on operational considerations as the existing route and its feeder lines are already electrified.

MAXIMUM MOVING DIMENSIONS- Section – III

- 14.0 Compared to the MMD of major world railway systems which are on standard gauge, the existing MMD on IR for BG is restrictive, resulting in low productivity. The construction of a dedicated freight corridor offers an opportunity to rectify this by increasing the MMD envelope.
- 15.0 While the Delhi-Howrah route does not indicate any substantial movement of container traffic upto 2021-22, on the Delhi-Mumbai route, container traffic from JNPT/Mumbai and ports on the West coast constitute the major share of traffic. Running of double stack container train requires a higher MMD. For uniformity of MMD for all future corridors on IR, **a higher MMD and fixed structure line even for the Gomoh - Dadri corridor is recommended to permit running of double stack container trains after 2021-22.**
- 16.0 The MMD required to utilize 30 tonnes axle load and 12 tonnes per metre track loading density for various kinds of traffic are as follows:
- | | | |
|---|---|---|
| • Roll-on-Roll-off wagon | - | 4900 mm to 5300 mm |
| • Open gondola wagons | - | 4300 mm to 4500 mm |
| • Covered hoppers & BCN type general service covered wagons | - | 4700 mm to 5150 mm |
| • Double Stack Containers on flat cars wheels) | - | 6930 mm (with 915 mm |
| • Double Stack Containers on well independent type cars | - | 6230 mm |
| • Auto Rack | - | 6100 mm to 6700 mm
(Preferred minimum 6300 mm) |
- 17.0 Therefore, MMD of 6300 mm height and 4890 mm width (for 3660 wide stock with open doors & projection) has been proposed.

ENGINEERING -- Section – IV

ALIGNMENT

- 18.0 A detailed survey of the entire length by picking up of details of land boundaries, existing structures, station building, availability of land outside existing right of way, etc. has been done to examine the technical feasibility of the corridor. Thereafter, the proposed alignment has been marked keeping the following considerations in mind.
- Both lines of DFC are on one side of the existing alignment as prescribed by the TOR.
 - As far as possible the proposed alignment is parallel to the existing track providing specific track parameters.
 - Minimum detouring is proposed only to avoid heavily populated areas and difficult terrain.
 - Providing flyovers over the existing branch lines.
 - Minimum dismantling to the existing structures.
 - Minimum changes to the working existing yards / running lines.
- 19.0 Compared to the existing route length between Dadri and Gomoh of 1115.54 km, the total

proposed length of the corridor is 1114.39 km. The proposed alignment has the following major features:

- The alignment detours at 8 locations. (Khurja, Aligarh, Hathras, Tundla, Kanpur, Allahabad and Gaya) and on hilly terrain between Gujhandi-Gurpa.
- The total route falling in reserve forest is 40 kms in 63 km long alignment for detouring Gujhandi-Gurpa. It will be difficult to avoid this as the alternative entail very long detour. A more detailed examination will be done during the PET survey.
- A flyover is proposed at Gaya to enable the DFC to cross the existing main line from north to south. In addition, to cross branch lines on route, 9 other rail flyovers are proposed.
- The proposed alignment will bridge 4 important rivers - on River Yamuna near Allahabad, Samhan near Mughalsarai, Son near Dehri and Phalgu near Gaya, the total length of waterways being 5027 meters.
- In addition there are 1581 minor bridges with a total waterway of 9431 meters.
- Against 21 road over bridges (ROBs) at present, there will be only 11 on the DFC. In addition, 5 new ROBs will have to be constructed on the detour part of the alignment.
- Some of the existing ROBs will require modification to suit the DFC – the details will be worked out in the PET survey.
- The detour between Yadudih Block Hut and Paharpur station of Dhanbad Division involves construction of 2 tunnels of 2919 meters and 3191 meters.
- Against the present 384 level crossings, ROBs at 141 level crossings which carry traffic of more than 50,000 TVUs are proposed. For the others under-pass with vertical clearance of 2.5 m is proposed. Details will be worked out at the PETS stage.

- 20.0 Since the organizational set up for the proposed DFC is not yet known, a provision of 4000 staff quarters has been indicated in the cost estimate, subject to firming up during the PET Stage.
- 21.0 2012.91 hectares of additional land will be required including 648.420 hectares for the detour portion. A part of the additional land falls in the reserve forest area. Identification of ownership of land will be done during the PET Survey.
- 22.0 The ruling gradient is proposed as 1 in 200 with the maximum degree of curvature being 2.5°. The track structure for 30 tonne axle load and 12 tonne/m TLD is proposed to be 68 kg rails on PSC mono block sleepers with 1660 per km sleeper density and 350 mm ballast cushion.

SIGNALLING & TELECOMMUNICATION – Section - V

- 23.0 The Delhi-HWH double line section is mostly equipped with multi-aspect colour light signals. The Sahibabad-Ghaziabad section has 4 lines and automatic signaling, with Modernization of Signalling & Telecom. in progress between GZB-Kanpur and the 3rd line work stated to commence soon in GZB-Aligarh. The OFC and mobile-train radio communication work in GZB-MGS section is also in progress.
- 24.0 Due to fog in winter, visibility of colour-light signals is severely affected retarding train operation, especially because of the mix of high and low speed trains on the same route restricting line capacity. Besides where block sections are not track circuited, the monitoring of trains is done manually, endangering safety. End-cabin working involves excessive verbal communication, slowing down operation. No arrangements are provided to guard against human error by a driver. The existing system being based on old technology with poor

reliability, about 20% of line capacity is lost on account of failures.

- 25.0 The world over freight has dedicated railway corridor. While earlier systems are managing with the technology that was then available, new systems like the Tibet line in China, are adopting state of the art technology. This is communication based signaling, not requiring any track side signals and track circuits. It directly conveys to the driver the speed at which he should run. For locating the train, GPS receivers are installed so that the cab equipment communicates with the 'control centre' through a mobile train radio system. This system effectively overcomes the constraints of the existing signaling system.
- 26.0 The capital and maintenance costs have been worked out both for the conventional and communication based signaling. The former being more than that of the latter. **Communication based signaling is, therefore, recommended for installation on the DFC.**

TRACTION ECONOMICS – Section - VI

- 27.0 The factors determining the economics of diesel / electric traction are complex and generate considerable comments from both Electrical and Mechanical Department of IR. Various committees have been set up by Ministry of Railways in the past to examine the comparative economics of diesel and electric traction. Some of them are – Raj Committee Report, Sahay Committee Report, Director's Committee and, Khosla Committee.
- 28.0 All these committees have adopted more or less the similar procedure for calculating the break even level of traffic at which electrification offers advantage over diesel traction. In the reports of the earlier committees, the input data & parameters have been taken from Annual Statistical Statement (ASS). There is, however, our view that the figures given in the ASS do not reflect the characteristics of operation of two modes of traction because of the various reasons explained in the report. In view of above, consultant has recommended choice of traction mainly on operational considerations.

ELECTRIFICATION – Section - VII

- 29.0 The current stipulation in SOD for contact wire is to be at least 340 mm above the height of rolling stock. Considering various types of present rolling stocks on IR, this height has been kept at 5.80 m. It is recommended that contact wire height be kept at 6.70 m in DFC. The pantograph already on IR can reach up to a maximum extension of 6.80 m.

PROJECT ENGINEERING & CONSTRUCTION SCHEDULE – Section - VIII

- 30.0 Total cost of Civil Engineering works is Rs. 7726.98 crores which includes Rs. 46.29 crores for design and investigations, Rs. 712.72 crores for land, Rs. 818.13 crores for formation excluding tunnels of Rs 280.70 crores, Rs. 2905.40 crores for P. Way/fencing/LCs, Rs. 2064.69 crores for rail bridges /road bridges /rail fly overs, Rs. 286.29 crores for service and residential buildings, Rs. 512.75 crores towards General charges (Establishment), and Rs.92.58 crores for General charges (other than Establishment) and Rs. 7.39 crores for Civil Engg. equipment/plant/machinery..
In case of 60 kg rails with existing PSC sleeper design, the total cost of Civil Engineering Works will be Rs. 7397.21 crores.

FINANCIAL ANALYSIS – Section - IX

- 31.0 As per TOR the study was required to undertake economic appraisal of the project which would reflect the viability of the project from the point of view of the country's economy. As the appraisal is carried out by following the cost minimisation approach which would require accounting of total cost inputs from origin to destination including feeder and dispersal routes

and match these costs with cost incurred on alternative modes of transport. As the cost of up-gradation of feeder route is not available, it will not be possible to attempt the economic appraisal at this stage.

32.0 The financial viability has been carried out under 2 alternative scenarios, namely :

Alternative I: Financial Internal Rate of Return (FIRR) for the Gomoh-Dadri DFC without considering costs and benefits on account of rail movements on feeder and dispersal lines outside the DFC. Under this alternative, barring the cost of construction of the DFC, the rolling stock cost, working expenses and the earnings have been apportioned to the DFC on the basis of transit turn round and lead.

Alternative II: FIRR for the DFC has been arrived at by taking the costs incurred and revenues accruing due to movement of the projected traffic on the feeder routes as well. Thus, project viability has been attempted for the full movement of each commodity from origin to destination. However, since the cost of upgradation of infrastructure of the existing feeding and dispersing routes is not available at this stage, they have been treated as sunk cost. The FIRR so assessed would get depressed if the capital costs to be incurred on upgradation of the existing feeder routes are also taken into account, the level of investment affecting the degree of change in the FIRR.

33.0 The capital cost of construction of Gomoh-Dadri DFC works out to Rs.9599.21 cr. The break up is as under:

• Civil	-	7726.97
• Traction (Electrical)	-	438.70
• S & T	-	1433.54

Total	-	9599.21

34.0 The rolling stock costs over the project period for both scenarios have been worked out as under:

	2011 - 12	2016-17	2021-22
Alternative - I	897.41	458.88	195.67
Alternative - II	1992.44	1053.76	534.56

35.0 Financial rates of return have been worked out as under:

	FIRR
Alternative - I	20.8%
Alternative - II	28.4%

Routine Note for Discussion in the Board Meeting on 28.12.05

RITES has submitted Feasibility Report on Dedicated Freight Corridor between Mumbai-Delhi & Delhi-Howrah. The report was circulated to all Board Members as well as to various Directorates for general comments. Soft copies of the report have also been given.

A meeting was also conducted on 26.12.2005 with concerned Additional Members and Executive Directors for discussions/ comments on the Feasibility Report for both the Corridors. The meeting was also attended by RITES team.

The following relevant issues were raised by various Directorates:

1. Whether double line or single line is required; possible phasing.
2. Comparative Unit Cost of transportation.
3. Methodology of calculating FIRR needs to be checked by Economic and Finance Directorates.
4. Economics of diesel Vs. electric traction.
5. Unit Costs for traffic haulage of DFC.
6. Maintenance facilities to be created on the corridor.
7. Feeder routes needing upgradation and its cost.
8. RITES have presumed construction of corridor with 30 tonnes axle load right from the beginning. It was clarified that DFC will start with sub structure of 30 tonnes axle load with track structure of 25 tonnes.
9. Terminal capacity to absorb the projected traffic; additions required.
10. Alignment of both DFCs: For Delhi-Mumbai whether corridor should be routed via Palanpur-Ahmedabad or Ratlam-Kota; for Delhi-Howrah via Gaya or CIC route.
11. Reliability and sourcing of signaling system proposed.
12. Rolling stock types and numbers required. Verify Wagon loadability to axle load of 30 tonnes/track loading density of 12 tonne per meter.

After the discussions, the following Directorate-wise meetings have been scheduled with RITES team on 27th & 28th December 2005:

1. Signalling matters.
2. Traffic Projections.
3. FIRR calculation modality.
4. Relative Costs of diesel and electric traction.
5. Rolling Stock types and maintenance.

It is proposed that after such consultations, Board decide on acceptance of RITES report in principle. Subsequently Works Directorate will process for sanctioning of Works.

The "Executive Summary" of the RITES Feasibility Report for Mumbai-Delhi route and Delhi-Howrah route are enclosed.

Board may please consider and guide for further course of action.


EDPP
27/12/2005

S/N

Sub: Draft Routine Note for the Board Meeting scheduled on 28.12.05.

Enclosed please find herewith draft Routine Note for approval. The Routine Note will be circulated along with copies of Executive Summary of both the Reports.

A discussion paper on these Reports highlighting various issues is also being developed by the Planning Directorate on directives from Mr. Shri Prakash.

Kindly obtain approval of CRB on the enclosed Routine Note for enabling us to circulate the same through Secretary, Railway Board.

[Signature]
EDPP
27.12.05

~~AM/P~~

CRB may kindly
approve.

[Signature]
27/12

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2. Comparative Unit Cost of transportation.
3. Methodology of calculating FIRR needs to be checked by Economic and Finance Directorates.
4. Economics of diesel ~~vs.~~ electric traction.
5. Unit Costs for traffic haulage of DFC.
6. Maintenance facilities to be created on the corridor.
7. Feeder routes needing upgradation and its cost.
8. RITES have presumed construction of corridor with 30 tonnes axle load right from the beginning. It was clarified that DFC will start with sub structure of 30 tonnes axle load with track structure of 25 tonnes. Terminal capacity to absorb the projected traffic; additions required. CAB
9. Alignment of both DFCs: For Delhi-Mumbai whether corridor should be routed via Patanput-Ahmedabad or Ratam-Kota; for Delhi-Howrah via Gaya or CIC route.
10. Reliability and sourcing of signaling system proposed. for various types of commentaries
11. Rolling stock types and numbers required. Verify Wagon loadability to axle load of 30 tonnes; track loading density of 12 tonne per meter.
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Board may please consider and guide for further course of action.

Sub: Final RITES Feasibility Report on Dedicated Freight Corridor between Delhi-Mumbai and Delhi-Howrah.

The Final Report has been received from RITES, a copy of which is being enclosed for information and necessary action of concerned Directorates.



DTP
9.1.06


EDPP EDCE(P) EDME(Traction) EDTT/M EDFX-I

EDEE/Dev. ED/Tele Economic Adviser

Copy for information: Adv./Infrastructue

Sub: Final RITES Feasibility Report on Dedicated Freight Corridor between Delhi-Mumbai and Delhi-Howrah.

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DTP
9.1.06

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2/9/11
EDME(Traction)

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EDTFM

9/1/06
EDFX-I

9/1/06
EDEV/Dev.

9/1/06
ED/Tele

9/1/06
Economic Adviser

9/1/06

Copy for information: Adv./Infrastructue

No. 2006/CE-II/TS/2.

Sub: Feeder routes to DFC.

Ref: (i) DTP's Note No. 2005/PL/6/7 Pt. II dated 03.04.06.

(ii) CTE/SWR's letter No. W/722/01/2007-08 dt. 05.09.06.

A copy of the letter referred at (ii) above is sent herewith for your information and necessary action please.

DA: As above.

~~Adviser (Infra)~~

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NORTH WESTERN RAILWAY

Headquarter Office,

Jaipur

Dated: 05.09.06

No. W/722/01/2007-03

Executive Director Civil Engg. (P)
Railway Board,
Rail Bhawan
New Delhi- 110 001

Sub: Feeder routes to Eastern dedicated freight corridor.
Ref: Railway Board's letter no. 2005/PL/6/7 Part II dated 04.04.06.

Railway Board has circulated the list of the feeder routes for moving double stack container trains on Western corridor and coal wagons of 25t axle load on Eastern corridor vide letter referred above. As per the list circulated Hisar-Rewari and Hisar-Bhatinda-Suratgarh sections of NWR only are the identified feeder routes to Western and Eastern corridors respectively. The action for strengthening the track structure on these routes have already been initiated as per Railway Board's letter no. 2004/CE-II/TK/1/Policy/Pt dated 19.07.2006.

COM on 28.08.06 has mentioned that the traffic for Suratgarh thermal power station has to necessarily pass through Rohtak-Bhiwani section of NWR if the same is required to be run on Hisar-Bhatinda portion, which has been identified as a feeder route for Eastern DFC. Since Bhiwani-Hisar is included in Western DFC, inclusion of Rohtak-Bhiwani in the list of feeder routes will enable running of traffic from Eastern DFC on the feeder route of Rohtak-Bhiwani-Hisar Bhatinda. COM has further mentioned that Bhatinda-Suratgarh route has to be extended up to Biradhwaj (approximately 18 km from Suratgarh on Suratgarh-Bikaner section), which is the serving station for Suratgarh thermal power station.

You are therefore, requested to convey the Railway Board's decision about the two additional sections of NWR i.e. Rohtak-Bhiwani (47.3 km) and Suratgarh-Biradhwaj (18 km) so that similar action of strengthening the track structure can be taken for these sections also.


(R.K. Mehta)
Chief Track Engineer

C/- COM: For information.