E- TENDER DOCUMENT

FOR

Maintenance of 2x25 kV OHE/PSI and Miscellaneous OHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty-Four) months under CGM PRYJ(E) Unit

DEDICATED FREIGHT CORRIDOR
CORPORATION OF INDIA LIMITED
(A Government of India Undertaking)
MINISTRY OF RAILWAY

CGM/PRYJ(E)/DFCCIL OFFICE
2nd floor OCC BUILDING JHALWA,
SUBEDARGANJ
PRAYAGRAJ-211012 (Uttar Pradesh)

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TOP SHEET

Tender No.	**DFCC-PRYJ(E)-EL-MAINT-TRD-02**	**Date ……..2024**
Name of work:	**Maintenance of 2x25 kV OHE/PSI and Miscellaneous OHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty-Four) months under CGM PRYJ(E) Unit**	
Estimated Cost of work:	**Rs. 9,55,70864.45 (Rs. Nine Crore Fifty Five Lakh Seventy Thousand Eight Hundred Sixty Four and Forty Five Paise Only) including @18% GST.**	
Earnest Money Deposit:	Rs. 6,27,900.00 (Rs. Six Lakh Twenty Seven Thousand Nine Hundred Only).	
Completion Period:	24 (Twenty Four) Months from the date of issue of Letter of Acceptance.	
Date of Opening:	**23.05.2024** at 15:30hrs	

For and on behalf of

CGM/PRYJ(E)
DFCCIL Office

DFCCILTENDER FORM

Tender No:- DFCC-PRYJ(E)-EL-MAINT-TRD-02

Name of Work :- "Maintenance of 2x25 kV OHE/PSI and Miscellaneous OHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty-Four) months under CGM PRYJ(E) Unit"

To

The President of India

Acting through the Chief General Manager/ DFCCIL/PRYJ(E)

I/We _____ have read the various conditions to tender attached hereto and agree to abide by the said conditions. I/We also agree to keep this offer open for acceptance for a period of _____ days from the date fixed for closing of the tender and in default thereof, I/We will be liable for forfeiture of my/our "Bid Security". I/We offer to do the work for _____ DFCCIL, at the rates quoted in the attached bill(s) of quantities and hereby bind myself/ourselves to complete the work in all respects within _____ months from the date of issue of letter of acceptance of the tender.

2. I/We also hereby agree to abide by the Indian DFCCIL/Railways Standard General Conditions of Contract, with all correction slips up-to-date and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by DFCCIL in the annexed Special Conditions/Specifications, Standard Schedule of Rates (SSOR) with all correction slips up-to-date for the present contract.

3. A Bid Security of ₹ _____ has already been deposited online/ submitted as Bank Guarantee bond. Full value of the Bid Security shall stand forfeited without prejudice to any other right or remedies in case my/our Tender is accepted and if:

(a) I/We do not submit the Performance Guarantee within the time specified in the Tender document;
(b) I/We do not execute the contract documents within seven days after receipt of notice issued by the DFCCIL that such documents are ready; and
(c) I/We do not commence the work within fifteen days after receipt of orders to that effect.

4.(a) I/We am/are a Startup firm registered by …… Department of Industrial Policy and Promotion (DIPP) and my registration number is ……. valid upto ……. (Copy enclosed) and hence exempted from submission of Bid Security.

5. We are a Labour Cooperative Society and our Registration No. is …….. with ……..and hence required to deposit only 50% of Bid Security.

6. Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

Signature of Witnesses: _____

(1) _____ Signature of Tenderer(s)

(2) _____ Date _____

Address of the Tenderer(s)

_____

Dedicated Freight Corridor Corporation of India Limited
(A Government of India Undertaking)
MINISTRY OF DFCCIL

Tender No. DFCC-PRYJ(E)-EL-MAINT-TRD-02 **Date: ……..2024**

M/s _____

_____

_____

NOTICE FOR INVITATION OF TENDER

CGM/PRYJ(E) for and behalf of DFCCIL invites open E-Tender on One packet system on the prescribed forms for the under noted work. The key details of the tender are as under:

1	**Open Tender Notice No.**	**DFCC-PRYJ(E)-EL-MAINT-TRD-02**
a)	**Name of the work**	Maintenance of 2x25 kV OHE/PSI and Miscellaneous OHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for 24 month under CGM/PRYJ(E) unit.
b)	**Tender Value(Rs.)**	Rs. 9,55,70,864.45 (Rs. Nine Crore Fifty Five Lakh Seventy Thousand Eight Hundred Sixty Four and Forty Five Paise Only) including @18% GST.
c)	**Earnest Money (Rs.)**	Rs. 6,27,900.00 (Rs. Six Lakh Twenty-Seven Thousand Nine Hundred Only).
d)	**Period of Completion**	**24 (Twenty-four) Months**
e)	**Cost of Tender Document**	11800/- (Eleven Thousand eight hundred including GST)
f)	**Security Deposit**	5% of Contract value
g)	**Validity of offer**	90 days from the date of opening of Tender
h)	**Address for Communication**	Chief General Manager/PRYJ(E), DFCCIL, 2nd floor OCC BUILDING JHALWA, SUBEDARGANJ , PRAYAGRAJ-211012 (Uttar Pradesh) Email: cgmpryje@dfcc.co.in
i)	**Date & Time Schedule**	
	Availability of Bid documents	From 15:00 hrs. on 10.05.2024
	submission of filled Tender Document	submitted up to 15:00 Hrs. of 23.05.2024 through www.ireps.gov.in
	Date & time of opening of Tender	Date 23.05.2024 at 15:30 hrs.
j)	**E-Tendering Website address as Help desk no**	www.ireps.gov.in For any help, please contact IREPS Helpdesk at 011-23761525(10 Lines)

2 **ELIGIBILITY CRITERIA**

Eligibility of the applicants shall be assessed based on the **"Eligibility Criteria", "Essential Qualifying Criteria" and "Other Qualifying Criteria" as given in *E-Tender.***

The Tender document can be downloaded from IREPS website www.ireps.gov.in and DFCCIL's website www.dfccil.com.Tenderers are advised not to make any corrections, additions or alterations in the downloaded tender documents. In case, any corrections, additions or alterations in the downloaded tender documents are made, such tender shall summarily rejected.

3. The cost of tender documents is required to be deposited in DFCCIL account on

IREPS portal.

4. DFCCIL may issue addendum(s)/corrigendum(s) to the tender documents. In such case, the addendum(s)/corrigendum(s) shall be issued and placed on IREPS website. The tenderers who have downloaded the tender documents from website must visit the website and ensure that such addendum(s)/corrigendum(s) (if any) is also downloaded by them. Such addendum(s)/corrigendum(s) (if any) shall also be submitted, duly stamped and signed, along with the submission of the tenders.

5. The tender documents shall be submitted in online mode through website www.ireps.gov.in in single bids only. Single offer viz. containing Technical offer and financial offer along with necessary documents like scanned copy of TDC to be uploaded. Detailed credentials as per the requirement of eligibility criteria in "**Technical offer**" as well as "**Financial offer**" to be submitted through IREPS portal. **Bids are required to be submitted only by online mode and uploaded on the e-tendering web site using Digital Signature for signing the documents**.

6. Tenders shall be opened at **the address given below** at 15:30 hours on the same day in the presence of the tenderer(s) or their authorized representatives intending to attend the opening.

Address of Office of the Chief General Manager/ PRYJ(E) (for Opening of E-tenders):

CGM/PRYJ(E)/DFCCIL OFFICE, 2nd floor OCC BUILDING JHALWA,

SUBEDARGANJ , PRAYAGRAJ-211012 (Uttar Pradesh).

7. Tenderers may note that they are liable to be disqualified at any time during tendering process in case any of the information furnished by them is not found to be true. The decision of DFCCIL in this regard shall be final and binding.

8. DFCCIL reserves the right to pre-qualify the bidder(s) provisionally based on the documents submitted by them and open financial bid(s), subject to their final verification. In the event of any document being found false, the provisional qualification shall stand withdrawn, and the next lower bidder shall automatically come to the position of such disqualified bidder. Action against such disqualified tenderers shall be taken as per above Clause No. 7 of Notice Inviting Tender.

9. The validity of the offer shall be 90 days from date of opening of tender.

10. The transfer of tender documents purchased by one intending tenderer to another tenderer is not admissible. Tenderer can submit tenders only on the documents purchased/downloaded from website mentioned above.

We look forward for your active participation.

For and on behalf of

DFCCIL

Chief General Manager/PRYJ(E)

1.0 ELIGIBILTY CRITERIA

The tenderer shall satisfy the following eligibility criteria to qualify for this tender:

I. Essential Qualifying Criteria

A. Firms/companies

(i) The tenderer should have a registered office anywhere in India.

*The documentary proof regarding **A**. above should be submitted as part of the tender document.*

Note: For the purpose of documentary proof of "registered office" as mentioned in (i) above any address of office as mentioned in any of the following documents submitted along with the original offer by tenderer(s) may be considered as registered office of the tenderer(s).

1. Address mentioned in the article of association of company duly registered underCompanies Act, 1956.
2. Address mentioned in Partnership Deed
3. Address mentioned in Trade License obtained by the individual from Govt. body.
4. Address mentioned in any tax departments.
5. Address mentioned in P.F. Registration documents.

B. Technical Eligibility Criteria:

1. In support of their credentials, the Tenderer(s) should have to submit documents asstipulated in tender document along with their tenders.
2. THE TENDERER(S) SHOULD SATISFY THE FOLLOWING MINIMUM ELIGIBILITY CRITERIA AS UNDER –

Firm must have successfully completed any of the following during last 07(Seven) yearsending last day of month previous to the one in which tender is invited.

(i) Three Similar works each costing not less than the amount equal to 30% of advertisedvalue of the tender

OR

(ii) Two Similar works each costing not less than the amount equal to 40% of advertisedvalue of tender

OR

(iii) One similar work costing not less than the amount equal to 60% of advertised value ofthe tender.

Work executed with Central/State Govt./Semi-Govt. organizations/Authorities, PSUs, Govt. of India undertakings shall only be considered to qualify above eligibility. Certificates from the private Individuals/

Organizations shall not be considered.

The Tenderer(s) will produce/attach the certificate of Work completion with the Tender Document as per above and such certificate should clearly supported by following details:-

a) Name of Agency issuing a certificate.
b) Date of issue of certificate.
c) The name of Work.
d) The Acceptance letter no.
e) The date of issue of Acceptance letter.
f) Agreement no.
g) Date of execution of Agreement.
h) Date of original Completion of Work as per Acceptance Letter.
i) Date of Actual completion of Work.
j) The Amount of Work done as per Agreement (in Rupees).
k) The Final Amount of Work at the time of Completion of Work (in Rupees).
l) Whether the Work is completed satisfactory or not satisfactory.

Notes:

Following will be considered as similar work:

Similar nature of work of this tender is:-**"Maintenance/ Erection of 2X25 kV or 25 kV OHE in Railways System/ Metro Rails System or Maintenance/erection of atleast one TSS/substation of not less than 132/33 kV".**

Further, tenderer must have completed the Man Power support services within last 05 years in any PSU.

Erection of 2X25kV OHE or 25 kV OHE means “satisfactory execution of work of railway electrification at 25kV /2X25 KV involving preparation of design and drawing for OHE, casting of foundation, erection of masts, bracket fabrication& erection, wiring and other related works with experience of working in power and/or traffic blocks anywhere in the railways”.

Erection of POS, TSS/Substation means “Any work of augmentation of capacity of substation, supply and erection of capacitor banks, overhauling and /or repairing and/or rehabilitation and/or commissioning of PSI equipment, Traction transformers, Auxiliary transformers, circuit Breakers, Interrupters, Relays and control panel etc. with experience of executing works under power block which should include activities planned for execution of work”.

The tenderer (s) must be an established, experienced and reputed construction firm and have regularly undertaken works of the similar type tendered for and have adequate technical knowledge and practical experience in field.

C. **Financial Eligibility Criteria:**

The tenderer must have minimum average annual contractual turnover of V/N or ‘V’ whichever is less; where
V= Advertised value of the tender in crores of Rupees

N= Number of years prescribed for completion of work for which bids have been invited.

The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover.

The tenderers shall submit requisite information as per Annexure-VIB, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.

D. **JVs SHALL NOT BE CONSIDERED.**

II. **<u>System of verification of Tenderer's credentials</u>** : -

Railway board letter no. 2017/Trans/01/Policy dated 08.02.2018, accordingly following changes have been approved by Railway board.

For the works tenders, it has been decided to adopt the affidavit-based system of credential verification. The tenderer shall submit along with the tender document, documents in support of his/their claim to fulfill the eligibility criteria as mentioned in the tender document. Each page of the copy of documents/certificates in support of credentials, submitted by the tenderer, shall be self-attested/digitally signed by the tenderer or authorized representative of the tendering firm. Self-attestation shall include signature, stamp and date (on each page). Only those documents which are declared explicitly by the tenderer as "documents supporting the claim of qualifying the laid down eligibility criteria", will be considered for evaluating his/their tender. The system shall be applicable once it is made operational in IREPS. This system is already being followed by some of Railway/DFCCIL PSUs.

1. In all works tender documents, followings para may be added in the section describing thequalification and eligibility criteria.

"The tenderers shall submit a notarized affidavit on a non-judicial stamp stating that they are not liable to be disqualified and all their statements/documents submitted along with bid are true and factual. Standard format of the affidavit to be submitted by the bidder is enclosed as Annexure-V. Non submission of an affidavit by the bidder shall result in summary rejection of his/their bid. And it shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self-attested by which they/he is qualifying the Qualifying Criteria mentioned in the tender document. It will not be obligatory on the part of Tender Committee to scrutinize beyond the submitted document of tenderer as far as his qualification for the tender is concerned".

With the submission of the affidavit as mentioned above, the practice of verification of tenderer(s) documents by the Railway/DFCCIL may be dispensed with.

a) The Railway/DFCCIL reserves the right to verify all statements, information and documents submitted by the bidder in his tender offer, and the bidder shall when so required by the Railway/DFCCIL, make available such information, evidence

and documents as may be necessary for such verification. Any verification or lack of such verification, by the Railway/DFCCIL shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any right of the Railway/DFCCIL thereafter.

b) In case any wrong information submitted by the tenderer, the contract shall be terminated, Earnest Money Deposit (EMD) if any, Performance Guarantee (PG) and Security Deposit (SD) of contract forfeited and agency barred for doing business on entire Indian Railway/DFCCILs for 5 (five) years.

c) With such a system of self-certification of credentials, tender finalization should also be speed up. It has accordingly been decided that the tender validity period should be reduced to 45 days for single packet and 60 days for two packet system of tendering (in place of the present limits of 90 days and 120 days) for tenderers having affidavit based system of credential verification.

2. The tenderers shall provide satisfactory documentary evidences acceptable to Railway/DFCCIL along with the tender to show that:

2.1 They have an established technically competent and adequate staffs in the organization to ensure that the services required under this tender can do satisfactorily.

2.2 They have sufficient equipment; plants and machinery to meet the obligations under the contract and to complete the work contract all within the stipulated time schedule and accepted by him.

3 The tenderer should submit the details of similar works done in the past.

4 The tenderer should submit the attested copies of the certificates obtained from the agencies wherever the works have completed successfully. These certificates should indicate the details of installation and successful commissioning of the similar type of equipmentexecuted by the tenderer.

5 The tenderer will submit, along with offer list of work in hand indicating description of work, contract value, approximate value of balance work yet to be done and date of award ofwork.

6 They have adequate financial resources to meet the obligations under the contract. They have also required to submit the report from recognized bank of financial institutions.

******

FORMAT-I

DETAILS OF SIMILAR WORKS COMPLETED IN LAST THREE YEARS

S. N.	Description of the work	Contract No. and date	Date of award of work	Stipulated date of completion	Date of actual completion	Value of completed work (In Lakhs of Rs)	Reasons of delays, if any	Penality. If any, imposed for delay	Any other relevant information	Remarks
1										
2										
3										
4										
5										

Note:

1. **Please attach copies of the certificates issued by the client.**
2. **Only those works shall be considered for evaluation for which copies of the Certificates issued by the client are attached.**

Format-2 (Annexure –VIB of GCC)

NAME OF BIDDER/JV PARTNER:

Annual Contractual Turnover Data for the Previous 3/4 Years (Contractual Payment only)			
Year	**Amount Currency**	**Exchange Rate**	**Indian National Rupees Equivalent**
Average Annual Contractual Turnover for last 3 years			

1. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover.
2. The information supplied shall be substantiated by data in the audited balance sheets and profit and loss accounts for the relevant years in respect of the bidder or all members constituting the bidder.
3. Contents of this form should be certified by a Chartered Accountant duly supported by Audited Balance Sheet duly certified by the Chartered Accountant.

SEAL AND SIGNATURE OF THE BIDDER

Certified that all figures and facts submitted in this form have been furnished after full consideration of all observations/notes in Auditor's reports._____

(Signature of Chartered Accountant)
Name of CA:_____
Registration No: _____
(Seal)

FORMAT-III

DETAILS OF ONGOING WORKS

S. N.	Description of the work	Name and address of Employer	Contract No. and date	Date of award of work	Stipulated date of completion	Value of work as per order (In Lakhs of Rs)	Value of work completed so far (In Lakhs of Rs)	Anticipated date of completion of work	Any other relevant information	Remarks
1										
2										
3										
4										
5										
6										
7										
8										
9										

Note: 1. In case of joint venture, the information is to be furnished by both the partners – ***Not applicable for this tender***.

PART – I

CHAPTER –I

Instructions to Tenderer and Conditions of Tendering

1.1.1 General (for on line tendering system)

Submission of Online Bids is mandatory for this Notice Inviting Tender. E-Tendering is a new methodology for conducting Public Procurement in a transparent and secured manner. Suppliers/ Vendors will be the biggest beneficiaries of this new system of procurement. For conducting electronic tendering, DFCCIL has decided to use the portal (https://www.ireps.gov.in) of a Government of India. Benefits to Suppliers/service providers are outlined on the Home-page of the portal.

1.1.2 Instructions

a. Online E-Bidding Methodology:

Online E- Bid System – Financial bids and Technical bids shall be submitted by the bidder at the same time in single Packet

b. Broad outline of activities from Bidders perspective:

i. Procure a Digital Signing Certificate (DSC)
ii. Register on Electronic Tendering System (ETS)
iii. Create Users and assign roles on ETS
iv. View Notice Inviting Tender (NIT) on ETS
v. Download Official Copy of Tender Documents from ETS
vi. Clarification to Tender Documents on ETS – Query to DFCCIL (Optional) - view response to queries posted by DFCCIL, through addenda.
vii. Bid-Submission on ETS: Prepare and arrange all document/paper for submission of bid online and tender fees and EMD deposit on offline.
viii. Attend Public Online Tender Opening Event (TOE) on ETS
ix. Post-TOE Clarification on ETS (Optional)-Respond to DFCCILL"s Post-TOE queries
x. Attend Public Online Tender Opening Event (TOE) on ETS

For participating in this tender online, the following instructions are to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the ETS.

Note 1: It is advised that all the documents to be submitted are kept scanned and converted to PDF format in a separate folder on your computer before starting online submission. Fin. offer tab brings up the Financial Offer Page

where the bidder can submit his rates against the schedule items included inthe tender.

Note 2: While uploading the documents, it should be ensured that the file name shouldbe the name of the document itself.

c. Digital Certificates

For integrity of data and its authenticity/non-repudiation of electronic records and to be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC), also referred to as Digital Signature Certificate (DSC), of Class-III issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer http://www.cca.gov.in].

d. Registration

The Tender document can be downloaded from the website www.ireps.gov.in and to be submitted in the e-format. Bid security declaration has to be submitted otherwise the Bid will not be considered. Amendments, if any, to the tender document will be notified in the above website as and when such amendments are notified. It is the responsibility of the bidders who have downloaded the tender document from the website to keep themselves abreast of such amendments before submitting the tender document.

Intending bidders are requested to register themselves with www.ireps.gov.in for obtaining user-id, Digital Signature etc. by paying Vendor registration fee and processing fee for participating in the above mentioned tender.

e. DFCCIL, has decided to use process of e-tendering for inviting this tender andthus the physical copy of the tender would not be sold.

1.1.3 General (for tender)

1.1.3.1 Name of the Work: **Maintenance of 2x25 kV OHE/PSI and Miscellaneous OHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty-Four) months under CGM PRYJ(E) Unit.**

1.1.3.2 "A bidder in the capacity of Individual or Sole Proprietor, Partnership Firm, or Company can participate in the tender and the bidder must forward attested copies of the constitution of its firm such as partnership deed, Memorandum and Articles of Association, etc. along with original Power of Attorney of authorizedsignatory".

1.1.3.3 The work is proposed to be executed under the following relationship.

A)Employer: DFCCIL address - CGM/PRYJ(E)/DFCCIL OFFICE, 2nd floor OCC BUILDING JHALWA, SUBEDARGANJ , PRAYAGRAJ-211012 (Uttar Pradesh)

B) Contractor: The successful tenderer to whom the work is awardedshall become the contractor for the execution of this work.

1.1.3.4 Throughout these bidding documents, the terms "bid" and "tender" and their derivatives ("bidder"/"tenderer"), "bid/tendered", "bidding"/"tendering", etc.) are synonymous. Day means calendar day. Singular also means plural.

1.1.3.5 Scope of Work -**Maintenance of 2x25 kV OHE/PSI and Miscellaneous OHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty-Four) months under CGM PRYJ(E) Unit**

The scope given above is only indicative. The detailed scope has been described inthe tender documents.

1.1.3.6 Estimated cost of the work: **Rs. 9,55,70864.45 (Rs. Nine Crore Fifty Five Lakh SeventyThousand Eight Hundred Sixty Four and Forty Five Paise Only) including @18% GST**

1.1.3.7 Tenderer(s) may carefully note that they are liable to be disqualified at any time during tendering process in case any of the information furnished by them is not found to be true. The decision of Employer in this respect shall be final and binding.

1.1.3.8 A bidder shall submit only one bid in the capacity of an Individual or Sole Proprietor, Partnership firm or Company. Violation of this condition is liable to disqualify the tenders in which such bidder has participated.

1.1.4 Cost of Bidding

1.1.4.1 The bidder shall bear all costs associated with the preparation and submission of the bid and the Employer will in no case be responsible or liable for these costs regardless of the conduct or the outcome of the bidding process.

A. The Bidding Documents

1.1.5 Content of bidding documents submitted through online mode only

1.1.5.1 The bidding documents include the following:

1. Notice Inviting Tender
2. Instructions to tenderer(s)
3. Tender Form
4. Special Conditions of Contract
5. General Terms and Conditions of Contract
6. Financial bid and Bill of Quantities

1.1.5.2 The bidder is expected to examine all instructions, terms, conditions, forms, specifications and other information in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the bidder's risk and may result in rejection of his bid.

1.1.6 Understanding and Amendment of Tender Documents

1.1.6.1 The bidder must obtain for itself on its own responsibility and its own cost all the information including risks, contingencies and other circumstances in execution of the work. It shall also carefully read and understand all its obligations and liabilitiesgiven in tender documents.

1.1.6.2 The bidder is advised to visit and examine the site where the work is to be executed and its surroundings or other areas as deemed fit by the bidder and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and execution of the contract. The cost of visiting the site and collecting relevant data shallbe at the bidder's own expenses. It is a condition of the tender that the tenderer is deemed to have visited the site and satisfied himself with all the conditions prevailing including any difficulties for executing the work.

1.1.6.3 At any time prior to the deadline for submission of bids, Employer may for any reason whether at its own initiative or in response to any request by any prospective bidder amend the bidding documents by issuing Corrigendum, which shall be part ofthe Tender documents.

1.1.6.4 Employer may at its discretion extend the deadline for submission of the bids at any time before the time of submission of the bids.

B. Preparation of the Bids

1.1.7 Language of Bid

1.1.7.1 The bid prepared by the bidder and all documents related to the bid shall be writtenin English.

1.1.8 Signing of All Bid papers and Completing Bill of Quantities

1.1.8.1 All the pages of the tender documents and credentials submitted by tenderer shall be digitally signed by the tenderer or his representative holding the Power of Attorney.

1.1.8.2 The tenderer must fill and submit the prices as per instructions given in schedule of rates. He shall not make any addition or alteration in the tender documents. The requisite details should be filled in by the tenderer wherever required in the documents. Incomplete tender or tender not submitted as per instructions is liable to be rejected. If a tenderer does not quote a price/rate as per instructions, his tender shall be summarily rejected.

1.1.8.3 The tenderer must ensure that tender documents shall be submitted on line through class 3 Digital Signature only. To participate in the E-Bid submission, it is mandatory for the bidders to have user ID and password in www.ireps.gov.in through IREPS portal.

1.1.9 Deviations

The tenderer should clearly read and understand all the terms and conditions, specifications, etc. mentioned in the original tender documents. If the tenderer has any observations, the same may be indicated in his forwarding letter along with the tender. Tenderers are advised not to make any corrections, additions or

alterations in the in his own entries the same shall be initialed and stamped by him. If this condition is not complied with, tender is liable to be rejected.

1.1.10 Earnest Money Deposit:

(1) (a) The tenderer shall be required to submit the Bid Security with the tender for the due performance with the stipulation to keep the offer open till such date as specified in the tender, under the conditions of tender. The Bid Security shall be as under:

Value of the Work	**Bid Security**
For works estimated to cost up to 1 crore	2% of the estimated cost of the work
For works estimated to cost more than 1 crore	2 lakh plus ½% (half percent) of the excess of the estimated cost of work beyond 1 crore subject to a maximum of 1 crore

Note:

(i) The Bid Security shall be rounded off to the nearest 100. This Bid Security shall be applicable for all modes of tendering.

(ii) Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of Bid Security detailed above.

(iii) Labour Cooperative Societies shall submit only 50% of above Bid Security detailed above.

(b) It shall be understood that the tender documents have been issued to the tenderer and the tenderer is permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to the Engineer. Should the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the DFCCIL/Railways.

(c) If his tender is accepted, this Bid Security mentioned in sub para (a) above will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract. The Bid Security of other Tenderers shall, save as herein before provided, be returned to them, but the DFCCIL/Railways shall not be responsible for any loss or depreciation that may happen thereto while in their possession, nor be liable to pay interest thereon.

(2) The Bid Security shall be deposited either in cash through e-payment gateway or submitted as Bank Guarantee bond from a scheduled commercial bank of India or as mentioned in tender documents. The Bank Guarantee bond shall be as per **Annexure-VIA** and shall be valid for a period of 90 days beyond the bid validity period.

(3) **In case, submission of Bid Security in the form of Bank Guarantee, following shall be ensured:**

i. A scanned copy of the Bank Guarantee shall be uploaded on e-Procurement Portal (IREPS) while applying to the tender.

ii. The original Bank Guarantee should be delivered in person to the official nominated as indicated in the tender document within 5 working days of deadline of submission of bids.

iii. Non submission of scanned copy of Bank Guarantee with the bid on e-tendering portal (IREPS) and/or non-submission of original Bank Guarantee within the specified period shall lead to summary rejection of bid.

iv. The Tender Security shall remain valid for a period of 90 days beyond the validity period for the Tender.

v. The details of the BG, physically submitted should match with the details available in the scanned copy and the data entered during bid submission time, failing which the bid will be rejected

vi. The Bank Guarantee shall be placed in an envelope, which shall be sealed. The envelope shall clearly bear the identification "**Bid for the ***** Project**" and shall clearly indicate the name and address of the Bidder. In addition, the Bid Due Date should be indicated on the right hand top corner of the envelope.

vii. The envelope shall be addressed to the officer and address as mentioned in the tender document.

viii. If the envelope is not sealed and marked as instructed above, the Authority assumes no responsibility for the misplacement or premature opening of the contents of the Bid submitted and consequent losses, if any, suffered by the Bidder.

4. (a)Subject to exemptions provided under para 1.1.10 (1) (a) of this document, the tender must be accompanied by a Bid Security as mentioned in tender documents, failing which the tender shall be summarily rejected.

(b) The Tenderer(s) shall keep the offer open for a minimum period of 60 days (in case of two packet system of tendering 90days) from the date of closing of the Tender. It is understood that the tender documents have been issued to the Tenderer(s) and the Tenderer(s), is / are permitted to tender in consideration of the stipulation on his / their part that after submitting his / their tender subject to the period being extended further, if required by mutual agreement from time to time, he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to Railway/DFCCIL. Should the tenderer fail to observe or comply with the foregoing stipulation, the amount deposited or Bank guarantee bond submitted as Bid Security for the due performance of the above stipulation, shall be forfeited to the DFCCIL.

(c) If his tender is accepted,

(i) The Bid Security mentioned in sub para(a) above deposited in cash through e-payment gateway will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract.

(ii) the Bid Security mentioned in sub para(a) above submitted as Bank guarantee bond, will be encashed as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract.

(iii)The Bid Security of other Tenderers shall, save as herein before provided, be returned to them, but the DFCCIL shall not be responsible for any loss or depreciation to the Bid Security that may happen thereto while in their possession, nor be liable to pay interest thereon.

(d) In case Contractor submits the Term Deposit Receipt/Bank Guarantee Bond towards either the Full Security Depositor the Part Security Deposit equal to or more than Bid Security, the DFCCIL shall return the Bid Security so retained as per sub para(c) above, to the Contractor.

1.1.11 Period of validity of the tender:

1.1.11.1 The tender shall remain valid for the period 90 days after the date of the opening ofthe tender. If the Tenderer gives validity period less than that fixed/prescribed by Employer, the tender shall be liable to be rejected.

1.1.11.2 Notwithstanding the above clause, Employer may solicit the tenderer's consent to an extension of the validity period of the tender. The request and the response shall be made in writing.

Submission of Bids

1.1.12 Deadline for submission of tender

1.1.12.1 The tender documents shall be submitted in online mode through website www.ireps.gov.in in single bids only. Single offer viz. containing Technical offer and financial offer along with necessary documents like scanned copy of EMD and scanned copy of TDC to be uploaded. Detailed credentials as per the requirement of eligibility criteria in "**Technical offer**" as well as in "**Financial offer"** are to be uploaded. **Bids are required to be submitted only by online mode through e- tendering web site (IREPS portal) using Digital Signature class 3 for signing the documents**.

1.1.12.2 A tender received without on line to Employer is liable to be rejected.

1.1.12.3 Tender document fees received after opening of the tender shall be rejected.

1.1.13 Withdrawal of tender

No tender can be withdrawn after submission and during tender validity period.

1.1.13.1 Submission of a tender by a tenderer implies that he had read all the tender documents including amendments if any, visited the site and has made himself aware of the scope and specifications of the work to be done, local conditions and other factors having any bearing on the execution of the work.

1.1.14 Submission of tender/bid:-

1.1.14.1 The tenders shall be submitted on or before the due date and time with all the relevant documents as mentioned -

a) Forwarding letter of the tenderer.

b) Documents to be submitted as per required documents

c) Scanned copy of tender document fees and EMD.

d) The Bill of Quantities with prices quoted as mentioned.

1.1.14.2 Tender document fees and EMD shall be deposited in DFCCIL account and proof of transition along with transaction ID to be scanned and uploaded along with Tender document.

1.1.15 Bid opening and Evaluation

1.1.15.1 **Opening of the Tender**:- Tenders will be opened on line at the address mentioned in "Notice Inviting Tender" in presence of tenderer(s) or authorized representativesof tenderer(s) who wish to attend the opening of tenders.

The sequence of opening shall be:

i) Earnest Money Deposit
ii) Technical offer.
iii) Financial offer.

1.1.15.2 Tenderer(s) or their authorized representatives who are present shall sign register in evidence of their attendance.

1.1.15.3 Tenderer's name, presence or absence of EMD, total cost of work quoted or any other details as Employer may consider appropriate will be announced and recorded at the time of bid opening.

1.1.16 Clarification of the tenders

1.1.16.1 To assist the examination, evaluation and comparison of the tenders, Employer may at his discretion ask the tenderers for any clarifications as considered essential. All such correspondence shall be in writing and no change in price or substance of the tender shall be sought or permitted. The above clarification for submission of the details shall form part of the tender and shall be binding on tenderer.

1.1.17 Preliminary examination of bids

1.1.17.1 The Employer shall examine the bids to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed and whether the bids are generally in order.

1.1.17.2 Arithmetical errors shall be rectified on the following basis if found. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between subtotals and the total price, the

unit or subtotal price shall prevail, and the total price shall be corrected. If there is adiscrepancy between words and figures, the rate in words shall prevail.

1.1.17.3 Prior to the detailed evaluation, Employer shall determine whether each bid is of acceptable quality, is generally complete and is substantially responsive to the bidding documents. For purposes of this determination, a substantially responsive bid is one that conforms to all the terms, conditions and specifications of the bidding documents without material deviations, objections, conditionality or reservation. A material deviation, objections, conditionality or reservation is one:

i) That affects in any substantial way the scope, quality or performance of the contract.

ii) That limits in any substantial way, inconsistent with the bidding documents, the Employers‟ rights or the successful Bidder's obligations under the contracts; or

iii) Whose rectification would unfairly affect the competitive position of other Bidders who are presenting substantially responsive bids.

1.1.17.4 If a bid is not substantially responsive, it shall be rejected by the Employer.

1.1.17.5 In case of tenders containing any conditions or deviations or reservations about contents of tender document, Employer may ask for withdrawal of such conditions/deviations/reservations. If the tenderer does not withdraw such conditions/deviations/ reservations, the tender shall be treated as non-responsive. Employer's decision regarding responsiveness or non-responsiveness of a tender shall be final and binding.

1.1.18 Evaluation and comparison of tenders

1.1.18.1 In case of open tenders, bids, which are determined as substantially responsive, shall be evaluated based on criteria as given in **"Eligibility Criteria".** The tenderer must submit all necessary authentic data with necessary supporting certificates of the various items of evaluation criteria failing which his tender is liable to be rejected.

1.1.18.2 The Employer reserves the right to negotiate the offer submitted by the tenderer to withdraw certain conditions or to bring down the rates to a reasonable level. The tenderer must note that during negotiations of rates of items of BOQ can only be reduced and not increased by the tenderer. In case the tenderer introduces any new condition or increases rates of any item of BOQ, his negotiated offer is liable to be rejected and the original offer shall remain valid and binding on him.

1.1.19 Canvassing

No tenderer is permitted to canvass to Employer on any matter relating to this tender. Any tenderer found doing so may be disqualified and his bid may be rejected.

1.1.20 Right to accept any tender or reject all tenders

Employer reserves the right to accept, split, divide, negotiate, cancel or reject any tender or to annul and reject all tenders at any time prior to the award of the contract without incurring any liability to the affected tenderers or any obligation to inform affected tenderer, the grounds of such action.

1.1.21 If the tenderer, as individual or as a partner of partnership firm, expires after the submission of his tender but before award of work, the Employer shall deem such tender as invalid.

1.1.22 Award of Contract

1.1.22.1 DFCCIL shall notify the successful tenderer in writing by a Registered Letter/Courier /Speed Post/email or per bearer that his tender has been accepted.

1.1.22.2 Letter of Acceptance after it is signed by the Contractor in token of his acceptance shall constitute a legal and binding contract between Employer and the contractor till such time the contract agreement is signed.

1.1.23 **Make in India Policy:** Provisions of Make in India Policy 2017 issued by Govt. of India, as amended from time to time, shall be followed for consideration of tenders.

1.1.24 Provision for medium & small enterprises (MSE): As mandated by Railway Board Letter No. 2010/RS (G)/363/1 dated 05.07.2012 (RBS No. 4/2012), in compliance to public procurement policy, following provisions are included for Medium & Small Enterprises (MSE) in the tender document:

1. Tender sets shall be provided free of cost to MSEs registered with the listed agencies for the item tendered.
2. MSEs registered with the listed agencies for the item tendered will be exempted from payment of Earnest Money.
3. (I) MSEs who are interested in availing themselves of these benefits will enclose with their offer the proof of their being MSE registered with any of the agencies mentioned in the notification of Ministry of MSME indicated below:

(i) District industries Centers
(ii) Khadi and Village Industries Commission
(iii) Khadi and Village Industries Board
(iv) Coir Board
(v) National Small Industries Corporation
(vi) Directorate of Handicraft and Handloom
(vii) Any other body specified by Ministry of MSME.

(II) The MSEs must also indicate the terminal validity date of their registration.
Falling (I) & (II) above, such offers will not be liable for consideration of benefits detailed in MSE notification of Government of India dated 23.03.2012.

4. Definition of MSEs owned by SC/ST is as give below:
(i) In case of proprietary MSE, proprietors (s) shall be SC/ST.
(ii) In case of partnership MSE, the SC/ST partners shall be holding at least 51% shares in the unit.
(iii) In case of Private Limited Companies at least 51% share shall be held by SC/ST promoters.
5. All bidders registered under Micro, Small and Medium Enterprises (MSMEs) shall have to satisfy the eligibility criteria at par with other bidders. There shall not be any relaxation in eligibility criteria/tender process or other tender requirements and L-1 price.
6. The above facilities shall not be applicable for the items for which they are not registered.
7. The tenderer (s) shall submit copy of current and valid MSMEs registration certificate inclusive of all the pages showing the category of entrepreneur whether the registered firm is owned by General or SC/ST entrepreneurs, monetary limit of their registration for the items tendered to avail the benefits under the Policy. The MSMEs shall also submit a copy "Entrepreneur's Memorandum (Part-II)" of the concerned district centre where the unit is established.
8. Registration of Udyog Aadhar Memorandum (UAM): All Micro, Small and Medium Enterprises (MSMEs) bidders are required to declare UAM Number on CPPP / https://www.ireps.gov.in failing which such bidders will not be able to enjoy the ben-

-fits as per Public Procurement Policy for tenders invited electronically through CPPP / https://www.ireps.gov.in.

1.1.25 Help desk for E-Tendering

1.1.25.1 For any difficulty in downloading and submission of tender document visit at website www.ireps.gov.in.Users can send their queries to the Help desk through E-Mail. E- Mail ID of Help Desk is mentioned on the Help desk page (helpdesk.eps@cris.org.in). The reply to the query will be sent to the E-Mail ID of the user.

1.1.25.2 Bidder manual and system requirement is available on web site www.ireps.gov.in forNecessary help.

1. List of Contact persons for this tender details of DFCCIL

DFCCIL Contact- 1	**Sh. Manish Gupta**
Telephone/Mobile No.	**9717636952**
E-mail ID	**mgupta@dfcc.co.in**

DFCCIL Contact- 2	**Sh.Mahesh Chauhan**
Telephone/Mobile No.	**9897677477**
E-mail ID	**mchauhan@dfcc.co.in**

Name	DFCCIL
Bank account number	302701010652600
IFSC code	UBIN0546836
Bank Name	Union Bank of India
Bank Branch	Moti Bagh Branch New Delhi, 110066

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PART-I CHAPTER -II

SPECIAL CONDITIONS OF CONTRACT

1.2.1 INTRODUCTION

Dedicated Freight Corporation of India (DFCCIL) is a Public Sector Undertaking under the administrative control of Government of India (Ministry of DFCCILs) for construction, maintenance and operation of the Dedicated Rail Freight Corridors. At present the company is undertaking construction of Eastern and Western corridors and has its corporate office at New Delhi and Field Units at various cities associated with CGM unit.

CGM/PRYJ(E) unit have jurisdiction from DDUN to KCNN with its CGM/PRYJ(E) unit at DFCCIL OFFICE, 2nd floor OCC BUILDING, JHALWA Subedarganj, Prayagraj.

1.2.2 Definitions

1.2.2.1 In the Conditions of Contract, the following terms shall have the meanings assigned here under except where the context otherwise requires:

i) "Railway/DFCCIL" shall mean the President of the Republic of India or the Administrative Officers of the DFCCIL/Railway/DFCCIL or of the successor. DFCCIL authorized or any other officer of DFCCIL authorized to deal with any matters which these presents are concerned on his behalf.

ii) "CHIEF GENERAL MANAGER" shall mean the officer in administrative in-charge of the project in charge of section (DDUN to KCNN) and shall mean and include their successors, of the successor DFCCIL.

iii) "DEPUTY CHIEF PROJECT MANAGER" shall mean the officer in charge of lot wise or department /S&T/Electrical/Finance wise (Engineering department) of the DFCCIL include their successors of and shall mean and the successor DFCCIL.

iv) PROJECT MANAGER/ DEPUTY PROJECT MANAGER/ASSISTANT PROJECT MANAGER shall mean the officer department wise (Engineering /S&T/ Electrical/ Finance Department) of the DFCCIL and shall mean and include their successors of the successor of DFCCIL.

v) "TENDER or BID" means the offer (Technical and/or Financial) made by individual, firm, Company, corporation, or Consortium for the execution of the works.

vi) "TENDERER" shall mean the person/ the firm or company whether incorporated or not who tenders for the work with a view to execute the works on contract with DFCCIL and shall include their personal representatives, successors and permitted assigns.

vii) "WORKS" shall mean the works contemplated in scope and schedules set forth in the tender forms and required to be executed according to terms and condition mentioned.

viii) "Bill of Quantities (B.O.Q.)"/ "Schedule of Rates" means list of items work, their quantities and rates as accepted and forming part of contract agreement.

ix) "EMPLOYER" means the Dedicated Freight Corridor Corporation of India Limited,A Govt. of India Undertaking (DFCCIL in abbreviation) acting through its Managing Director or any other authorized officer and shall include their legal successors in title and permitted assignees.

xi) "CONTRACT" shall mean and include the Agreement or Letter of Acceptance, the accepted Bill of Quantities and Rates, the General Conditions of Contract, Special Conditions of Contract, Appendix to Tender, Tender Form, and Instructions to the Tenders and other Tender Documents.

xii) "CONTRACTOR" shall mean the person or firm, company, corporation, whether incorporated or not who enters into the contract with DFCCIL and shall include legal representatives of such individual or persons comprising such firm or company or successors of such firm or company as the case may be such individual, or firm or company.

xiii) "ENGINEER OR ENGINEER IN CHARGE" means the Chief General Manager of DFCCIL/PRYJ(E) (Employer), or any other officer authorized by the Employer to act on his behalf and for the purpose of operating the contract. "Engineers Representative" shall mean officer authorized by DFCCIL in direct charge ofworks.

xv) "ACCEPTING AUTHORITY" shall mean the Chief General Manager/PRYJ(E) of DFCCIL or any other officer authorized for dealing with the works for the purpose of this tender/Contract.

xvi) Definitions mentioned in these tender documents elsewhere will be followed. In Case there is an ambiguity in any definition, the decision of CHIEF GENERAL MANAGER /PRYJ(E) / DFCCIL regarding the interpretation shall be final and binding.

1.2.3 GENERAL DESCRIPTION OF SITE AREA, CLIMATIC CONDITIONS AND SYSTEM PARTICULARS

1.2.3.1 The tenderer(s) are requested to visit the area of work and ascertain himself/themselveswith the proposed works / services, surroundings and prevailing law and order conditions.

1.2.3.2 The location of work is located in the state of Uttar Pradesh.

1.2.3.3 SCOPE OF WORK:-

Maintenance of 2x25 kV OHE/PSI and Miscellaneous OHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya

to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty-Four) months under CGM PRYJ(E) Unit.

1.2.4.1 The brief scope of work covers "*Maintenance of 2x25 kV OHE/PSI and Miscellaneous OHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty-Four) months under CGM PRYJ(E) Unit****".***

The work requires high degree of planning and execution.

i. Preventive/breakdown Maintenance of given under assets shall be done by contractor :-

a) 2x25 kV A.C. Traction Overhead Equipment on main line, 25kV OHE in loop lines and connecting chords etc. in sidings of DDUN – KCNN section. There are six nos yards.

b) 2x25 kV A.C. Traction PSI Equipment between of DDUN - KCNN section which include TSSs, SPs ,SSPs etc.

c) TSS-03 Nos (Deoria, Chandaipur & Gadhion) , Power transformers are in V connected each of 39(ONAN)/54.6(ONAF)/65.3 MVA, Power Transformers, 132kV/55kV along with requisite Circuit Breakers, Isolators, C&R Panel, C.T., P.T., auxiliary transformers, PFC equipment etc. and all other associated accessories inside TSS.

d) SP-02 Nos (Newaria & Kukhri), each having 4 nos. auto transformers of capacity 9 MVA ONAN along with associated circuit breaker, switchgear control & relay panel etc. including control room.

e) SSP-05(Nakhara, Adhwar, Birohi, Kotha& Cheoki), each having 2 nos. auto transformers of capacity 9 MVA ONAN along with associated circuit breaker, switchgear control & relay panel etc. including control room.

f) Engineer will perform every test under supervision of DFCCIL with the help of Conventional Testing kit (appendix-1), TAN Delta Kit, CT Analyzer etc. Payment will be made to contractor after submission of final Report to DFCCIL**.**

g) Manning of TSSs/OCC/Rack siding round the clock to maintain the register and operation of equipment.

h) To maintain these, DFCCIL has established IMD (Integrated Maintenance Depot), IMSD (Integrated Maintenance Sub Depot). The tools and plants maintained by the DFCCIL at these IMD, IMSD**.** Other tools if required shall be arranged by the contractor at his own cost and no extra cost shall be payable for it.

i) The consumable material for the maintenance and replacement for the defective parts shall be provided by the DFCCIL. The material required for the maintenance shall be issued by authorized representative of CGM/PRYJ(E) available at IMD/IMSD. Rest all other required tools and plants for maintenance shall be arranged by contractor.

Organization	Work/location	Quantum of assets to be maintained.	Boundary of overlap or SI/Isolator feeding from OHE to be maintained.
DFCCIL	DDUN to KCNN including branch lines, connecting lines and sidings.	2x25 kV A.C. Traction Overhead Equipment (OHE) of 120 sq.mm Copper- Magnesium Catenary and 150 sq. mm. grooved Copper-Sn Contact wire on Main & Loop Lines andPSI Equipment (TSS, SP &SSP)	

Schedule of quantities requires Preventive/breakdown Maintenance of 2x25 kV A.C. Traction Overhead Equipment in the above section by the contractor's personnel round the clock for the configuration given at **"Schedule of Rates".**

ii. Special Checks & Preventive maintenance of the 2x25 kV A.C. Traction Overhead Equipment and Power Supply Installation Equipment including negative feeders under Power Block activities but strictly under the supervision of competent representatives of DFCCIL and with their time to time instructions only, in accordance with the Standard Maintenance Instructions issued by the DFCCIL.

iii. Immediate attention for any breakdown in the 2x25 kV A.C. Traction Overhead Equipment & Power Supply Installation Equipment and quick restoration. The responsibility of movement of OHE/PSI Gang lies with the contractor. However, DFCCIL will extend support to contractor gang in case of emergency.

1.2.4.2 Place of work- In the jurisdiction of DFCCIL, DDUN – KCNN section under CGM PRYJ(E). The work shall be executed under supervision of authorized representative of CGM/PRYJ(E), Dy.CPM/PRY(E) or PM/EL/PRYJ(E). If required by DFCCIL any other station/Site may be included under Schedule of work and no additional charges shall be given for this.

1.2.4.3 Quantities in schedule annexed to Contract- The quantities set out in the accepted scheduleof rates with item of work quantified are the estimated quantities of the works and they shall not be taken as the actual and correct quantities of the works to be executed by the Contractor in fulfillment of his obligations under the contract. The actual/final quantity shallbe executed as per approved design and drawing which is to be prepared by contractor if required. All the design calculations, if any, shall be done by contractor before execution of work. The contractor shall be responsible for any wastage of material due to mistake in design calculations.

1.2.4.4 New item of work – If during execution of the work, the contractor is called upon to carry out any new item of work not included in schedule of prices, the contractor shall execute such work at such prices as may be mutually agreed with the purchaser before commencement.

If required by DFCCIL, the contractor has to execute some portion of work as per/under the tender schedule at new location (at the same rate/ Price) over Uttar Pradesh.

1.2.5 LOCAL CONDITIONS:

1.2.5.1 It will be imperative on each tenderer to fully acquaint himself with all the local conditions and factors which would have any effect on the performance of the contract and cost of the stores. The DFCCILs shall not entertain any request for clarifications from the tenderer regarding such local conditions. No request for the change of price, or time schedule of completion of work on account of any local condition or factor shall be entertained after the offer is accepted.

1.2.5.2 The intending tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender papers are adequate and all inclusive, for the completion of works to the entire satisfaction of the DFCCILs.

1.2.5.3 In the event of the intending tenderer desiring to have a field survey before furnishing his tender/quotations, he may apply to DFCCILs for permission in this regard. The DFCCILs will give such permission in writing but all the expenses in this regard will be borne by the tenderers.

1.2.5.4 The intending tenderer is advised to study the tender papers carefully, any submission of a bid by the tenderers shall be deemed to have been done after a careful study and examination of these documents with full understanding of the implication thereof. These conditions and specifications shall be deemed to have been accepted unless otherwise, specifically commented upon by the Tenderer in his offer. Failure to adhere to anyone of these instructions may render his offer liable to be ignored without any references.

1.2.6 INTEGRATION WITH EXISTING WORKS:

1.2.6.1 The tenderer should keep in mind, visit the location of works, take due note and give proper consideration of integrating the new works (sometimes on replacement account) with the existing system.

1.2.7 ELECTRIC SUPPLY:

The contractor shall make his own arrangements for electricity required by him for the purpose of execution of the contract. However, the DFCCIL shall arrange the required power supply for testing and commissioning of the works completed by the contractor.

1.2.8 SCHEME OF WORK AND PROGRESS REPORT:

1.2.8.1 The Contractor shall within fifteen (15) days of the date of award of the contract submit a BAR/PERT CHART and scheme for the execution. The contractor shall indicate in the form of notes of the assumptions and the basis adopted for the preparation of this BAR/PERT CHART.

1.2.8.2 The contractor shall submit a monthly progress report detailing the actual progress made in all activities as compared to the above BAR/PERT CHART. The monthly progress report shall indicate the reasons for the variations if any between the schedule quantities and actual progress, the action proposed and corrective measures required wherever necessary.

1.2.9 INDIRECT TAXATION

In the event of any new indirect taxation being imposed after the date of opening of tender and of being of such a nature that the contractor has to bear additional cost of material

directly on account of such additional taxation the purchaser shall reimburse the contractor for such additional costs on receiving satisfactory proof that such taxation was legally leviable and that the contractor has actually incurred the additional costs.

1.2.10 FORCE MAJEURE:

If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract shall be prevented or delayed by reason of any war, hostility, acts of public enemy, civil commotion, sabotage, serious loss or damage by fire, explosions, epidemics/pandemic, strikes, lockouts or acts of God (hereinafter, referred to events) provided, notice of the happening of any such event is given by either party to the other within 30 days from the date of occurrence thereof, neither party shall by reason of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non-performance of delay in performance, and works under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, and the decision of the Engineer as to whether the works have been so resumed or not shall be final and conclusive, PROVIDED FURTHER that if the performance in whole or in part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 120 days, either party may at its option terminate the contract by giving notice to the other party.

1.2.11 AGREEMENT:

The successful tenderer shall within 14 (fourteen) days after having been called upon by notice to do so be bound to execute an agreement based on accepted rates and lodge the same with DFCCIL together with the conditions of contract, specification and schedule of prices referred to therein duly completed.

1.2.12 A)EXPENSES OF CONTRACTOR DRAWINGS ETC.:

Any calculation, designs, drawings, schedules information, progress charts etc. required by the purchaser's Engineers in connection with the contract, shall be furnished by the contractor at his own expenses.

B) CONTRACTOR'S DRAWINGS:

If required, before execution of the work the contractor shall submit to DFCCIL for approval, three copies of all required drawings, work schedule programme which are necessary to ensure correct/ satisfactory performance as detailed in tender papers.

1.2.13 SUB CONTRACTORS

The contractor shall not sublet any part of the work under this contract for the purpose of this. However contractor may enter into contract with supplier for supply of the material for the purpose of this work. However such suppliers should be approved sources of RDSO for materials for which RDSO approved sources are available.

1.2.14 DEFAULT AND DELAY

1.2.14.1 The contractor shall execute the work with due diligence and expedition keeping to the approved time schedule. Should he refuse or neglect to comply with any reasonable orders given to him in writing by the Engineer's representative in connection with the work or contrivance the provision of the contract or the progress of work lags persistently behind the time schedule due to his neglect, the purchaser shall be at liberty to give seven (7) days notice in writing to the contractor requiring him to make good the neglect or contravention complained and should the contractor fail to comply with requisition made in the notice within seven days from the receipt thereof, it shall be lawful for the purchaser to take the work wholly or in part, out of the contractor's hands without any further reference and get

the work or any part thereof as the case may be completed by other agencies at expense of the contractor without prejudice to any other right or remedy of the purchaser.

1.2.14.2 LOSS SUSTAINED DUE TO DEFAULT AND DELAY:

In the event of any loss to the purchaser on account of execution and/or completion of the work or any parts thereof by agencies other than the contractor, the contractor shall be liable to reimburse the loss to the purchaser without prejudice to any other right and remedies of the purchaser, and as the case may be met at the option, of the purchaser, from out of all or any of the following sources viz.

i) Any amount due and payable to the purchaser on any account whatsoever.
ii) The contractor's security deposit with the purchaser so far as available and
iii) Any other assets whatsoever belonging to contractor.

1.2.15 CONTRACTOR'S RESPONSIBILITY FOR DISCREPANCY:

a) All designs and drawings submitted by the contractor shall be based on thorough study and shall be such that the contractor is satisfied about their suitability. The purchaser's approval will be based on these considerations. Notwithstanding approval communicated by the purchaser, during the progress of the contract for designs and drawings, proto type samples of material after inspection of materials after erection and adjustments to installations the ultimate responsibility for correct designs and execution of work shall rest with the contractor.
b) The contractor shall be responsible for and bear and pay the costs for any alteration of works arising from any discrepancies errors or omissions in the design and drawings supplied by him, whether such designs and drawings have been approved by the Engineer or not.

1.2.16 Provision of Efficient and Competent Staff at Work Sites by the Contractor:

1.2.16.1 The Contractor shall place and keep on the works at all times efficient and competent staff to give the necessary directions to his workmen and to see that they execute their work in sound and proper manner and shall employ only such supervisors, workmen and labourers in or about the execution of any of these works as are careful and skilled in the various trades.

1.2.16.2 The Contractor shall at once remove from the works any agents, permitted sub-contractor, supervisor, workman or labourer who shall be objected to by the Engineer and if and whenever required by the Engineer, he shall submit a correct return showing the names of all staff and workmen employed by him.

1.2.16.3 In the event of the Engineer being of the opinion that the Contractor is not employing on the works a sufficient number of staff and workmen as is necessary for proper completion of the works within the time prescribed, the Contractor shall forthwith on receiving intimation to this effect deploy the additional number of staff and labour as specified by the Engineer within seven days of being so required and failure on the part of the Contractor to comply with such instructions will entitle the Railway/DFCCIL to rescind the contract under Clause 62 of these conditions.

1.2.17 Deployment of Qualified Engineers at Work Sites by the Contractor:

1.2.17.1 The Contractor shall also employ qualified Graduate Engineer(s) or equivalent, or qualified Diploma Engineer(s).

1.2.17.2 In case the Contractor fails to employ the Engineer, as aforesaid in Para 1.2.17.1, he shall be liable to pay liquidated damages at the rates, as prescribed in the tender documents.

1.2.18 WORKS BY OTHER AGENCIES:

Any other works undertaken at the same time by the purchaser or the DFCCIL direct or through some other agency at the same site where the contractor is carrying out his work will not entitle the contractor to prefer any claim, regarding any delays or hindrance he may have to face on this account. The contractor shall comply with any instructions which may be given to him by the purchaser in order to permit simultaneous execution of his own works and of those undertaken by other contractors or the DFCCIL without being entitled on this account to any extra charge.

1.2.19 ACCESS TO WORK SITE:

a) The purchaser shall afford access to the site for the purpose of this contract to the contractor at all reasonable times. In the execution of the work, no person other than the contractor or his only appointed representatives or approved sub contractor and bona-fide workman shall have access to site. Access to the site of work at all times shall be allowed by contractor to officials or approved representative of the purchaser or to DFCCIL staff for purpose of maintenance.

b) The purchaser or his authorized representative shall have the right to refuse admission to the work site to any. Person employed by the contractor to whom the purchaser or his engineer may consider undesirable.

c) The engineer or his representative shall be at liberty to object to the presence of any representative or other person employed by the contractor in or about the works on the ground of misconduct, incompetence or negligence, the contractor on receipt of notices of such objection in writing, shall forthwith remove the person so objected to and provide in his place another competent person and shall not allow such person to enter the site of work subsequently. The purchaser will not be able to pay any cost or damage on this account.

1.2.20 PENALTY FOR DELAY IN COMPLETION:

a) If the contractor fails to execute and complete the work within time specified in the agreement or within the period of extension granted except in so far that the delay is on the purchaser's account; the contractor shall accept reduction in the total amount payable to him by the purchaser at the rate of ½% (half percent) per week of the contract value for the actual delay occurred and until the work shall have been completed under the contract and such reduction shall be accepted by the purchaser in full satisfaction of the contractor's liability arising from delay only. The Engineer shall at his sole discretion, specify a time limit within which the unfinished portion of the work shall be completed. In the event of failure of the contractor, the purchaser shall be at liberty to take action in accordance with provision in GCC of Indian Railway, along with latest correction slips and amendments.

b) Extension of time- If aforesaid shall have arisen from any cause which the purchaser may admit as being a responsible ground for extension of time the purchaser shall allow such additional time as he may in his absolute discretion consider to be reasonably justified by the circumstances of the case.

c) The contractor in the presence of the purchaser or his representative shall carry out tests as required under the specification as soon as possible after commissioning. The contractor at his own expense shall carry out any other additional test that the purchaser may prescribe for testing the satisfactory operation of the plants. Necessary electrical power required in C/W the test will be supplied free of any charges by the purchaser. The contractor shall submit six copies of the results to the purchaser for acceptance. The contractor shall also submit 6 copies of the manufacturer's test certificates for equipment such as motor, cable etc.

d) Should the result of the test not be satisfactory, an extension of one month will be granted to the contractor to make good the defects and or any deficiencies pointed out by the purchaser a fresh test will then be carried out after the contractor has attended to the defects and deficiencies. If these do not yield satisfactory results, the purchaser may proceed at the contractor's expense, by all means as deemed expedient to have installation made satisfactory until they comply with the specification, approved drawings and designs.

e) In such a case or in a case of delay in completion of the work under this contract within the time limit, the purchaser reserves the right to get the work completed by contractor as per provisions of contract. The purchaser will give to the contractorfor this purpose 7 days previous notice. The contractor shall then take at his own expense all necessary steps to complete the works in accordance with the provision of the contract. In case it becomes impossible to proceed with the above mentioned taking over tests, for reason other than for which the contractor is responsible, the "Provisional Acceptance Certificate" shall be issued at or within a mutually agreed reasonable period not exceeding 6 months after completion of the work.

f) Imposition of token penalty for delay in the completion of work- Competent authority while granting extension to the currency of contract under clause 17 (B) of GCC may also consider levy of token penalty as deemed fit based on the meritof the case.

1.2.21 **FINAL ACCEPTANCE:**

a) The final acceptance of the entire plant shall take effect from the date of expiration of the period of guarantee provided the installations provisionally accepted are still in perfect working order.

b) If on the other hand the installations are not in the perfect working order at the end of the guarantee period the purchaser may either extend the period of guarantee until necessary works are carried out by the contractor, or carry out these works or have them carried out on behalf of the contractor and at his expense. A certificate of final acceptance shall then be issued by the purchaser, which will terminate the contract.

1.2.22 **MATERIAL**-All materials, components and fittings etc. to be supplied by the contractor shall be procured from reputed suppliers/ vendors/manufactures. Inspection of material to be done by RITES/3rd Party or authorized representative of Dy.CPM/EL/PRYJ (E) in OEM premises before dispatch. For low value item "on site inspection" will be done by authorized representative of Dy.CPM/EL/PRYJ (E). Firm will provide necessary document for the inspection

1.2.23 **Safety Gear**- During execution of the work, contractors shall ensure that all safety precautions are taken by their men to protect themselves and site to prevent any untoward incident. DFCCIL reserve the right to stop the work in the absence of proper

safety gear and no claim shall be entertained in this regard; decision of the Engineer-in-charge will be final and binding upon the contractor. The cost of all the safety gear is deemed to have been included in the rates quoted and nothing extra is payable under this contract.

1.2.24 TIME SCHEDULE: -

1.2.24.1 The entire work is required to be completed in all respects within 24 (Twenty four) month from the date of issue of acceptance letter/telegram. Time is the essence of contract. The contractor will be required to maintain steady and regular progress to the satisfaction of the engineer tensure that the work will be completed in all respects within the stipulated time failing which action may be taken by the DFCCIL Administration in terms of GCC of Indian Railway, along with latest correction slips and amendments.

1.2.24.2 The Contractor shall be expected to initiate work immediately after receipt of "**Letter of Acceptance**".

1.2.25 RATES: -

1.2.25.1 The rates quoted and accepted by DFCCIL shall be firm and final during the currency of contract.

1.2.25.2 All statutory taxes and liabilities levied/may be levied in future by the Central and State Government or any other governing authority/agency from time to time shall be borne bythe contractor and the rate shall be inclusive of all such liabilities.

1.2.25.3 GST is included for this tender.

1.2.25.4 The Work Provider will, for the purpose, aforesaid continuously monitor the Works being rendered by it to ensure that these are up to the standards required by DFCCIL.

1.2.26 TERMINATION OF CONTRACT: -

In case the work of the contractor is not found satisfactory, or there is a breach of any of the terms and conditions of the contract and/or fails/neglects to carry out any instruction issued to it by DFCCIL from time to time the same can be terminated by DFCCIL on giving of the notice as stipulated in GCC.

1.2.27 IMPLEMENTATION OF INTEGRITY PACT IN DFCCIL :-

As per office memorandum no F.No DPE/13(12)/11-Fin Dated 09.09.2011 issued by Ministry of Heavy Industries (DPE) all PSU should enter into Integrity pact in the required Performa in their procurement transaction/ Contracts with suitable changes specific to the situation in which the pact is to be used. The pact, entering into which would be a preliminary qualification for any bidder, essentially envisages an agreement between the prospective vendors / bidders and the DFCCIL, committing the persons/ officials on both sides not to resort to any corrupt practices in any aspect/ stage of the contract.
The pact has to be implemented through a panel of independent external monitor who will review independently and objectively the compliance of the obligations by both the parties. As these IEM's are to be appointed by the CVC in consultation with the CVO and are being processed separately.

A copy of pre contract integrity pact is enclosed at Annexure IX for signature of bidder

as acceptance, as and when Independent External monitor is appointed.

1.2.28 ORDER OF PRIORITY OF CONTRACT DOCUMENTS:-

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

i) The Contract Agreement.

ii) Letter of Acceptance.

iii) Tender Form

iv) General Information

v) Notice Inviting Tender (with Annexes)

vi) Instructions to Tenderers

vii) Special Conditions of Contract

viii) Annexures

ix) Bill of Quantities (BOQ)/Schedule of Rate

x) General Terms and Conditions of Contract

1.2.29 JURISDICTION OF COURTS:-

In case of any disputes/differences between contractor and DFCCIL the jurisdiction shall be of Prayagraj (UP) Courts only.

1.2.30 In case of any deviation in downloaded copy of the tender documents, the Master Copy kept in the office of Chief General Manager/PRYJ(E)/ DFCCIL, will prevail and the interpretation of CGM/ PRYJ will prevail.

1.2.31 **RISK PURCHASE:-** During execution of this Tender, if any delay is observed due to reasons attributable to tenderer other than force majeure conditions which may cause delay in completion of the work, DFCCIL shall be at liberty to cancel the contract, totally or partially, at any point of time without assigning any reason, whatsoever, and take alternative measures at your risk and cost.

1.2.32 Penalties for Safety Lapses:- Any violation in adhering to the terms and conditions stipulated in GCC would also attract to penalties payable by you as per GCC Provisions.

1.2.33 SECURITY DEPOSIT(SD):

Security Deposit shall be 5% of contract value. Security deposit may be deposited by contractor before release of first on account bill in cash or term deposit receipt issued from scheduled bank or may be recovered at the rate of 6% of the bill amount till the full security is recovered. Provided also that in case of defaulting contractor the railway may retain any amount due for payment to the contractor on the pending “on account bills” so that the amounts so retained (including amount guaranteed through performance guarantee) may not exceed 10% of the total value of the contract.

Further, in case of contracts having value equal to or more than ₹ 50 crore (Rs Fifty crore)the Security Deposit may be deposited as Bank Guarantee Bond also, issued by a scheduled bank after execution of contract documents, but before payment of 1st on account bill. Provided Further that the validity of Bank Guarantee Bond shall

be extended from time to time, depending upon extension of contract granted in terms theStandard General Conditions of Contract.

Further, in case Security Deposit has been submitted as Term Deposit Receipt/Bank Guarantee Bond in full amount, the Earnest Money deposited by the Contractor with histender will be returned by the Railways.

Note: After the work is physically completed as certified by competent authority, SecurityDeposit recovered from the running bills of a Contractor can be returned to him, if he so desires, in lieu of Term Deposit Receipt/irrevocable Bank Guarantee for equivalent amount from Scheduled Bank, to be submitted by him.

1.2.34 RELEASE OF SECURITY DEPOSIT(SD):

1.2.35.1 The Security Deposit mentioned above shall be returned to the Contractor along with or after, the following:

(a) Final Payment of the Contract

(b) Execution of Final Supplementary Agreement or Certification by Engineer that DFCCIL has No Claim on Contractor ***and***

(c) Maintenance Certificate issued, on expiry of the maintenance period.

1.2.35.2 Forfeiture of Security Deposit: Whenever the contract is rescinded as a whole under clause 62 (1) of GCC, the Security Deposit already with DFCCIL under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 62 (1) of GCC, the Security Deposit shall not be forfeited.

1.2.35.3 No interest shall be payable upon the Earnest Money (if any) and Security Deposit or amounts payable to the Contractor under the Contract, but Government Securities deposited in terms of Sub-Clause 1.2.36(b) of this clause will be payable with interest accrued thereon.

1.2.35 PERFORMANCE BANK GAURENTEE

The procedure for obtaining Performance Guarantee is outlined below:

(a) The successful bidder shall have to submit a Performance Guarantee (PG) within 21 (Twenty one) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 21 (Twenty one) days and upto 60 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 12% per annum shall be charged for the delay beyond 21(Twenty one) days, i.e. from 22ndday after the date of issue of LOA. Further, if the 60thday happens to be a declared holiday in the concerned office of the DFCCIL, submission of PG can be accepted on the next working day.

In all other cases, if the Contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract is liable to be terminated. In case contract is terminated DFCCIL shall be entitled to forfeit Bid Security and other dues payable to the contractor against that particular contract, subject to maximum of PG amount. In case a tenderer has not submitted Bid Security on the strength of their registration as a Startup recognized by Department of Industrial Policy and Promotion (DIPP) under Ministry of Commerce and Industry, DIPP shall be informed to this effect.

The failed Contractor shall be debarred from participating in re-tender for that work.

(b) The successful bidder shall submit the Performance Guarantee (PG) in any of

the following forms, amounting to 5% of the original contract value:-

(i) A deposit of Cash;

(ii) Irrevocable Bank Guarantee;

(iii) Government Securities including State Loan Bonds at 5% below the market value;

(iv) Pay Orders and Demand Drafts tendered by any Scheduled Commercial Bank of India;

(v) Guarantee Bonds executed or Deposits Receipts tendered by any Scheduled Commercial Bank of India;

(vi) Deposit in the Post Office Saving Bank;

(vii) Deposit in the National Savings Certificates;

(viii) Twelve years National Defence Certificates;

(ix) Ten years Defence Deposits;

(x) National Defence Bonds and

(xi) Unit Trust Certificates at 5% below market value or at the face value whichever is less. Also, FDR in favour of DFCCIL (free from any encumbrance) may be accepted.

(c) The Performance Guarantee shall be submitted by the successful bidder after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid upto the stipulated date of completion plus DLP plus 60 days beyond that. In case, the time for completion of work gets extended, the Contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days.

(d) The value of PG to be submitted by the Contractor is based on original contract value and shall not change due to subsequent variation(s) in the original contract value.

(e) The Performance Guarantee (PG) shall be released after physical completion of the work based on 'Completion Certificate' issued by the competent authority stating that the Contractor has completed the work in all respects satisfactorily.

(f) Whenever the contract is rescinded, the Performance Guarantee already submitted for the contract shall be encashed.

(g) The Engineer shall not make a claim under the Performance Guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:

(i) Failure by the Contractor to extend the validity

of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.

(ii) Failure by the Contractor to pay President of India any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the Agreement, within 30 days of the service of notice to this effect by Engineer.

(iii) The Contract being determined or rescinded under clause 62 of these conditions.

1.2.36 INSURANCE:

Before commencing of works, it shall be obligatory for the contractor to obtain, at his own cost, insurance cover (CAR policy) in the joint name of the contractor and employer from reputed companies under the following requirements:

(a) Liability for death of or injury to any person/ employer's staff / animals or things or loss of or damage to any property / things / the work of other contractor (other than the work) arising out of the performance of the Contract.

(b) Construction Plant, Machinery and equipment brought to site by the Contractor.

(c) Any other insurance cover as may be required by the law of the land.

The contractor shall provide evidence to the employer / Engineer before commencement of work at site that the insurances required under the contract have been effected and shall within 60 days of the commencement date, provide the insurance policies to the Employer/Engineer, the contractor shall, whenever, called upon, produce to the engineer or his representative the evidence of payment of premiums paid by him to ensure that the policies indeed continue to be in force. The Contractor shall also obtain any additional insurance cover as per the requirements of the Contract.

The Employer/Engineer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or his sub-contractor or petty contractor / other contractor working there. The Contractor shall indemnify and keep indemnified the employer / Engineer against all such damages and compensation for which the contractor is liable.

The Policies of the contractor shall remain in force throughout the period of execution of the works and till the expiry of the defect liability period except for any specific insurance covers necessary for shorter period.

If the Contractor fails to effect or keep in force or provide adequate cover as acceptable to the engineer in the insurance policies mentioned above, then in such cases, the engineer may effect and keep in force any such insurance or further insurance on behalf of the Contactor. The recovery shall be made at the rate of 1.5 times the premium/premiums paid by the engineer in this regard from the payment due to the Contractor or from the contractor's Performance security. However, the Contractor shall not be absolved from his responsibility and /or liability in this regard.

1.2.37 DEFECT LIABILITY PERIOD :

The period of defect liability for the works shall be 06 (six) Months starting from the date of completion of the work or as certified by the DFCCIL.

1.2.38 ELECTRICAL CONTRACTOR LICENSE:

Contractor must have valid Electrical Contractor License issued from appropriate government authority to execute mentioned works.

1.2.39 Engineering Organization

The Tenderer shall have adequate Engineering Organization required for the execution of the tendered work. The Tenderer shall submit the documents with regard to list of total personnel available and proposed to be engaged for the subject work in the Performa.

(i) Minimum gang size:

OHE Gang: Minimum 07 staff at IMD at DDUN, KCNN and 04 staff at IMSD at

DAPN, UNDN or as per advised by DFCCIL official as per requirement.

(a) **<u>One Supervisor In-charge:</u>** He should have minimum qualification & experience as details given in table under Para 1.2.41(a) below.

(b) **<u>Two Technicians/Fitters (Skilled):</u>** They should have minimum qualification & experience as details given in table under Para 1.2.41(a)below.

(c) **<u>Two Semi-Skilled</u> Technician:-** They should have minimum qualification & experience as details given in table under Para 1.2.41(a) below.

(d) **<u>Two Helpers (Un-Skilled):</u>** They should have minimum qualification & experience as details given in table under Para 1.2.41(a) below.

PSI Gang: Minimum 03 staff at IMD at DDUN, KCNN and 03 staff at IMSD at DAPN, UNDN or as per advised by DFCCIL official as per requirement.

(a) **<u>One Supervisor In-charge:</u>** He should have minimum qualification & experience as details given in table under Para 1.2.41(a) below.

(b) **<u>One Technicians/Fitters (Skilled):</u>** They should have minimum qualification & experience as details given in table under Para 1.2.41(a)below.

(c) **<u>One Semi-Skilled</u> Technician:-** They should have minimum qualification & experience as details given in table under Para 1.2.41(a) below.

However Contractor should ensure that sufficient manpower is made available during maintenance of different OHE/PSI assets as per site requirement.

Note: In case the deployed Supervisor will take leave or leaving his head quarter, contractor in position to deploy another employee having equivalent educational & experienced as "Supervisor" for the work.

(ii) **<u>Required gang size:</u>**

The contractor should proportionately increase the size of the gang tentatively (i.e. Technicians and Helpers) **to 0.13 staff per TKM as per site requirements. However contractor should ensure to depute sufficient gang strength such that the maintenance of OHE/PSI assets are completed as per defined periodicity for different items and there is no accumulation of significant overdue of maintenance of said assets.**

(iii) **<u>Suitable reliever:</u>**

Since OHE & PSI equipment maintenance work will be on all days the contractor should arrange necessary relief to the personnel working as per the labour laws from time to time for which no additional payment will be made by the DFCCIL. Each gang should work under the instruction of DFCCIL Incharges/supervisors. If performance of any contractor's staff is not found upto the mark, he should be replaced by suitable reliever within a week. If the staff is not replaced should be treated as absent and penalty should be imposed as per special conditions of contract.

(iv) **<u>Provisions of Payments of Wages Act:</u>**

The contractor shall comply with the provisions of the payment of wages Act 1936 with its latest amendments if any and the rules made there under in respect of all employees directly or through petty contractors or sub-contractors employed by him in the works.

(i) Monthly wages sheet Which includes all the details paid by Contractor EPF, ESIC, Bonus etc. should be prepared by contractor and submit to DFCCIL during claiming of bill. The wages sheet will be as per DFCCIL HQ/HR/3/Outsource Pol./9/201602199 dated 25.07.2017 and rate will be as per latest circular issued by office of Chief Labour commissioner ('C) New Delhi 26.09.2023.

(v) Any dispute regarding labour deployment as per LABOUR ACT i.e. payment, weekly rest, extra work, leave, medical benefit, VDA or any other claim of deployed labour should be set right by the contractor. DFCCIL will not responsible for the same.

1.2.40 Qualification of the contractor's Personnel for 2x25kV OHE & PSI equipment Maintenance work

(a) Contractor is required to deploy Supervisors, Technicians and Helpers round the clock, for all maintenance and restoration of 2x25kV OHE Breakdown works & trouble free operation of PSI equipment so that failure could be avoided. The contractor shall ensure the required minimum educational qualifications & experience for his deployed Supervisors, Technicians and Helpers as tabulated below:

EDUCATIONAL QUALIFICATION
Staff Qualification: Following stipulation are made:- **Supervisor staff:** The supervisory staff posted by the contractor should at least be Diploma/Degree holder in electrical Engineering discipline with minimum one year experience in execution/maintenance of OHE/PSI work **OR** should have worked at the supervisory level (SSE/JE of OHE/PSI) as relevant in Railway for a minimum period of 2 years in execution/maintenance of OHE/PSI work. **Technician:** The technician posted by the contractor should at least be ITI holder with minimum one year experience in execution/maintenance of OHE/PSI work **OR** Matriculation with minimum two-year experience in execution/maintenance of OHE/PSI work **OR** shouldhave worked as OHE/PSI technician in Railway Project for a minimum period of 2 years in execution/maintenance of OHE/PSI work. **Helper:-** The Helper posted by the contractor should at least Matriculation and knowledge of OHE/PSI system of Railway **OR** ITI **OR** Basic Knowledge of OHE/PSI system in railways.
Note: 1. The certificate of experience and qualification of employed staff should be submitted to DFCCIL.
2. The certificate of experience shall be countersigned by tender signing authority of the subject tender.

(b) Training to the contractor's personnel:

All the personnel desired to be deputed for this work including supervisors have to undergo a scrutinizing test conducted by GM/EL/DFCCIL, Dy.CPM/EL/DFCCIL or his authorized representative. Candidates found suitable shall be issued "competency certificate" by GM/EL/DFCCIL, Dy.CPM/EL/DFCCIL or his authorized representative and they will be finally put on job. The suitable candidates will be given an Identity card and a competency certificate validfor a period of currency of contract which they have to keep with them while on duty and for their movements in the DFCCIL work spots.

(c) Medical fitness certificates:

All the personnel whether undergone training as per Para 1.2.41(b) above OR having experienced as per Para 1.2.41(a) above shall undergo a scrutinizing test conducted by authorized representative of Dy.CPM/EL/PRYJ(E) of the respective section. Candidates found suitable shall be issued with competency certificate by respective authorized representative of Dy.CPM/EL/PRYJ(E).

All such selected staff of contractor shall medically fit for DFCCIL's working circumstances round the clock, for all maintenance and restoration of Breakdown. The contractor's personnel shall be healthy, physically fit, eye sight normal with spectacles, BP/Diabetes etc., disabling / debilitating diseases controllable by drugs, no contagious/infectious diseases, generally good physique.

Therefore, contractor's personnel proposed to deploy will have to pass **requisite medical** fitness test **"Category-A 3 for** Supervisor/Asst. Supervisor/ Technician and **Category-B 1 for** Helper**"** of DFCCIL Medical manual conducted by the DFCCIL Administration to ensure that the personnel medical fit to carry out the duties. The contractor shall get the operators to be deployed by him for the above medical checkup at his own cost.

d) Police verification:

The contractor shall ensure police verification for all the staff deployed by him against subject work and to certify to the DFCCIL administration that the **"staff is free from criminal record".**

e) Competency Certificate for 2x25kV Isolators (SP/DP) with or without Earthing Heel:

The contractor's personnel who are found to be qualified and suitable in the scrutiny by authorized representative of DFCCIL shall only be allowed to work. All the Supervisory Staff & Technicians of the contractors shall attend to the nominated officer of DFCCIL to take the counseling & training to operate 2X25 kV Isolators (SP/DP) with or without Earthing Heel. The competent staff shall be given a "Competency Certificate for 2X25kV Isolators" by the above nominated officer and it shall be carried by such staff while on duty on subject section.

f) Commencement of O.H.E and P.S.I. equipment Maintenance Contract at field:

The contractor shall commence OHE and PSI equipment maintenance work at field within 15 days from obtain a letter from competent authority of DFCCIL duly stating actual date of commencement of subject OHE and PSI equipment maintenance work and accordingly the completion period of contract (Twenty Four months) will be reckoned.

g) Subletting of Contract: The contractor shall not assign/sublet the contract in the interest therein or the part thereof to any other party or partner(s) without the consent of the DFCCIL.

h)Photo Identity Cards, Uniform & PPE equipments to the Contractor Staff Deployed:

The deployed staff should be taken on duty after approval of DFCCIL and necessary photo identity cards of the staff deployed shall be issued by the contractor duly attested by the DFCCIL. The Contractor shall submit a list of suitable persons to be deployed for subject OHE Maintenance work.

The personnel who are found to be qualified and suitable in the scrutiny by

representative of GM/ELor Dy.CPM/EL/PRYJ(E) of the respective division shall only be allowed to work. However, the contractor shall be solely responsible for the conduct of

the personnel deputed by him for the work.

The contractor shall arrange Identity cards valid only for a period of currency of contract for the suitable persons whom they have to keep with them while on duty and for their movements in the DFCCIL work spots.

The age of the contractor's personnel deputed for duty should be more than 18 years and less than 58 years as on date of commencement of work.

UNIFORM: Orange colour dungaree / allover with Retro reflective bond of min 2" width to be provided. Contractor will ensure minimum 3 uniforms for staff so that the staff are always in their protective uniform at work. The uniform shall bear Logo & Name of the Contracting Agency.

The contractor's staff shall not carry or display or exhibit any kind of advertisement on his person at DFCCIL/Railway premises.The contractor's personnel should have knowledge of Local language Hindi / English for speaking/writing. The contractor's personnel should not carry any unauthorized/dangerous/explosives inthe complex and

should not consume alcohol/intoxicating drugs etc. during duty hours. These staff should reside close to the contractor's Depot for easy approach during emergencies. Residential addresses and phone numbers of specified staff should be made available with Traction Power Control and relevant OHE depot.

The DFCCIL reserves the right to ask the contractor to remove any contractor's personnel from duty without assigning any reason whatsoever. The decision of DFCCIL's Engineer- in-charge will be final and binding on the contractor.

Any changes in the list shall be done with prior approval of Railway authority/DFCCIL.

1.2.41 <u>Safety during O.H.E & P.S.I. Maintenance work at field:</u>

The contractor shall ensure the safety of all the staff provided for maintenance of 2x25kV OHE & PSI equipment maintenance. In case of any injury or accident the contractor is liable for their compensation, DFCCIL will not take any responsibility to the contractor's provided labour.

(a) The contractor should maintain safety belts to his staff those authorised to work on the OHE, shockproof safety shoes, raincoats and helmets etc. to all his site staff and two red banner flags, two sets of hand flags should be maintained with each gang at his own cost.

(b) Communication facilities (cell phones) shall have for all the technicians and supervisors by 24x7 hrs.

(c) While working in normal maintenance, if any breakdown occurs in the section, the maintenance staff should be diverted to breakdown site immediately as per the direction of DFCCIL's representative.

(d) If any unusual occurrence/Breakdown taken place the contractor's staff should reach the breakdown vehicle within **20 minutes in day time and 25 minutes at night** time after receipt of the information from purchaser's representative and to report the purchaser's representative. The time of receipt of information should be recorded before DFCCIL representative and the call book memo should be jointly signed by the gang supervisor and DFCCIL's representative before

leaving to the breakdown site. In all such cases contractor should ensure full strength staff before leaving for the breakdown site.

(e) Contractor shall provide for transportation of his staff by road/train for foot patrolling /AT fuse replacement/foreign body removal/any other activities specified by DFCCIL's representative.

(f) Contractor shall be in position for arranging immediately attention of the defects noticed during various inspections for normal / emergency power block.

(g) The arrangement for the stay of the contractor's staff shall be made by the contractor at his own cost.

(h) Safety precautions to be followed as per safety plan/ maintenance manual.

(i) The contractor shall have to take all precautions to prevent possible electrical accidents due to proximity of adjacent live OHE always in live condition, unless otherwise a power block is granted on the adjacent line. The contractor shall also take all precautions to protect his staff working on the line against traffic (running of trains) on the working lines/adjacent lines.

1.2.42 Progress Monitoring of Maintenance Schedule:

Progress of One TKM of maintenance shall cover all the equipment uniformly. Completion of total TKM of a particular depot/section should ensure

completion of maintenance of all the pertaining equipment.

1.2.43 Tools and plants management:

(a) Though the tools required for the maintenance shall be provided by the purchaser as part of IMD/IMSD but contractor should have minimum set of Tools & equipment to cater maintenance of OHE & PSI in DDUN-KCNN section. (Attached at Appendix-2).

The proper upkeeping of tools and plants supplied to the contractor shall be responsibility of the contractor and any damage to these equipments other than normal wear & tear shall be recovered from the contractor. Any additional tools and plants required other than the tools provided by the purchaser for maintenance of the OHE/PSI shall be arranged by the contractor at his own cost.

(b) Periodical load testing of tools, tackles, plants shall be carried out to ensure healthiness and safety of equipment duly maintaining testing record equipment wise. Meters like dynamometer, etc., shall be calibrated & maintained for periodical testing of tools &plants.

(c) Each Technician shall maintain and carry individual tool boxes having full set of required tools and shall not resort to exchanging of tools during power block.

1.2.44 Depot At Site:

i. The Purchaser has established Integrated Maintenance Depot (IMD) and Integrated Maintenance Sub Depot (IMSD) at various stations and tools supplied by DFCCIL has to be well maintained by gangs in respective IMD/IMSD for carrying out the maintenance. Any theft or loss of tools shall be recovered from the Contractor.

ii. The main depot will be located at take-off station of the Siding/section. For the main and sub-depots, the Purchaser shall offer open space reasonably level and workable and suitable for storage of materials free of charge, inside DFCCIL

premises which will be convenient from the point of view of operation. The depot/s shall as far as possible be located such as to be accessible by road.

iii. Electricity may be supplied at places where spare capacity is available for running of machinery and for lighting. The Contractor shall provide his own electrical distribution system, in consultation and with the approval of the Purchaser. The cost of providing connections and of energy consumed shall be paid by the Contractor to the Purchaser in accordance with relevant rules and prevailing rates of the DFCCIL. The decision of the Purchaser in regard to supply of Electricity shall be final and binding on the Contractor.

iv. At places where piped water supply is available the Purchaser may supply water to the Contractor at convenient points for his office, workshops and stores if necessary in connection with the work. The Contractor shall arrange to lay his own pipe lines for distribution in consultation and with the approval of the Purchaser. The Contractor shall be charged for consumption of water at the prevailing rates. The decision of the Purchaser in regard to supply of water shall be final and binding on the Contractor.

v. The contractor shall hand over the depot, sub-depot area complete within a period of one month from completion of the work, cleaned of all Contractors' stores unless otherwise agreed to by the Purchaser.

vi. **Security to IMD/IMSD**: The requisite number of Security Guards round the clock for the IMD/IMSD depot will be the responsibility of DFCCIL/Employer.

1.2.45 Stores Management in Depot at Site

(a) The consumable material for the maintenance and replacement for the defective parts shall be provided by the purchaser. The material required for the maintenance shall be issued by authorized representative of Dy.CPM/PRYJ(E) available at IMD/IMSD. The material shall be issued to the contractor on demand as per the requirement of the maintenance in the section further the essential material issued to the contractor to attend 24x7 breakdowns shall lie with the contractor. The material shall only be issued to authorized person of the contractor.

(b) Maintenance of record for daily material transaction and entries in ledgers for the same should be carried out by the supervisory in-charge. Shortfall of consumed stores shall be recouped periodically so as to ensure that the minimum quantity is always available. During periodic inspections by DFCCIL officers, scrutiny of this inventory should be one of the important items in order that the required stores are always made available.

(c) OHE material/parts (spares) likely to be used during restoration of breakdown shall be systematically stocked in small bags as per the correct identification and for carrying to work spot.

(d) Consumption of emergency OHE material/parts (spares) used during maintenance / breakdowns shall be recorded location wise in the format of work progress and should be jointly signed by contractor and DFCCIL representative for proper accountable of inventory.

(e) DFCCIL will recoup, the consumed material/parts (spares) duly placing issue challan/voucher to the contract supervisor who shall be responsible to ensure the minimum quantity emergency spares is always available.

(f) All released materials shall be properly accounted location wise and returned to DFCCIL by return challan at the nominated purchaser's depot.

(g) List of spares to be maintained by the contractor at his depot is to be jointly finalized by the DFCCIL& contractor at the time of agreement. The contractor at his own cost maintain a depot for stacking of issued material in respective IMD/IMSD.

(h) Transportation of the purchaser supply materials from the nominated stores of the purchaser to the working site and vice-versa will be the responsibility of the contractor, whether specifically mentioned or not. DFCCIL will not give any transportation expense for transportation of these materials to the working site.

The receipt of storage of materials at the main and sub-depots shall be so planned as to avoid transport of materials between the main and sub-depot/s and vice versa to the maximum extent possible.

1.2.46 **Tower Wagon**:

For carrying out maintenance and other works on Section Insulators, cross-over/Turn-outs, Overlaps, attending spark locations, staggers, etc. **Tower Wagon will be spared by DFCCIL** to the extent of requirement.

1.2.47 POWER BLOCKS AND PERMITS-TO-WORK:

Obtaining "Power Block, Permit-To-Work" and "Restoration of Supply" after a Permit-To-Work is returned shall be carried out by the **'Authorized DFCCIL Section representative'** only with its latest correction slips if any. Contractor Supervisor shall not permit to do the above duties.

i. Availability of power block is dependent on traffic conditions and other operational exigencies. Hence, contractor should be prepared to mobilize staff for maintenance any time during day / night time upon one hour advance intimation from DFCCIL to ensure there is no shortfall in availability & utilization of power block.

ii. Power blocks are premium hours permitted by regulating trains. Hence, optimum utilization requires full deployment of manpower and multiple gangs.

iii. If work is to be carried out by contractor representative on or adjacent to any part of the electrical equipment such work shall not commence until the person in-charge of the work is in possession of a written permit-to-work in the prescribed form issued to him by an 'Authorized DFCCIL Person'.

iv. Such permits-to-work in the prescribed form shall only be issued by an 'Authorized DFCCIL Person' of the Electric Traction Branch not below the rank of an Executive.

v. The permit-to-work shall first be taken from TPC by an 'Authorized DFCCIL Person's who shall ensure earthing the electrical equipment specified and hand over a permit-to-work card to the person in-charge of the work getting an acknowledgment on the other copy. A duplicate copy of every permit-to-work card shall be retained in the personal possession of the 'Authorized DFCCIL Person' who issued it.

vi. On completion of the work and when all men and materials have been withdrawn from the electric equipment and its vicinity, the person in-charge of the working party shall cancel his permit-to-work card and return it to the 'Authorized DFCCIL Person' who issued it. The 'Authorized DFCCIL Person' shall in turn issue a

message to TPC to cancel permit-to-work.

vii. Knowledge of Rules and Sectioning:

1. It is very important for every contractor Supervisor who has occasion to ask for power block to know the correct method of identifying and describing any section of the OHE where shutdown is required. He should have with him the up to-date Station Working Rule Diagram for the section, showing all relevant particulars such as station names, position of all isolators, interrupters, circuit breakers, "up" and "down" tracks, cross- over section insulators, sectors, sub-sectors and elementary section numbers.

2. All contract staff shall be fully conversant with the "Rules & Safety Procedures" while working on TRD installations as laid down in maintenance manuals.

3. Competency certificates for working in 2x25kV electrified areas will be issued by DFCCIL as per the scope of work.

4. Safety precautions to be followed as per safety/maintenance manual.

1.2.48 Maintenance of schedules registers, records and forms:

(a) The contractor shall maintain records of maintenance, inspections, special checks, other works, etc., in the standard format of registers, records, and schedule forms as per the guide lines of circulated time to time. Vital OHE parameters recorded during maintenance shall be updated in the records, registers, forms for review of maintenance performance, remedial measures and further action plan to achieve high reliability.

(b) Each two copies of Drawings such as LOP, SED, Operation & Maintenance Manual and As build documents etc. of agreement work will be spared by DFCCIL at free cost.

(c) List of maintenance registers and forms to be maintained along with Joint procedure orders issued by DFCCIL on time to time.

1.2.49 BREAKDOWN GANGS:

(a) Accidents and breakdowns involving traction installations and electric rolling-stock should normally be attended to by the nominated contract gangs themselves. It is, however, essential that the contractor shall maintain adequate number of experienced staff comprising Technician, Helpers and Supervisors, housed close to IMD/IMSD. In electrified suburban sections, however, 'breakdown gangs' of adequate strength may be located at selected points to deal promptly with OHE failures, particularly during the hours of peak traffic. The breakdown gang comprising supervisory staff, technicians, helpers, etc., shall be fully aware of different skills required to tackle OHE breakdowns of various nature.

(b) **Summoning of Emergency Staff:** To enable the TPC to summon breakdown staff as required, a register showing the residential addresses with phone numbers of specified staff of the contract gang those residing close to depots/DFCCIL stations, shall be maintained depot-wise/station-wise by TPC.

(c) **Importance of Expeditious Repairs:** Every breakdown of OHE, even if minor in nature, should be attended to urgently as it generally interferes with traffic. Since electrified lines carry a high density of traffic, the effect on traffic will be quite severe if restoration is not arranged expeditiously.

(d) **Detailed Assessment by The First Supervisor Reaching Site:** The first Supervisor / staff reaching the site of the breakdown should make a quick assessment of the extent of damage and the time required for restoration. He

will ascertain from TPC the details of break-down gangs and equipment directed to the site and if the circumstances warrant, ask for additional gangs and breakdown equipment to be sent to the site. On receipt of these details, TPC should arrange for additional gangs and equipment to be sent to the site expeditiously. In the meanwhile, isolation and repair works should be started at site.

1.2.54 Power Block Working – Protection of Men Working:

(i) DFCCIL will arrange only power block for the works related to power block depending on the traffic and other conditions. The contractor shall ensure the removal of men and material before cancellation of power block. The contractor shall have to take full advantage of available power block by employing adequate staff for getting the maximum possible work done during the available block period. For adhering to target date of completion, the contractor may have to work during night time under power block for which the contractor is not entitled for any additional payments.

(ii) The contractor shall take all precautions necessary to protect staff working under him. The contractor shall treat all other lines live except the line under Power block. He should ensure execution of work under the supervision of a competent person to carry out the work in electrified areas. Unless the adjacent lines are also under power block, voltage and currents will be induced in the line under power block. To protect against these induced voltages and currents, earth discharge rods are to be provided. Care should be taken by the contractor that these discharge rods are intact and not disturbed by his staff. He shall also ensure that none of the staff working under him shall work/reach beyond safe working limits

(iii) Under all conditions the contractor shall have to arrange protection of his staff against traffic. He shall have to also take all necessary precautions to guard against any possible obstructions to traffic during working by providing necessary staff while erection/dismantling of structures, coverage of excavated foundation pits with sand filled bags to keep free of stacked materials from obstructions to traffic etc.,

(iv) At the end of each power block work the contractor shall ensure removal of all men and material and no work inclusive of OHE should be left out in a state of obstruction to running of trains and the OHE should be made fit for electric traffic, failing which DFCCIL will remove such obstructions and the Contractor will be liable to pay cost of such removal.

(v) If the contractor fails to execute and to work within the time of power block granted, DFCCIL shall be at liberty to take action and recover penalty for availing additional power block in accordance with standard practice of the DFCCIL. The contractor shall in consultation with the - DFCCIL submit a weekly power block programmed for work, 7 days in advance of the commencement of work.

1.2.55 Right to Alter the Scope of Work:

The Employer reserves the right **"to alter the scope of work".**

1. **The General conditions of Contract governing the performance of the works covered by this tender are the** "General conditions of Contract (Apr-2022) or

latest" **of the Engineering Department of the RAILWAY/DFCCIL as amended from time to time up to date. A copy of the book-let incorporating the above "General Conditions of Contract (Apr-2022)" may be perused in the Office of CGM/PRYJ(E) of respective division.**

2. If there is any conflict between **"Special conditions"** and "**General conditions of contract",** the conditions laid down in **"Special conditions"** will be sustained.

3. **Inspection:**
Quality of schedule maintenance and other works carried out by the contractor are subject to periodical inspections by Purchaser's Engineers of various levels as per the schedules laid down by DFCCIL. Any shortfall in the quality of work shall be subject to penalties/Recoveries as per prevailing conditions.

4. **DEDUCTION OF INCOME TAX AT SOURCE**:
In terms of new section 194-C inserted by the finance act 1972, in the income tax 1961, the DFCCIL shall at the time of arranging payments to the contractor for carrying out any work (including supply of labour for carrying out any work) under the contract, be entitled to deduct income tax at source on income comprised in the sum of each payment.

5. **DEDUCTION OF TAX AT SOURCE:**
All statutory and govt. charges will be deducted at source in effect from time to time.

6. **Legal Charges:**
A fee of Rs. 200/- per legal document, like partnership deed or power of attorney executed before or after the execution of the contract, will be recovered from the contractor for obtaining legal Advice from Law Officer.

7. **Completion of Work**:
The contractor shall commence the work as specified in Chapter-IV of **"Scope of work & Explanatory Notes"** and shall complete the work in all respects as specified in tender details**.**

8. The DFCCIL attach utmost importance to the timely completion of the work on or before the date contracted for. In this connection, the attention of the contractor is specially invited to the clauses regarding 'Liquidated damages' and termination of contract owing to default of contractor provided for in General Conditions of Contract.

9. **Guarantee:**

Since it is for manpower of 2x25kV Overhead equipment and Power supply installation equipment maintenance, the contractor shall guarantee satisfactory working of the installation of 2x25kV OHE and PSI equipment maintained by him upto the satisfaction of engineer in charge. This being maintenance contract warranty after completion period not applicable. During the period of guarantee contractor shall keep available and attend to any defect and replace the equipment/components resulting from defective erection or defects in the equipment supplied by the contractor.

10. **Defence of Suit**

If any action in court is brought by third party against DFCCIL or Officer or agent of DFCCIL for the failure or neglect on the part of the contractor to perform any acts, matters, covenants or things under the contract, of for any damage or injury caused by the alleged omission or negligence on the part of the contractor, his agents/ representative or his sub contractor , drivers or employees, the contractor/

agency shall in such cases be responsible & indemnify & keep DFCCIL & or his representative harmless from all losses, damages, expenses or decrees arising out of such action.

1.2.56 NON-PERFORMANCE OF THE CONTRACT CONDITIONS

1. Penalties

A) Recovery due to shortfall in staff per Supervisor, Skilled / Un-skilled staff:

The staff should be available 24 hours X 7 days of the week. The contractor should ensure the availability of full strength gang every day. The deployed staff should give their attendance to the depot in-charge before leaving to work site. No staff should leave the work site without intimating the DFCCIL's representatives. Failing to do so will be treated as absent.

In case of absentee of staff to the provided gang, the contractor should ensure the suitable replacement to make the full strength gang. If the contractor fails to provide the suitable replacement a penalty of **1000/- per day of Supervisor and 500/- per day Skilled / Un- skilled staff** to deducted from contractor's monthly bill.

B) Recovery Due To Poor Maintenance / Fail To Utilize Power Block / Poor Progress for every Hour of Power Block Utilized /Bursting of Power Block:

If breakdown occurs due to poor maintenance, fail to utilize power block, poor progress for every hour of power block utilized , bursting of power block and proved in joint findings a penalty of **Rs.20,000/- on flat rate basis per occasion. For power block burst less than or more than hour, penalty shall be imposed on pro-rata basis.**

The deficiency is not checked the equipment as per standard proforma enclosed with tender book OR not carried out the upto the satisfaction of maintenance manual/DFCCIL work. Delay in the scheduled maintenance of equipments for more than a month will also call for a penalty of Rs. 500 per day after grace period of one month.

In addition of above not attending the break down maintenance of the equipments with in twelve hours from information given by TPC/APM/Incharge to the contractor, a penalty of Rs. 50000/- per break down will be levied.

C) Recovery due to wrong operation of equipment:

On duty contractor personnel shall follow the instructions of DFCCIL Supervisor on duty for the maintenance of 2x25kV OHE equipment. If the contractor personnel performs any wrong operation of equipment, a penalty of **Rs.5,000/- per occasion, if there is no operational delay and no financial repercussion.** However if there is any financial repercussion, in that case, penalty will in consonance with the loss as approved by tender accepting authority. Also, if the train services are affected particular operator shall be debarred from duties against subject agreement in addition to levy of penalty.

The cost of the damages/loss, if any, caused due to the negligence/fault of the contractor's personnel, to the DFCCIL property shall be recovered from the contractor. The recovery shall be made inclusive of all contingencies by the DFCCIL.

D) Recovery due to contractor's personnel is found without Identity Card:

If the contractor's personnel is found without Identity card, found in untidy condition,

having improper conduct, found not obeying the instructions of Engineer In-Charge of DFCCIL, a penalty of **Rs. 500/-** shall be levied and recovered from Contractor's bill for each such instance. If such deficiencies are found to be more than 5 in a month, it

may be a ground for termination of the contract. Also the contractor's personnel shall be dealt according to the DFCCIL rules in force from time to time.

E) **Recovery due to Non-Returning of T&P supplied by DFCCIL:**

Any T&P items supplied to the contractor for the maintenance of OHE & POS installations "over and above" to the quantities provided under "Scope of the work and Special conditions", if supplied by DFCCIL in Break downs, the contractor should liable for safe return of the same. If the contractor fails to return such materials, the cost of such materials will be recovered at twice the book rate or twice the market rate enhanced by 5000/- per incident for integrity breach.

F) **Recovery Due To fails to return unutilized DFCCIL supply materials:**

The material issued to the deployed staff for maintenance/replacement of existing OHE on day to day basis before leaving to the work site as per programmed assigned by the depot in-charge, the unused materials and released materials should be handed over to the depot in-charge at depot premises after completion of day's work. **If the contractor fails to return such materials, the cost of such materials will be recovered at twice the book rate or twice the market rate enhanced plus Rs 5000/-.**

G) **Recovery Due To state of Intoxication**

While working, contractor's personnel should not smoke or consume any alcohol / liquor or be in a state of intoxication. In case if it is noticed any time that they are either smoking or under influence of intoxication, penalty of **Rs. 10,000/- per occasion per incident** shall be imposed to the contractor and the particular contractor's person shall not be allowed to duties further period of subject contract.

The penalties as mentioned above may be imposed simultaneously.

1.2.57 SETTLEMENT OF DISPUTES - DFCCIL ARBITRATION RULES

1.2.57.1 Matters finally determined by the DFCCIL All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the contractor to the CGM/PRYJ(E) /DFCCIL shall within 120 days after receipt of the contractor's representation make and notify decisions on all matters referred to by the contractor in writing provided that matter for which provision has been made in clauses or in any special clause of the conditions of the contract shall be deemed as "excepted matters" (matters not arbitrable) and decisions of the DFCCIL authority, thereon shall be final and binding on the contractor; provided further that "excepted matters" shall stand specifically excluded from the purview of the arbitration clause.

1.2.57.2 Demand for Arbitration:-

1. In the event of any dispute or difference between the parties hereto as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, dispute or difference on any account or as to the withholding by the DFCCIL of any certificate to which the contractor may claim to be entitled to, or if the DFCCIL fails to make a decision within 120 days, then and in any such case, but except in any of the "excepted matters" referred to in clause18.0 of these conditions, the contractor, after 120 days but within 180 days of his

presenting his final claim on disputed matters shall demand in writing that the dispute or difference be referred to arbitration.

2. The demand for arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim item wise. Only such dispute or difference, in respect of which the demand has been made, together with counter claims or set off, given by the DFCCIL, shall be referred to arbitration and other matters shall not be included in the reference.

3. a) The arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by the DFCCIL.

   b) The claimant shall submit his claim stating the facts supporting the claims along with all the relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal.

   c) The DFCCIL shall submit its defence statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claims from Tribunal thereafter, unless otherwise extension has been granted by Tribunal.

   d) The place of arbitration would be New Delhi

4. No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original claim or defence thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.

5. If the contractor(s) does/do not prefer his/their specific and final claims in writing, within a period of 90 days of receiving the intimation from the DFCCILs/DFCCIL that the final bill is ready for payment, he/they will be deemed to have waived his/their claim(s) and the DFCCIL shall be discharged and released of all liabilities under the contract in respect of these claims.

1.2.57.3 Obligation during Pendency of Arbitration:

Work under the contract shall, unless otherwise directed by the Engineer, continue during the arbitration proceedings, and no payment due or payable by the DFCCIL shall be withheld on account of such proceedings, provided, however, it shall be open for Arbitral Tribunal to consider and decide whether or not such work should continue during arbitration proceedings.

1.2.57.4 Appointment of arbitrator

a. i). In cases where the total value of all claims in question added together does not exceed Rs.25,00,000 (Rupees Twenty five lakhs only), the Arbitral tribunal shall consist of a sole arbitrator nominated by the MD/DFCCIL The sole arbitrator shall be appointed within 60 days from the day when a written and valid demand for arbitrator is received by MD/DFCCIL .

ii). In cases not covered by the above clause, the Arbitral Tribunal shall consist of a Panel of three officials, as the arbitrators. For this purpose, the DFCCIL will send a panel of more than 3 names of DFCCIL officers which may also include the name(s) of Officer(s) empanelled to work as Arbitrator to the contractor within 60 days from the day when a written and valid demand for arbitration is received by the MD/DFCCIL. Contractor will be asked to suggest to MD/DFCCIL at least 2 names out of the panel for appointment as contractor's

nominee within 30 days from the date of dispatch of the request by DFCCIL. The MD/DFCCIL shall appoint at least one out of them as the contractor's nominee and will, also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the „presiding arbitrator" from amongst the 3 arbitrators so appointed. MD/DFCCIL shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of contractor's nominees. While nominating the arbitrators it will be necessary to ensure that one of them is from the Accounts department. An officer of selection grade of accounts department shall be considered of equal status to the officers in SA grade of other department of DFCCIL for the purpose of appointment of arbitrator.

iii). If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or vacates his/their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the MD/DFCCIL fails to act without undue delay, the MD/DFCCIL shall appoint new arbitrator/arbitrators to act in his/their place in the same manner in which the earlier arbitrator/arbitrators had been appointed. Such re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator(s).

iv).The arbitral Tribunal shall have power to call for such evidence by way of affidavits or otherwise as the arbitral Tribunal shall think proper, and it shall be the duty of the parties hereto to do or cause to be done all such things as may be necessary to enable the arbitral Tribunal to make the award without any delay. The arbitral Tribunal should record day-to-day proceedings. The proceedings shall normally be conducted on the basis of documents and written statements.

v). While appointing arbitrator(s) under sub-clause (i), (ii) & (iii) above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract relates or who in the course of his/their duties as DFCCIL servant(s) expressed views on all or any of the matters under dispute or differences. The proceedings of the arbitral Tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.

a. **i)** The arbitral award shall state item wise, the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award could be inferred there from.

ii) A party may apply for corrections of any computational errors, any typographicalor clerical errors or any other error of similar nature occurring in the award of a tribunal and interpretation of a specific point of award to tribunal within 60 daysof receipt of the award.

iii) A party may apply to tribunal within 60 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

1.2.57.5 In case of the Tribunal, comprising of three Members, any ruling onaward shall be made by a majority of Members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.

1.2.57.6 Where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is

made.

1.2.57.7 The cost of arbitration shall be borne by the respective parties. The cost shall inter-alia include fee of the arbitrator(s), as per the rates fixed by the DFCCIL from time

to time and the fee shall be borne equally by both the parties.

1.2.57.8 Subject to the provisions of the aforesaid Arbitration and Conciliation Act 1996 and the rules there under and any statutory modifications thereof shall apply to the arbitration proceedings under this clause.

1.2.58 SAFETY PRECAUTIONS TO BE TAKEN AT WORK SITE:

The contractor shall not allow any road vehicle belonging to his or his Contractors etc. to ply in railway land next to the Railway line. If for execution of certain works, viz., earthwork and transportation of materials etc. road vehicles are necessary to be used in railway land next to the railway line the contractor shall apply to the Engineer-in-charge for permission giving the type and number of individual vehicles, names and license particulars of the drivers location duration and timings for such works/movement. The Engineer-in-charge or his authorized representative will personally counsel, examine and certify the road vehicle drivers, contractor's flagmen and Supervisor and will give written permission giving names of road vehicle drivers, contractor's flagmen and supervisor, to be deployed on the work, location, period and timing to the work. This permission will be subject to the following obligatory conditions.

i) Road vehicles can ply along the track after suitable cordoning of track with minimum distance as per site condition and instructed by Engineer from the center of the nearest track. For ply of road vehicles during night hours, adequate measures to be communicated in writing along with a site sketch to the contractor/contractor's representative and controlling engineers/supervisors in charge of the work including officers and the in-charge of the sections.

ii) Nominated vehicles and drivers will be utilized for work in the presence of at least one flagmen and one supervisor certified for such work. The flagmen/supervisor as required shall be arranged by contractor and no separate payment shall be made for this.

iii) The Contractor shall remain fully responsible for ensuring safety and in case of any accident, shall bear cost of all damages to this equipment and men and also damages to railway and its passengers.

Engineer-in-charge may impose any other conditions necessary for a particular work or site.

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PART -I

CHAPTER -III

PRICES AND PAYMENT

1.3.1 SCOPE

This chapter deals with prices to be paid for supply and/or erection of various items of work or for suppliers and other amounts payable in accordance with accepted schedules of prices and rates and terms and conditions of payment mentioned herein. This is a works contract. The total prices for the completed items of work are the actual prices payable to the Contractor as per the terms and conditions of the contract.

1.3.2 SCHEDULE OF PRICES

(a) The unit rates given against various items of work in tender papers are the standard schedule of rates. The tenderers are required to quote uniform percentage below / at par / above against the total estimated cost of work. The actual payment to be made against any item of schedule of rates, shall be derived after loading the schedule of rates with the tenderer's quoted percentage. The prices so obtained shall be the unit prices for the various items of work given in schedule of rates.

(b) UNIT PRICES FOR MATERIALS.

The unit prices for supply indicated in the schedule of rates are inclusive of the prices of materials including all incidental charges for transport, loading/unloading and handling of materials, commission for arranging dispatch by rail/road direct from manufacturer's factory and completing all necessary formalities in this respect, such as submission of forwarding notes, arranging placement of wagons, collection of railway/DFCCIL receipt, conservancy charges as applicable from time to time, all insurance premium, bankers charges for bank guarantee, indemnity bonds inclusive of cost of stamps, etc. as also siding or shunting charges, if any levied by the Railway/DFCCIL. The unit prices includes all taxes, duties and levies (include Works Contract Tax) applicable on this works contract. Therefore, they should quote their prices taking into account the rate of taxes as leviable in the event of sale through works contract to the Central Railway Organization in that state and present tax structure applicable. Necessary, Sales Tax concessional Form A/D and Octroi exemption certificate will be issued by DFCCIL/Railways on written request of the contractor. No reimbursement on account of Octroi duty will be entertained by the purchaser. The price are inclusive of provision for losses and wastages in transit and erection.

(c) OTHER PRICE ADJUSTMENT

The price adjustment of unit prices or prices of fittings, materials, equipment or components on account of prices fluctuation of raw materials will be permitted as per para-1.3.18. No adjustment on account of variation in insurance and freight charges (Road or Rail) will be permitted.

(d) QUANTITIES

The approximate estimated quantities of various items or works are included in Schedule. However, the contractor will work out the quantities based on approved drawing for schedule and get it approved from the purchaser before placing order.

(e) EXPLANATORY NOTES

Explanatory notes for various items of work included in Schedule, are given in Part-I, Chapter-IV.

1.3.3 NON-SCHEDULE & ADDITIONAL SUPPLIES:

1.3.3.1 NON-SCHEDULE ITEMS:

i) If during the execution of the work, the contractor is called upon to carry out any new item of work not included in Schedules, the contractor shall execute such works at such price as

may be mutually agreed with the Purchaser before commencement after obtaining the competent authority's approval and sanction. The rates will be based on the Rly's LOA/rate analysis as per the current market / prevalent rates of such or similar items available with the DFCCIL/Railway Administration in that or nearby areas.

ii) Provided that if the Contractor commence work or incurs any expenditure in regard thereto before the rates are determined and agreed upon as lastly hereon-to-fore mentioned, then and in such a case the Contractor shall only entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of determination of the rates as aforesaid according to the rates as shall be by the Purchaser. However, if the contractor is not satisfied with the decision of the Purchaser in this respect, he may appeal to Chief General Manager within 30 days of getting the decision of the Purchaser, supported by analysis of the rates claimed. The Chief General Manager's decision after hearing both the parties in the matter would be final and binding on the contractor and the DFCCIL.

1.3.3.2 PRICE OF ADDITIONAL SUPPLIES:

The additional supplies of individual scheduled items, if necessary, will be taken over from the contractor at the rate of the bid received.

1.3.4 PAYMENTS AND RECOVERIES:

a) No advance payment shall be made to the contractor. However, on account payment will be made against receipt of materials at site and also progressive payments will be made for each item of work during the erection stage.

b) Subject to any deductions or recoveries which the purchaser be entitled to make under the Contract, the contractor shall unless otherwise agreed to been titled to get the following payments subject to conditions stipulated in subsequent paragraphs.

i) Progress payments for supply and erection

iii) Payments for additional supplies

iv) Payment for provisional acceptance

v) Payment for surplus materials taken over

vi)Payment for T&P and Maintenance Spares.

vi)Final settlement.

1.3.5 INVOICING PROCEDURE:

(a) The contractor shall submit his invoicing procedure for approval by the DFCCIL's representative within two months from the date of receipt of letter of acceptance of tender. Separate invoices shall be submitted for different type of payments mentioned above. All invoices shall be submitted with original supporting documents or certified true copies of supporting documents wherever these are acceptable to the purchaser's engineer. Where copies of original documents are required in support of several invoices, true certified copies of the original documents may be forwarded to the purchaser's engineer with his consent.

(b) Invoices shall be submitted only on the basis of agreed principles and prices, quantities and measurement of works completed shall be approved by the purchaser's engineer prior to the submission of invoices. For this purpose, the Schedule of quantities and measurements submitted by the contractor for approval of the DFCCIL's engineer may be only up to the extent of work.

(c) All invoices /Bills shall be accompanied by the following

1. Supplier Challans
2. Commissioning certificate granted by the concern Engineer Incharge's authorized representative
3. Certificate of receipt of material duly accepted by the concern Engineer Incharge's authorized representative

1.3.6 TERMS OF PAYMENT

A. Payment

A.1 Payments for erection and commissioning included in schedule shall be made in

stages as under;

a. 100% payment as per rates indicated in schedule along with percentage accepted will be made after Execution of work as per schedule.

1.3.7 Payment for additional supplies:

The contractor shall receive payment for additional supplies and erection in accordance with conditions stipulated in Para 1.3.3.1.

1.3.8 Final settlement: On Successful completion of guarantee period and issue of certificate of final acceptance of entire installations, the security deposit will be refunded /returned to the contractor after adjustment of any dues payable by the contractor to the purchaser.

1.3.9 MEASUREMENTS:

(a) Payments for field work shall be made in accordance with approved designs and drawings and measured in relevant units, except where provided for otherwise. In case the dimensions of the work are more than those shown in approved designs and drawings, the contractor will not be entitled to any extra payment, unless dimensions were increased on account of physical impossibility of carrying out the work

(b) in accordance with approved drawings and designs. In case the dimensions of the work are less than those shown in the approved designs and the drawings and the work is accepted without being rejected, payment will be made as per work actually done.

(c) The measurement will be made generally in accordance with standard engineering practice conformity with the Explanatory notes for Schedule in Part-I, Chapter- IV of the tender documents.

1.3.10 TAXES:

(a) The Contractor and all personnel employed by him shall pay such taxes like income tax as are payable under statutory laws of India and the Purchaser will not accept any liability for the same.

(b) Deduction of income tax at source as per provision of finance act and income tax act in force may be made from the Contractor/sub-Contractor and the amount so deducted may be credited to the Central Government.

(c) Tenderers will examine the various provisions of the Central Goods and Services Tax Act 2017 (CGST) goods and Services Tax Act, 2017 (IGST)/ Union territory Goods and services Tax Act, 2017 (UTGST)/ respective state's State Goods and Services Tax Act (SGST)also as notified by Central/State Govt & as amended from time to time and applicable taxes before bidding. Tenderers will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.

(d) The successful tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to railway immediately after the award of contract, without which no payment shall be released to the contractor. The contractor shall be responsible for deposition of applicable GST to the concerned authority.

(e) In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, the railway shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.

1.3.11RELEASE OF PERFORMANCE GUARANTEE:

The Performance Guarantee (PG) shall be **released after physical completion of the work** based on 'Completion Certificate' issued by the competent authority stating that the Contractor has completed the work in all respects satisfactorily.

1.3.12 RELEASE OF SECURITY DEPOSIT:

Security Deposit shall be returned to the Contractor after the following:

(a) Final Payment of the Contract as per relevant GCC clause and
(b) Signature of Final Supplementary Agreement or Certification by Engineer that DFCCIL has No Claim on Contractor and
(c) Issue of Maintenance Certificate on expiry of the maintenance period as per relevant GCC clause.

Forfeiture of Security Deposit:

Whenever the contract is rescinded as a whole under relevant GCC clause, the Security Deposit already with Railways/DFCCIL under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under relevant GCC clause the Security Deposit shall not be forfeited.

No interest shall be payable upon the Earnest Money (if any) and Security Deposit or amounts payable to the Contractor under the Contract, but Government Securities deposited, will be payable with interest accrued thereon as per relevant GCC –Clause.

1.3.13 RATES FOR ITEMS OF WORKS:

(A) The rates, entered in the accepted Schedule of Rates of the Contract are intended to provide for works duly and properly completed in accordance with the General and Special (if any) Conditions of the Contract and the Specifications and drawings together with such enlargements, extensions, diminutions, reductions, alterations and without prejudice to the generality thereof and shall be deemed to include and cover superintendence and labour, supply, including full freight of materials, stores, patterns, profiles, moulds, fittings, centerings, scaffolding, shoring props, timber, machinery, barracks, tackle, roads, pegs, posts, tools and all apparatus and plant required on the works, except such tools, plant or materials as may be specified in the contract to be supplied to the Contractor by the Railway, the erection, maintenance and removal of all temporary works and buildings, all watching, lighting, bailing, pumping and draining, all prevention of or compensation for trespass, all barriers and arrangements for the safety of the public or of employees during the execution of works, all sanitary and medical arrangements for labour camps as may be prescribed by the DFCCIL, the setting of all work and of the construction, repair and upkeep of all centre lines, bench marks and level pegs thereon, site clearance, all fees duties, royalties, rent and compensation to owners for surface damage or taxes and impositions payable to local authorities in respect of land, structures and all material supplied for the work or other duties of or expenses for which the Contractor may become liable or may be put to under any provision of law for the purpose of or in connection with the execution of the contract and all such other incidental charges or contingencies as may have been specially provided for in the Specifications.

However, if rates of existing GST or cess on GST for Works Contract is increased or any new tax /cess on Works Contract is imposed by Statute after the date of opening of tender but within the original date of completion/date of completion extended under relevant GCC clause and the Contractor thereupon properly pays such taxes/cess, the Contractor shall be reimbursed the amount so paid.

Further, if rates of existing GST or cess on GST for Works Contract is decreased or any tax/cess on Works Contract is decreased / removed by Statute after the date of opening of tender, the reduction in tax amount shall be recovered from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India.

(B)PRICE VARIATION CLAUSE in Works Contracts is dealt with in accordance with provisions of **GCC April 2022 with latest amendments & correction slips.**

B.1 Applicability: Price Variation Clause (PVC) shall be applicable only in tender having

advertised value above **Rs. 2 Crores**. Provided further that, in a contract where PVC is applicable, following shall be outside the purview of price adjustments (i.e., shall be excluded from the gross value of the work for the purpose of price variation):

a) Materials supplied by DFCCIL to the Contractors, either free or at fixed rate;

b) Any extra item(s) included in subsequent variation falling outside the purview of the Bill(s) of Quantities of tender, under clause 39. (1)(b) of these Standard General Conditions, unless applicability of PVC and 'Base Month' has been specially agreed, while fixing the rates of such extra item(s).

B.2 Base Month: The Base Month for 'Price Variation Clause' shall be taken as the one month prior to closing of tender, unless otherwise stated elsewhere. The quarter for applicability of PVC shall commence from the month following the Base month. The Price Variation shall be based on the average Price Index of the quarter under consideration.

B.3 Validity:
Rates accepted by DFCCIL Administration shall hold good till completion of work and no additional individual claim shall be admissible except:
(a) Payment/recovery for increase/decrease in GST on works contract or imposition/removal of any tax/cess on Works Contract as per Clause 37,
(b) Payment/recovery for overall market situation as per Price Variation Clause given hereunder.

B.4 Components of various items in a contract on which variation in prices be admissible shall be steel, cement, ferrous material, non-ferrous material, insulators, zinc and other materials, labour, plant & machinery, fuel, explosives, detonators etc. Adjustment for variation in prices of these items shall be determined in the manner prescribed.
B.5 No price variation shall be admissible for fixed components.
B.6 The percentages of various components in various type of works shall be as specified for all item (s)/ Bill(s) of Quantities in tender document and the same shall be fixed as per table & classifications given below:

(I). <u>For Civil Engineering Works: Deleted</u>

(II) <u>For DFCCIL Electrification Works</u>:

(viii) $T = [0.4136x(C_Q – C_B) / C_B] \times 85$
(ix) $R = [0.94x(R_T - R_O) / R_O + 0.06x(Z_T - Z_O) / Z_O] \times 85$
(x) $N = [(P_T - P_O) / P_O] \times 85$
(xi) $I = [(I_T – I_O) / I_O] \times 85$
(xii) $G = [(M_Q - M_B) / M_B] \times 85$
(xiii) $Er = [(L_Q - L_B) / L_B] \times 85$
Where,
L: Amount of price variation in Labour
M: Amount of price variation in Materials
F: Amount of price variation in Fuel
E: Amount of price variation in Explosives
PM: Amount of price variation in Plant, Machinery and Spares
S: Amount of price variation in Steel Supply Item
C: Amount of price variation in Cement Supply Item
T: Percentage variation payable on the gross value of bill of Concreting (Bill(s) of Quantities for

concrete items)

R: Percentage variation payable on the gross value of bill of Ferrous Items (Bill(s) of Quantities for ferrous items)

N: Percentage variation payable on the gross value of bill of Non-Ferrous Items(Bill(s) of Quantities for non-ferrous items)

I: Percentage variation payable on the gross value of bill of Insulator (Bill(s) of Quantities for Insulator items)

G: Percentage variation payable on the gross value of bill of General Works (Bill(s) of Quantities for General items)

Er :Percentage variation payable on the gross value of erection (Bill(s) of Quantities for Erection Item)

L_C % of Labour Component in the item(s)

M_C % of Material Component in the item(s)

F_C % of Fuel Component in the item(s)

E_C % of Explosive Component in the item(s)

PM_C % of Plant, Machinery and Spares Component in the item(s)

S_C % of Steel Supply item Component in the item(s)

C_C % of Cement Supply item Component in the item(s)

W Gross value of work done by Contractor as per on-account bill(s) excluding the Gross value of work under W_S or/and W_C or/and W_{SF} or/and W_F or/and W_{SFL} or/and W_{FL} and cost of materials supplied by Railway either free or at fixed rate, W_S Gross value of work done by Contractor for item(s) of supply of steel.

W_C Gross value of work done by Contractor for item(s) of supply of cement and /or supply of grout material.

W_{SF} Gross value of work done by Contractor for item(s) of Fabrication & Erection of Structures including supply of Steel.

W_F Gross value of work done by Contractor for Fabrication & Erection of Structures excluding supply of Steel.

W_{SFL} Gross value of work done by Contractor for item(s) of Fabrication, Assembly, Erection / Launching of Girders including supply of Steel.

W_{FL} Gross value of work done by Contractor for item(s) of Fabrication, Assembly, Erection / Launching of Girders excluding supply of Steel.

L_B Consumer Price Index for Industrial Workers - All India: Published in R.B.I.Bulletin for the base period

L_Q Consumer Price Index for Industrial Workers - All India: Published in R.B.I.Bulletin for the average price index of the 3 months of the quarter under consideration

M_B Wholesale Price Index: All commodities – as published in the R.B.I. Bulletin for the base period

M_Q Wholesale Price Index: All commodities – as published in the R.B.I. Bulletin forthe average price index of the 3 months of the quarter under consideration

F_B The average of official prices of Diesel available on the official website of 'Petroleum Planning and Analysis cell' under Ministry of Petroleum and Natural Gas for Delhi, Kolkata, Mumbai &Chennai, for the base period

F_Q The average of official prices of Diesel available on the official website of' Petroleum Planning and Analysis cell' under Ministry of Petroleum and Natural Gas for Delhi, Kolkata, Mumbai &Chennai, for the 3 months of the quarter under consideration

E_B Index number of Monthly Whole Sale Price Index for the category 'Explosive' of (g). Manufacture of other chemical products under (J) MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the base period.

E_Q Index number of Monthly Whole Sale Price Index for the category 'Explosive' of (g). Manufacture of other chemical products under (J) MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS, published by Office of Economic Adviser, Govt. of India, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the average price index of 3 months of the quarter under consideration.

PM_B Index Number of Wholesale Prices in India by Groups and Sub Groups (Averages) for 'Manufacture of machinery for mining, quarrying and construction'– published in RBI (Reserve Bank of India) Bulletin, for the base period.

PM_Q Index Number of Wholesale Prices in India by Groups and Sub Groups (Averages) for 'Manufacture of machinery for mining, quarrying and construction'– published in RBI (Reserve Bank of India) Bulletin, for the average price index of 3 months of the quarter under consideration.

S_B The average rate provided by the Joint Plant Committee for the relevant categoryof steel item as mentioned in Clause 46A.9; for the base period.

S_Q The average rate provided by the Joint Plant Committee for the relevant categoryof steel item as mentioned in Clause 46A.9; for the 3 months of the quarter under consideration.

C_B Index No. of Wholesale Price Index of sub-group Cement, Lime & Plaster as published in RBI Bulletin for the base period

C_Q No. of Wholesale Price Index of sub-group Cement, Lime & Plaster as published in RBI Bulletin for the average price index of the 3 months of the quarter under consideration

R_T IEEMA price index for Steel Blooms (size 150mmx150mm) for the month which is two months prior to date of inspection of material.

R_O IEEMA price index for Steel Blooms (size 150mmx150mm) for the month which is one month prior to date of opening of tender.

P_T IEEMA price index for Copper wire rods for the month which is two months prior to date of inspection of material.

P_O IEEMA price index for Copper wire rods for the month which is one month prior to date of opening of tender.

Z_T IEEMA price index for Zinc for the month which is two months prior to date of inspection of material

Z_O IEEMA price index for Zinc for the month which is one month prior to date of opening of tender

I_T RBI wholesale price index for the sub-group "Insulators" for the month which is two months prior to date of inspection of material

I_O RBI wholesale price index for the sub-group "Insulators" for the month which is one month prior to date of opening of tender

(III) <u>SIGNALING & TELECOMMUNICATION WORKS:</u> Deleted

46A.10 Price Variation during Extended Period of Contract

The price adjustment as worked out above, i.e. either increase or decrease shall be applicable upto the stipulated date of completion of work including the extended period of completion where such extension has been granted under Clause 17A of the Standard General Conditions of Contract. However, where extension of time has been granted due to Contractor's failure under Clause 17B of the Standard General Conditions of Contract, price adjustment shall be done as follows:

a. In case the indices increase above the indices applicable to the last month of original completion period or the extended period under Clause 17A, the price adjustment for the period of extension granted under Clause 17B shall be limited to the amount payable as per the Indices applicable to the last month of the original completion period or the extended period under Clause 17A of the Standard General Conditions of Contract; as the case may be.

In case the indices fall below the indices applicable to the last month of original/ extended period of completion under Clause 17A, as the case may be; then the lower indices shall be adopted for the price adjustment for the period of extension under Clause 17B of the Standard General Conditions of Contract.

1.3.14 Maintenance of Works: The Contractor shall at all times during the progress and continuance of the works and also for the period of maintenance specified in the Tender Form after the date of issue of the certificate of completion by the Engineer or any other earlier date subsequent to the completion of the works that may be fixed by the Engineer, be responsible for and effectively maintain and uphold in good substantial, sound and perfect condition all and every part of the works and shall make good from time to time and at all times as often asthe Engineer shall require, any damage or defect that may during the above period arise in or be discovered or be in any way connected with the works, provided that such damage or defect is not directly caused by errors in the contract documents, act of providence orinsurrection or civil riot, and the Contractor shall be liable for and shall pay and make good to the Railway/DFCCIL or other persons legally entitled thereto whenever required by the Engineer so to do, all losses, damages, costs and expenses they or any of them may incur or be put or be liable to by reasons or in consequence of the operations of the Contractor or of his failure in any respect.

1.3.14.1 Certificate of Completion of Works: As soon as in the opinion of the Engineer, the work has been completed and has satisfactorily passed any final test or tests that may be prescribed, the Engineer shall issue a certificate of completion duly indicating the date of completion in respect of the work and the period of maintenance of the work shall commence from the date of completion mentioned in such certificate. The certificate, inter alia, should mention that the work has been completed in all respects and that all the contractual obligations have been fulfilled by the Contractor and that there is no due from the Contractor to Railways/DFCCIL against the contract concerned.
The Engineer may also issue such a certificate indicating date of completion with respect to any part of the work (before the completion of the whole of work), which has been both completed to the satisfaction of the Engineer and occupied or used by the Railway/DFCCIL. When any such certificate is given in respect of part of a work, such part shall be considered as completed and the period of maintenance of such part shall commence from the date of completion mentioned in the completion certificate issued for that part of the work.

1.3.14.2 Contractor not Absolved by Completion Certificate: The Certificate of Completion in respect of the works referred to in Sub-Clause (1) of this Clause shall not absolve the Contractor from his liability to make good any defects imperfections, shrinkages or faults which may appear during the period of maintenance specified in the tender arising in the opinion of the Engineer from materials or workmanship not in accordance with the drawings or specifications or instruction of the Engineer, which defects, imperfections, shrinkages or faults shall upon the direction in writing of the Engineer be amended and made good by the Contractor at his own cost; and in case of default on the part of Contractor, the Engineer may employ labour and materials or appoint another Contractor to amend and make good such defects, imperfections, shrinkages and faults and all expenses consequent thereon and incidental thereto shall be borne by the Contractor and shall be recoverable from any moneys due to him under the contract.

1.3.14.3 Final Supplementary Agreement: After the work is completed and taken over by the DFCCIL as per terms and conditions of the contract agreement or otherwise concluded by the parties with mutual consent and full and final payment is made by the DFCCIL to the Contractor for work done, and there is unequivocal no claim on either side under the contract, the parties shall execute the final supplementary agreement annexed as **Annexure IV.**

1.3.15 Approval only by Maintenance Certificate: No certificate other than maintenance certificate referred to in relevant Clause of GCC of the Conditions shall be deemed to constitute approval of any work or other matter in respect of which it is issued or shall be taken as an admission of the due performance of the contract or any part thereof.

1.3.15.1 Maintenance Certificate: The Contract shall not be considered as completed until a Maintenance Certificate shall have been signed by the Engineer stating that the works have been completed and maintained to his satisfaction. The Maintenance Certificate shall be given by the Engineer upon the expiration of the period of maintenance or as soon thereafter as any works ordered during such period.
The Competent Authority to issue above Maintenance Certificate shall normally be the authority who is competent to sign the contract. If this Competent Authority is of the rank lower than JA Grade, then a JA Grade Officer (concerned with the work) should issue the certificate. The certificate, inter alia, should mention that the work has been completed in all respects and that all the contractual obligations have been fulfilled by the Contractor and that there is no due from the Contractor to Railways/DFCCIL against the contract concerned.

1.3.15.2 Cessation of Railway's/DFCCIL's Liability: The Railway/DFCCIL shall not be liable to the Contractor for any matter arising out of or in connection with the contract for execution of the works unless the Contractor has made a claim in writing in respect thereof before the issue of the Maintenance Certificate under this clause.
1.3.15.3 Unfulfilled Obligations: Notwithstanding the issue of the Maintenance Certificate the Contractor and the Railway/DFCCIL shall remain liable for the fulfillment of any obligation incurred under the provision of the contract prior to the issue of the Maintenance Certificate which remains unperformed at the time such certificate is issued and for the purposes of determining the nature and extent of any such obligations, the contract shall be deemed to remain in force between the parties thereto.

1.3.16.1 Final Payment: On the Engineer's certificate of completion in respect of the works, adjustment shall be made and the balance of account based on the Engineer or the Engineer's representative's certified measurements or Engineer's certified "contractor's authorized engineer's measurements" of the total quantity of work executed by the Contractor upto the date of completion and on the accepted schedule of rates and for extra works on rates determined shall be paid to the Contractor subject always to any deduction which may be made under these presents and further subject to the Contractor having signed delivered to the Engineer enclosing either a full account in detail of all claims he may have on the Railway/DFCCIL in respect of the works or having delivered No Claim Certificate. and the Engineer having after the receipt of such account given a certificate in writing that the whole of the works to be done under the provisions of the Contracts have been completed, that they have been inspected by him since their completion and found to be in good and substantial order, that all properties, works and things, removed, disturbed or injured in consequence of the works have been properly replaced and made good and all expenses and demands incurred by or made upon the Railway/DFCCIL for or in the respect of damage or loss by from or in consequence of the works, have been satisfied agreeably and in conformity with the contract.

1.3.16.2 Post Payment Audit: It is an agreed term of contract that the DFCCIL reserves to itself the right to carry out a post-payment audit and/ or technical examination of the works and the final bill including all supporting vouchers, abstracts etc. and to make a claim on the Contractor for the refund of any excess amount paid to him till the release of security deposit or settlement of claims, whichever is later, if as a result of such examination any over-payment to him is discovered to have been made in respect of any works done or alleged to

have been done by him under the contract.

1.3.17 PRODUCTION OF VOUCHERS ETC BY THE CONTRACTOR:

(i) For a contract of more than one crore of rupees, the Contractor shall, whenever required, produce or cause to be produced for examination by the Engineer any quotation, invoice, cost or other account, book of accounts, voucher, receipt, letter, memorandum, paper of writing or any copy of or extract from any such document and also furnish information and returns verified in such manner as may be required in any way relating to the execution of this contract or relevant for verifying or ascertaining cost of execution of this contract (the decision of the Engineer on the question of relevancy of any documents, information or return being final and binding in the parties). The Contractor shall similarly produce vouchers etc, if required to prove to the Engineer, that materials supplied by him, are in accordance with the specifications laid down in the contract.

(ii) If any portion of the work in a contract of value more than one crore of rupees be carried out by a sub-contractor or any subsidiary or allied firm or company, the Engineer shall have power to secure the books of such sub-contract or any subsidiary or allied firm or company, through the Contractor, and such books shall be open to his inspection.

(iii) The obligations imposed by Sub Clause (i) & (ii) above is without prejudice to the obligations of the Contractor under any statute rules or orders binding on the Contractor.

1.3.18 LABOUR:

1.3.18.1 Wages to Labour: The Contractor shall be responsible to ensure compliance with the provision of the Minimum Wages Act, 1948 (hereinafter referred to as the "said Act") and the Rules made there under in respect of any employees directly or through petty Contractors or sub-contractors employed by him for the purpose of carrying out this contract.

If, in compliance with the terms of the contract, the Contractor supplied any labour to be used wholly or partly under the direct orders and control of the Railways whether in connection with any work being executed by the Contractor or otherwise for the purpose of the Railway such labour shall, for the purpose of this Clause, still be deemed to be persons employed by the Contractor.

If any moneys shall, as a result of any claim or application made under the said Act be directed to be paid by the Railway, such money shall be deemed to be moneys payable to the Railway by the Contractor and on failure by the Contractor to repay the Railway any moneys paid by it as aforesaid within seven days after the same shall have been demanded, the Railways shall be entitled to recover the same from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India.

1.3.18.2 Apprentices Act: The Contractor shall be responsible to ensure compliance with the provisions of the Apprentices Act, 1961 and the Rules and Orders issued thereunder from time to time in respect of apprentices directly or through petty Contractors or sub-contractors employed by him for the purpose of carrying out the Contract.

If the Contractor directly or through petty Contractors or sub-contractors fails to do so, his failure will be a breach of the contract and the Railway may, in its discretion, rescind the

contract. The Contractor shall also be liable for any pecuniary liability arising on account of any violation of the provisions of the Act.

1.3.18.3 Provisions of Payments of Wages Act: The Contractor shall comply with the provisions of the Payment of Wages Act, 1936 or latest and the rules made there under in respect ofall employees employed by him either directly or through petty Contractors or sub-contractors in the works. If in compliance with the terms of the contract, the Contractor directly or through petty Contractors or sub-contractors shall supply any labour to be used wholly or partly under the direct orders and control of the Engineer whether in connection with the works to be executed hereunder or otherwise for the purpose of the Engineer, such labour shall nevertheless be deemed to comprise persons employed by the Contractor and any moneys which may be ordered to be paid by the Engineer shall be deemed to be moneys payable by the Engineer on behalf of the Contractor and the Engineer may on failure of the Contractor to repay such money to the Railways deduct the same from any moneys due to the Contractor in terms of the contract. The Railway shall be entitled to recover the same from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India all moneys paid or payable by the Railway by way of compensation of aforesaid or for costs of expenses in connection with any claim thereto and the decision of the Engineer upon any question arising out of the effect or force of this Clause shall be final and binding upon the Contractor.

1.3.18.4 Provisions of Contract Labour (Regulation and Abolition) Act, 1970:

(1) The Contractor shall comply with the provision of the contract labour (Regulation and Abolition) Act, 1970 and the Contract labour (Regulation and Abolition) Central Rules 1971 as modified from time to time, wherever applicable and shall also indemnify the Railway from and against any claims under the aforesaid Act and the Rules.

(2) The Contractor shall obtain a valid license under the aforesaid Act as modified from time to time before the commencement of the work and continue to have a valid license until the completion of the work. Any failure to fulfill the requirement shall attract the penal provision of the Act.

(3) The Contractor shall pay to the labour employed by him directly or through sub-contractors the wages as per provision of the aforesaid Act and the Rules wherever applicable. The Contractor shall notwithstanding the provisions of the contract to the contrary, cause to be paid the wages to labour, indirectly engaged on the works including any engaged by sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

(4) In respect of all labour directly or indirectly employed in the work for performance of the Contractor's part of the contract, the Contractor shall comply with or cause to be complied with the provisions of the aforesaid Act and Rules wherever applicable.

(5) In every case in which, by virtue of the provisions of the aforesaid Act or the rules, the Railway is obliged to pay any amount of wages to a workman employed by the Contractor or his sub-contractor in execution of the work or to incur any expenditure on account of the contingent, liability of the Railway due to the Contractor's failure to fulfill his statutory obligations under the aforesaid Act or the rules, the Railway will recover from the Contractor, the amount of wages so paid or the amount of expenditure so incurred and without prejudice to the rights of the Railway under the Section 20, Sub-Section (2) and Section 2, Sub-Section (4) of the aforesaid Act, the Railway shall be at liberty to recover such amount or part thereof from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India. The Railway shall not be bound to contest any claim made against it under Sub-Section (1) of Section 20 and Sub-Section (4) of Section 21 of the aforesaid Act except on the written request of the Contractor and upon his giving to the Railway full security for all costs for which the Railway might become liable in contesting such claim. The decision of the Chief Electrical Engineer regarding the

amount actually recoverable from the Contractor as stated above shall be final and binding on the Contractor.

1.3.18.5 Provisions of Employees Provident Fund and Miscellaneous Provisions Act, 1952:

The Contractor shall comply with the provisions of Para 30 & 36-B of the Employees Provident Fund Scheme, 1952; Para 3 & 4 of Employees' Pension Scheme, 1995; and Para 7 & 8 of Employees Deposit Linked Insurance Scheme, 1976; as modified from time to time through enactment of "Employees Provident Fund & Miscellaneous Provisions Act, 1952", wherever applicable and shall also indemnify the Railway from and against any claims under the aforesaid Act and the Rules.

1.3.18.6 Contractor is to abide by the provisions of Payment of Wages act & Minimum Wages act in terms Indian Railways General Condition of Contract. In order to ensure the same, an application has been developed and hosted on website 'www.shramikkalyan.indianrailways.gov.in'. Contractor shall register his firm/company etc. and upload requisite details of labour and their payment in this portal. These details shall be available in public domain. The Registration/ updation of Portal shall be done as under:

(a) Contractor shall apply for one time registration of his company/firm etc. in the **Shramikkalyan portal** with requisite details subsequent to issue of Letter of Acceptance. Engineer shall approve the contractor's registration in the portal within 7 days of receipt of such request.

(b) Contractor once approved by any Engineer, can create password with login ID (PAN No.) for subsequent use of portal for all LOAs issued in his favour.

(c) The contractor once registered on the portal, shall provide details of his Letter of Acceptances (LOA) / Contract Agreements on shramikkalyan portal within 15 days of issue of any LoA for approval of concerned engineer. Engineer shall update (if required) and approve the details of LoA filled by contractor within 7 days of receipt of such request.

(d) After approval of LOA by Engineer, contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wage payment to them on shramikkalyan portal on monthly basis.

(e) It shall be mandatory upon the contractor to ensure correct and prompt uploading of all salient details of engaged contractual labour& payments made thereof after each wage period.

(f) While processing payment of any 'On Account bill' or 'Final bill' or release of 'Advances' or 'Performance Guarantee / Security deposit', contractor shall submit a certificate to the Engineer or Engineer's representatives that "I have uploaded the correct details of contract labours engaged in connection with this contract and payments made to them during the wage period in Railway's Shramikkalyan portal at **'www.shramikkalyan.indianrailways.gov.in'** till_Month,_Year."

1.3.18.7 Provisions of "The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996" and "The Building and Other Construction Workers' Welfare Cess Act, 1996":

The tenderers, for carrying out any construction work, shall get themselves registered with the Registering Officer under Section-7 of the Building and Other Construction Workers Act, 1996 and rules made thereto by the concerned State Govt., and submit certificate of

Registration issued from the Registering Officer of the concerned State Govt. (Labour Dept.). The Cess shall be deducted from contractor's bills as per provisions of the Act.

1.3.18.8 Reporting of Accidents: The Contractor shall be responsible for the safety of all employees directly or through petty Contractors or sub-contractor employed by him on the works and shall report serious accidents to any of them however and wherever occurring on the works to the Engineer or the Engineers Representative and shall make every arrangements to render all possible assistance.

1.3.18.9 Provision of Workmen's Compensation Act: In every case in which by virtue of the provisions of Section 12 Sub-Section (1) of the Workmen's Compensation Act 1923, Railway is obliged to pay compensation to a workman directly or through petty Contractor or sub-contractor employed by the Contractor in executing the work, Railway will recover from the Contractor the amount of the compensation so paid, and, without prejudice to the rights of Railway under Section 12 Sub-section (2) of the said Act, Railway shall be at liberty to recover such amount or any part thereof from Contractor's bills/Security Deposit or any other dues of Contractor with the Government of India. Railway shall not be bound to contest any claim made against it under Section 12 Sub-Section (1) of the said Act except on the written request of the Contractor and upon his giving to Railway full security for all costs for which Railway might become liable in consequence of contesting such claim.

1.3.18.10 Provision of Mines Act: The Contractor shall observe and perform all the provisions of the Mines Act, 1952 or any statutory modifications or re-enactment thereof for the time being in force and any rules and regulations made thereunder in respect of all the persons directly or through the petty Contractors or sub-contractors employed by him under this contract and shall indemnify the Railway from and against any claims under the Mines Act, or the rules and regulations framed thereunder, by or on behalf of any persons employed by him or otherwise.

1.3.19 DETERMINATION OF CONTRACT:

1.3.19.1 Right of Railway/DFCCIL to Determine the Contract: The Railway/DFCCIL shall be entitled to determine and terminate the contract at any time, should in the Railway's opinion, the cessation of work becomes necessary owing to paucity of funds or from any other cause whatever, in which case the value of approved materials at site and of work done to date by the Contractor will be paid for in full at the rate specified in the contract. Notice in writing from the Railway of such determination and the reasons therefore shall be conclusive evidence thereof.

1.3.19.2 Payment on Determination of Contract: Should the contract be determined under sub clause (1) of this clause and the Contractor claims payment for expenditure incurred by him in the expectation of completing the whole of the work, the Railways/DFCCIL shall admit and consider such claims as are deemed reasonable and are supported by vouchers to the satisfaction of the Engineer. The Railway's/DFCCIL's decision on the necessity and propriety of such expenditure shall be final and conclusive.

1.3.19.3 The Contractor shall have no claim to any payment of compensation or otherwise, howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of determination of contract.

1.3.19.4 Determination of Contract owing to Default of Contractor:

If the Contractor should:

(i) Becomes bankrupt or insolvent, or

(ii) Make an arrangement for assignment in favour of his creditors, or agree to carry out the contract under a Committee of Inspection of his creditors, or

(iii) Being a Company or Corporation, go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or

(iv) Have an execution levied on his goods or property on the works, or

(v) Assign the contract or any part thereof otherwise than as provided in Clause 7 of these Conditions, or

(vi) Abandon the contract, or

(vii) Persistently disregard the instructions of the Engineer, or contravene any provision of the contract, or

(viii) Fail to adhere to the agreed program of work by a margin of 10% of the stipulated period, or

(ix) Fail to execute the contract documents.

(x) Fails to submit the documents pertaining to identity of JV and PAN. Form available in the Regulations for Tenders and Contracts.

(xi) Fail to remove materials from the site or to pull down and replace work after receiving from the Engineer notice to the effect that the said materials or works have been condemned or rejected. (x**ii)** Fail to take steps to employ competent or additional staff and labour as required.

(xiii) Fail to afford the Engineer or Engineer's representative proper facilities for inspecting the works or any part thereof as required.

(xiv) Promise, offer or give any bribe, commission, gift or advantage either himself or through his partner, agent or servant to any officer or employee of the Railway/DFCCIL or to any person on his or on their behalf in relation to the execution of this or any other contract with this Railway.

(xv)(A) At any time after the tender relating to the contract, has been signed and submitted by the Contractor, being a partnership firm admit as one of its partners or employee under it or being an incorporated company elect or nominate or allow to act as one of its directors or employee under it in any capacity whatsoever any retired Engineer of the gazetted rank or any other retired gazetted officer working before his retirement, whether in the executive or administrative capacity, or whether holding any pensionable post or not, in the Railways/DFCCIL for the time being owned and administered by the President of India before the expiry of one year from the date of retirement from the said service of such Engineer or Officer unless such Engineer or Officer has obtained permission from the President of India or any officer duly authorized by him in this behalf to become a partner or a director or to take employment under the contract as the case may be, or

(xv)(B) Fail to give at the time of submitting the said tender:

(a) The correct information as to the date of retirement of such retired Engineer or retired officer from the said service, or as to whether any such retired Engineer or retired officer was under the employment of the Contractor at the time of submitting the said tender, or

(b) The correct information as to such Engineers or officers obtaining permission to take employment under the Contractor, or

(c) Being a partnership firm, the correct information as to, whether any of its partners was such a retired Engineer or a retired officer, or

(d) Being in incorporated company, correct information as to whether any of its directors was such a retired Engineer or a retired officer, or

(e) Being such a retired Engineer or retired officer suppress and not disclose at the time of submitting the said tender the fact of his being such a retired Engineer or a retired officer or

make at the time of submitting the said tender a wrong statement in relation to his obtaining permission to take the contract or if the Contractor be a partnership firm or an incorporated company to be a partner or director of such firm or company as the case may be or to seek employment under the Contractor.

(f) Submits copy of fake documents / certificates in support of credentials, submitted by the tenderer

Then and in any of the **said Clause**, the Engineer/Authorised representative on behalf of the Railway/DFCCIL may serve the Contractor with a notice in writing to that effect and if the Contractor does not within seven days after the delivery to him of such notice proceed to make good his default inso far as the same is capable of being made good and carry on the work or comply with such directions as aforesaid of the entire satisfaction of the Engineer, the Railway shall be entitled after giving 48 hours' notice in writing under the hand of the Engineer to rescind the contract as a whole or in part or parts (as may be specified in such notice) and after expiry of 48 hours' notice, a final termination notice should be issued.

1.3.19.5 Right of Railway/DFCCIL after Rescission of Contract owing to Default of Contractor: In the event of any or several of the courses, referred to in Sub-Clause (1) of this Clause, being adopted:

(a) The Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any commitments or made any advances on account of or with a view to the execution of the works or the performance of the contract and Contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed under the contract unless and until the Engineer shall have certified the performance of such work and the value payable in respect thereof and the Contractor shall only be entitled to be paid the value so certified.

(b) In the contract which has been rescinded as a whole, the Security Deposit already with railways under the contract shall be encashed/ forfeited and the Performance Guarantee already submitted for the contract shall be encashed. The balance work shall be got done independently without risk & cost of the failed Contractor. The failed Contractor shall be debarred from participating in the tender for executing the balance work. If the failed Contractor is a JV or a Partnership firm, then every member/partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV /partnership firm.
Further the authorized representative of failed Contractor cannot be accepted as authorized representative in new contract.

(c) In the contract rescinded in part or parts,
(i) The full Performance Guarantee for the contract shall be recovered. No additional Performance Guarantee shall be required for balance of work being executed through the part terminated contract. The contract value of part terminated contract stands reduced to the balance value of work under the contract.
(ii) The Security Deposit of part terminated contract shall be dealt as per relevant clause of GCC.
(iii) The defaulting Contractor shall not be issued any completion certificate for the contract.
(iv) The balance work shall be got done independently without risk & cost of the failed Contractor. The failed Contractor shall be debarred from participating in the tender for executing the balance work. If the failed Contractor is a JV or a Partnership firm, then every member/partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV /partnership firm.

(v) Further the authorized representative of failed Contractor will not be accepted as authorized representative in new contract.

(d) The Engineer or the Engineer's Representative shall be entitled to take possession of any materials, tools, implements, machinery and buildings on the works or on the property on which these are being or ought to have been executed, and to retain and employ the same in the further execution of the works or any part thereof until the completion of the works without the Contractor being entitled to any compensation for the use and employment thereof or for wear and tear or destruction thereof.

(e) The Engineer shall as soon as may be practicable after removal of the Contractor fix and determine ex-parte or by or after reference to the parties or after such investigation or enquiries as he may consider fit to make or institute and shall certify what amount (if any) had at the time of rescission of the contract been reasonably earned by or would reasonably accrue to the Contractor in respect of the work then actually done by him under the contract and what was the value of any unused, or partially used materials, any constructional plant and any temporary works upon the site. The legitimate amount due to the Contractor after making necessary deductions and certified by the Engineer should be released expeditiously.

1.3.20 Quantity Variation: As per relevant GCC clause of variation

(i) Unless otherwise specified in the special conditions of the contract, the accepted variation in quantity of each individual item of the contract would be upto 25% of the quantity originally contracted, except in case of foundation work (in which no variation limit shall apply). However, the rates for the increased quantities shall be as per sub- para (iii) below.

(ii) The Contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever upto the limit of 25% variation in quantity of individual item of works.

(iii) In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable, then same shall be executed at following rates:

1. Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender;
2. Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender;
3. Variation in quantities of individual items beyond 150% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.

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PART – I

CHAPTER- IV

SCOPE OF WORK & EXPLANATORY NOTES

1.4.1 Scope of Work :

The scope of work covers "**Maintenance of 2x25 kV OHE/PSI and Miscellaneous OHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty-Four) months under CGM PRYJ(E) Unit**".

1.4.2 Explanatory Notes on the schedule items :

Explanatory notes are given below for all items given in schedule of prices for the guidance of tenderer.

: <u>GENERAL</u> :

a)	Wherever an item of work covers erection, such item shall include all bolts, nuts and washers of GI/SS etc. as per DFCCIL latest specification & drawing. No separate payment for fabrication of materials for using in maintenance / replacement purpose is admissible.
b)	Erection of any item of equipment, which is supplied by the contractor, will include testing, commissioning and bringing the equipment into operation to the entire satisfaction of the Engineer.
c)	The basic quantity of components and materials required to make up a unit of work for the selected items are indicated for guidance only. There may be minor variation to suit erection but no adjustment in prices shall be made on that account. Prices quoted shall be inclusive of all incidental charges viz. freight, handling, taxes, duties, insurance, GST if any and works contract tax as a applicable etc.
d)	All OHE & PSI components are to be supplied by the DFCCIL. However loading/unloding of the components/spares/T&P etc should be done by Contractors staff.
e)	All works shall be carried out strictly in accordance to the DFCCIL drawings, specifications and guidelines if any. However, any modified arrangement if in vogue in DFCCIL or suggested by CGM/PRYJ(E), the work shall be executed accordingly without any alteration in accepted rates.
f)	Explanatory note for various items of works in the Schedule of item, quantities and prices are given below. The Checking and maintenance of all items of 2x25kV OHE including AOH & POH as case may be shall be carried out in line with maintenance manual and as per Latest Maintenance Manual of Railway/DFCCIL. No additional payment will be made for any additional man power deployment in attending to latest maintenance instructions, if any. In-case of disputes between above standards if any, the decision of concerned CGM/PRYJ(E) is the final and contractor is bound to act accordingly.
g)	Contractor shall get tested each insulators for tensile strength at DFCCIL's testing machine based on maintenance manual of DFCCIL. However, no charge will be levied for usage of machine for testing. All tested insulator shall marked "T" with date with "RED" paint.
h)	The special condition & Technical specifications for schedule items are enclosed and Tenderer shall go through them thoroughly before submitting offer.
i)	Power cum Traffic block for various maintenance activities shall be arranged by DFCCIL either in daytime / nighttime as per slot available in the section. During Power and Traffic Block of OHE/PSI necessary discharging/earthing of system/equipment shall be done by Contractor Staff under the supervision of DFCCIL representative. No additional payment will be made for night working.

PARTICULARS OF SCHEDULE OF ITEMS
Schedule of OHE

Schedule 1: Regular Maintenance Activity

Sch.1 Sl.No. 1	Checking & Maintenance of Cantilever assembly

The Checking and Maintenance of Cantilever assembly shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any

The price shall cover checking & maintenance of Cantilever assembly including all components, Stay & Bracket insulators, dropper wires and copper wires include small parts steel work and carrying out periodic over hauling work of cantilever along with Zylo testing of non-ferrous parts. However, this does not include the anti-creep arrangement at masts / structures. Check and adjust heights and staggers on the basis of setting distance and rail level marked. Close coordination with Permanent Way Inspectors is required for keeping the permanent way at the correct location. Checking of RRA clamps and contact wire at double cantilevers.Checking of all OHE parameters at the cantilever assembly

Price shall also cover erection of new cantilever assembly including Stay & Bracket insulators. Price shall cover measurement and recording of all OHE parameters, make, Sr.No., batch no. etc. of various OHE components. Cantilever Maintenance sheets to be signed by both DFCCIL and contractor representatives. The work shall be carried out as and when required by Engineer in-charge during the contract period.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 2	Checking & Maintenance of 25kV OHE Conductors

The Checking and maintenance of 25kV of OHE Conductors shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The job shall include checking of 25kV OHE Masts, Portal structures, Bridge masts, Special masts if any etc., OHE Conductors for final adjustment & inspection of OHE stagger removal of kinks and knots, adjustment of OHE as per SED annually. Tower wagon and ladder trolleys, as and when required, will be provided by DFCCIL.

The job shall include Checking and adjustment of contact wire parallel clamp, contact wire dropper clip, catenary wire dropper clip complete with bolts, nuts etc., catenary ending clamp, large span wire clamp, adjuster, anchor double strap assembly, compensating plate / equalizing plate, caution boards, number plates etc.

The job shall also include

i. Ensure smooth passage of pantograph.
ii. Recording of contact wire height and staggers, and adjust to be done if required.
iii. Checking and tightening of all kinds of PG clamp available.
iv. Contact & Catenary splices are to be provided if required.(This part is covered

Separately in the schedule)

v. Checking of in span droppers and if found no load taken are to replaced.
vi. Replacement of catenary and dropper clips if required.
vii. Checking for availability of split pin & U pin in catenary and contact wire dropper Clip.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 3	Checking & Maintenance of all types of 25kV OHE Jumpers not cover in other items

The Checking and maintenance of 25kV OHE Jumpers shall be carried out in line with Maintenance Manual /Approved drawings (As Build Drawings)/ Specifications of DFCCIL with its latest correction slips, if any.

The job shall cover checking and maintenance of all types of 25kV High rise OHE Jumpers not covered in other items including special arrangement at support & terminal fittings for conductors including adjustable and Jumper wires. The job shall cover adjustment of all components including PG clamp and Jumper wires on the OHE & shaping etc. Job shall also cover replacement of any jumper assembly complete if required (material will be supplied by DFCCIL), and no extra payment will be made for this replacement.

All kinds of Jumpers with broken strands should be invariably replaced (material will be supplied by DFCCIL). Broken strands are most likely at the point of entry into PG clamps, possibly due to sharp edges in the clamp. PG clamps should have properly rounded off edges to prevent the cutting of strands. The clamps should be checked for signs of overheating and proper tightness.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 4	Checking & Maintenance of Overlaps (IOL/UIOL)

The Checking and maintenance of Overlaps (IOL/UIOL) shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The price shall cover checking and maintenance of all components and fittings with fasteners installed at Overlaps (insulated or uninstalled) including overlaps for jumper connections between two sets of overhead equipment conductor at a overlaps or neutral section good length of sweeping zone to be achieved. The price shall also cover checking and maintenance of all materials including different types of jumpers, insulator and all adjustments required at crossing, overlaps and neutral section whenever required. The price shall cover checking of potential equalizer jumpers at insulated overlaps. The price shall also cover replacement of different types of jumpers complete, if required and no extra payment will be made for this replacement.
The job shall include

i. Check height and stagger of OHE in the overlap section.
ii. Check whether the normal minimum clearance of 500 mm is available between the two OHEs in an insulated overlap and 200mm in an un-insulated overlap.
iii. Check whether the lifting of out-of-run OHE is correct.
iv. Check that parallel running of contact wires in the overlap for a minimum 2m in the

Panto sweep region.

i. Check for the spark free condition on OHE in sweeping zone of IOL/UIOL.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 5	Checking & Maintenance of Anti creep arrangement

The Checking and maintenance of Anti creep arrangement shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The price shall cover checking and maintenance of all materials for anti-creep including adjusters, mast anchor fittings with bolts & nuts etc. at its termination on either side on structures ending clamps, Guy rod assembly and other fitting viz. single clevis assembly, anchor double strap assembly, double suspension clamp, double eye distance rod and 9 ton insulator, anti-creep wire. The price shall also cover checking/cleaning of muffing of anchor block of guy rod assembly.
The job shall include

i. Check the tightness of double suspension clamps U bolts.
ii. Check the healthiness of double suspension clamps.
iii. Ensure availability of saddle plate in suspension clamp.
iv. Check the tightness of PG clamp
v. Check the condition of jumper
vi. Check the condition of ending clamp at both ACA

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 6	Checking & Maintenance of 25kV Isolator (SP/DP) including earthing heel arrangement if any

The Checking and maintenance of Isolator assembly shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings) /Specifications of DFCCILs with its latest correction slips, if any

The price shall cover checking and maintenance of 2x25kV Isolator (SP/DP) switch complete with post insulators, bus bar and related small part steel, operating rod, operating rod guides and operating rod insulator, mounting base, arcing horns, integral lock etc. including earthing heel arrangement and motorized unit if any. The earthingheals provision if any or earth electrode, including all fastenings at both ends. Inspection of earths pits, watering of all earth pits and recording earth resistance. Earths having resistance of over 10 ohms should be attended to as per the provisions made in maintenance manual of DFCCILs with its latest correction slips if any. The required coke, crushed coal and salt will be supplied by DFCCILs at no cost to thecontractor.

The price shall include for making jumper connection with OHE, if required. The price shall also cover erection of the new 2x25kV Isolator (SP/DP) assembly complete on OHE mast / structure gantries including erection of jumper, bus bar, if required and no extra payment will be made for this replacement.

The job shall also include

i. Check number plates for cleanliness and security.
ii. Check correctness of operation, alignment of contacts and arcing horns.
iii. Check earth continuity where applicable.

iv. Lubricate moving parts and locks.
v. Check interlocks where ever provided.
vi. Check that the distance between male and female contacts in open position is 380mm to 500 mm depending upon the type of isolator.
vii. Checking of all insulators (Pedestal & Tie rod)

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 7	Checking & Maintenance of 25kV OHE at Turnouts by Tower Wagon

The Checking and maintenance of 25kV OHE at Turnouts shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings) /Specifications of DFCCILs with its latest correction slips, if any

The price shall cover checking and maintenance of all components and fittings with fasteners installed in 25kV OHE at turnouts including knuckle or crossing equipment at a turnout and parallel clamps for jumper connections between two sets of overhead equipment conductor at a turnout. The price shall also cover maintenance of jumper wire and all adjustments required at turnouts, crossing whenever required. Turnouts Maintenance sheets to be signed by both Railway and contractrepresentatives.

The job shall include

i. With OHE Inspection Car running on main line checkup if pantograph glides smoothly under the loop line OHE. (Take off)
ii With OHE Inspection Car running on loop line checkup if pantograph glides smoothly under the main line OHE. (Take on)
iii. Check stagger of both the OHEs at turn outs.
iv. Check that the main line OHE of overlap type turn out is about 50 mm below that of the turnout OHE.
v. Checkup cross contact bar, if any, for displacement and distortion.
vi. Check up for hit marks, if any (Implantation).
vii. Checkup rail level and setting distance of the obligatory mast.
viii. Check up for hard spots near rigid droppers, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 8	Checking & Maintenance of 25kV OHE on a crossover by Tower Wagon

The Checking and maintenance of 25kV OHE on a crossover shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings) /Specifications of DFCCILs with its latest correction slips, if any

The price shall cover checking and maintenance of all components and fittings with fasteners installed in 25kV OHE on a crossover including knuckle or crossing equipment at both side turnouts or a diamond crossing and parallel clamps for jumper connections between two sets of overhead equipment conductor. The price shall also cover maintenance of jumper wire, section

Insulator assembly on crossover and all adjustments required at both turnouts of cross over, crossing whenever required. Cross over Maintenance sheets to be signed by both DFCCIL and contract representatives.

i With OHE inspection car running on main line checkup if pantograph glides smoothly under the loop line OHE.

ii With OHE inspection car running on loop line checkup if pantograph glides smoothly under the main line OHE.

iii Check stagger of both the OHE"s at turn outs (it shall not normally exceed 300mm)

iv Check that the main line OHE of overlap type turn out is about 50mm below that of the turnout OHE.

v Check cross contact bar, if any for displacement and distortion.

vi Check up for hit marks, if any.

vii Check up rail level and setting of the obligatory mast.

viii Check up for hard spots near rigid droppers, if any

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.9	Checking & Maintenance of Section Insulator assembly by Tower Wagon

The Checking and maintenance of Section Insulator assembly shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings) /Specifications of DFCCILs with its latest correction slips, if any.

The price shall cover checking and maintenance of all components including the core insulating rod installed section insulator assembly including special arrangement at support & terminal fittings for conductors including adjustable dropper wire. The price shall cover adjustment of all components including 9 ton insulator on the catenary & leveling of runners etc. Price shall also cover replacement of section insulator assemble complete, if required and no extra payment will be made for this replacement.

The job shall include

i. Clean insulators and replace chipped or cracked insulators,
ii. Check runners for flash-marks, hit marks and proper adjustment,
iii. Check for excessive contact wire wear near anchor clamps,
iv. Check the level of the assembly and adjust if necessary,
v. Tighten PG clamps of droppers and stiffeners.
vi. Checking for smooth passage under SI without fitting
ii. Checking for both the runners to be in contact with pantograph during passing of AC loco

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 10	Checking & Maintenance of Auto Tensioning Device (ATD)

The Checking and maintenance of Auto Tensioning Device (ATD) shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings) /Specifications of DFCCILs with its latest correction slips, if any.

The price shall cover checking and overhauling of Auto Tensioning Device (ATD) provided in the section including 9 ton adjuster with double strap assembly and normal/anti-theft guide tube assembly, stainless steel wire rope, Guy rod assembly and small parts of steel works and also

replacement of bearing if ATD jammed including transportation. Price shall also cover adjustment of "X & Y" value either by mechanism provided or by cutting of conductors, if required. The price also covers adjustment of the entire regulating equipment. The price shall also cover cleaning of muffing of Anchor block of Guy Rod. The work shall be carried out as and when required by Engineer, in-charge during the contract period.
The job shall include

i. Check 'X' and 'Y' dimensions in the case of pulley block type equipment against prescribed values for the temperature at the time of checking. Make use of turn- buckles to adjust as required.

ii. Check that the compensating plate is vertical. If not, adjust as required.

iii. Lubricate pulleys (if required as per maintenance instructions) and other moving Parts.

iv. Check if 20 mm wide bands in black colour are painted (Paint will be provided by Railways/DFCCIL) on the mast to indicate upper and lower limits of movement of Counter weight.

v. Check condition of stainless steel wire rope for any signs of corrosion and breakage of strands.

vi. Check free movement of ATD

vii. Check for free siding at L- angle of ATD rod

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.
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Sch. 1 Sl.No.11	Checking & maintenance of all type of bonds & BEC connection including cleaning of muffs at OHE mast.

The price shall cover Checking & Maintenance of Bonds of various types structure bond, cross bond, continuity bond, impedance bond & rail bond etc. and bond connection required for connecting a traction mast or structures to the nearest non-track circuited rail, or earth electrode, including all fastenings at bothends.

The price shall include cutting, shaping, painting and drilling of the bond and erection of all materials including the bond. The price shall also cover the drilling of the hole to rail for fixing the bond with suitable GI bolts and nuts, washer etc. and provision of PVC insulating sleeve over the portion of bond passing under the tract circuited rail of length 350 mm each wherever required. Price also covers cleaning of area of around muff of OHE/portal by removing the vegetation and condition of structure muff are to be checked once in month & also recasting of damaged muff with white wash. Recasting of new muff, disconnection of structure bond, drilling of hole in mast/portal and reconnection/replacement of bonds wherever the muff height needs to be raised. Price also covers transportation of release bond to the concerned OHE depot.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.12	Removal of & Re erection of bonds of various type during track machine working or Erection of missing/new bonds (Paint etc.)

The work shall include the erection of the bond in place of the any missing bond or removal of during track machine working.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl. No. 13	Checking & Maintenance of leaning of OHE mast till a new mast erected

The job covers checking and maintenance of leaned masts till a new mast is erectedand erection of new mast if required. The job shall also covers packing and ramming with pieces of stone and strengthening by pouring cement concrete(Price is covered in Foundation). Job shall cover for OHE foundation casting (Price is covered in foundation) including drilling of hole in mast/portal as per the directives of engineer and after recasting of foundation (Price is covered in foundation), muff shall be provided including white wash (material provided by DFCCIL). A temporary structure or guy as convenient / as per railway requirement to be provided (material to be provided by railway). The work must be so done that when the Tirfor is released the mast remains reasonably vertical with the allowance of reverse deflection as required. The job includes releasing & reloading of OHE load from / to the OHE mast.

Note: To eliminate excess/abnormal leaning mast suitable foundation to be cast and new mast to be provided.(which is covered separately in the schedule)

Sch.1 Sl.No.14	Checking & Maintenance of PTFE type neutral section (Quarterly)

The Checking and maintenance of this item shall be carried out in linewith Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCILs with its latest correction slips if any as per instruction of DFCCIL representative.
The price shall covers checking and maintenance of PTFE rod, bracket of neutral section, insulating rod, arching horns, length of skid' bulb, turnbuckles, condition of adjuster, earthing jumper, splices, lock nut pins& droppers etc.
The price shall also cover cleaning, adjustment, checking of tightness and replacement, if required at any stage.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.15	Checking & Maintenance of Portal boom and drop arms free from foreign body including Bird Nests

The Checking and maintenance against this item shall be carried out in line with Maintenance Manual/Approved drawings/Specifications of DFCCILs with its latest correction slips if any as per instruction of DFCCIL representative.

The price shall cover Checking & Maintenance of Portal boom, drop arms and fabricated masts free from Bird Nests and removal of bird nest as identified by foot patrolling staff / during other inspection. Requirement of power block will be jointly decided by the contractor and the sectional DFCCIL supervisor, Necessary power block will be obtained from authorized DFCCIL's representative and no extra payment will be made for this removal of bird nests under Power block.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.16	Trimming of tree branches to maintain minimum 5 to 6 meter clearance from OHE

The price shall cover trimming of tree branches as identified by foot patrolling staff / during other inspection / checking. No part of the tree shall be nearer than 4 meters from the nearest live conductor. Requirement of power block will be jointly decided by the contractor and the sectional DFCCIL supervisor. Necessary power block will be obtained from authorized DFCCIL's

representative only for trimming of tree branches. The accountal& disposal of trimmed braches will be the responsibility of DFCCIL department.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.17	Erection of 25 kV overhead equipment as per requirement

The Price shall cover erection of 25kV overhead equipment's and fabrication of cantilever assembly of different size & tubes including catenary, contact, dropper, cut in insulator & jumper wires. The price shall also cover erection of all components and wires / conductors including contact wire, catenary wire, cut in insulator droppers, jumpers and terminating wire, if any but excluding small part steel work if any. The price shall also include erection of structure identification plates/number plates with bolt & nut with GI fasteners and also include replacing/attending the damaged /bent/faded plates by the contractor with the cost of cleaning & painting the setting distance of mast or structures.

The price shall cover erection of 25kV caution boards, 25 kV caution notice board and warning board in Hindi & English language wherever required with mild steel galvanized clamps, required washers and bolts & nuts etc. The price shall include GI fasteners with GI fixtures for erection of enameled number plates, contact height, rail level and location of emergency sockets on mast / structures. No additional payment will be made for manual stringing of conductor viz. catenary, contact wire etc.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 18	Checking and compilation of hotspot of OHE using Thermo vision camera by a skilled Engineer.

The Checking and compilation of hotspot of OHE using Thermo vision camera by a skilled Engineer shall be carried out in line with Maintenance Manual/Approved drawings/Specifications of DFCCILs with its latest correction slips if any.

The job shall cover checking and compilation of the images of terminal connectors, jumpers, splices and other joints if any in OHE & bus bar, Connectors, SP, and SSP & TSS. The Thermo vision camera checking of TSS will be treated as checking of 1 TKM for measurement. Similarly SP/SSP will be treated as 0.25TKM for measurement. The measurement shall preferably be done during the period when electric trains are working in the section. The entire section including TSS to be covered once in 6 months.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.19	Stenciling/Painting of rail level, implantation, MRL, ERL & location number etc. SED Parameters

The job shall cover checking the clearance of all over line structures before taking the stenciling work during the maintenance period of subject agreement and compare the values with the as erected drawings, if any difference are found shall inform to the DFCCIL official to take corrective action as required. It is to be done annually.

The job shall cover painting of OHE mast with Aluminum paintupto a height of 1 meter from the muff. Also the job shall cover painting of SED parameters on OHE mast / Structures such as ERL,

MRL, implantation, symbols of emergency sockets etc., with black lettering on yellow back ground including erasing of old details by covering aluminum painting as advised by site supervisor if required. The job shall cover all costs toward required various sizes of paint brushes and labour etc.

The job shall also cover painting of Location number on OHE mast / Structures such as KM number & Location number etc., with black lettering on yellow back ground including erasing of old details by covering aluminium painting as advised by site supervisor if required. The job shall cover all costs toward required various sizes of paint brushes and labour etc. The paint and other consumables shall be arranged by Contrcator.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.20	Painting of counter weight of ATD & guy rod assembly including marking of Y value.

The price shall cover painting of Counter Weight of ATD & Guy Rod Assembly including marking of "Y" Value for 15°C, 35°C& 45°C in the ATD anchored MAST/Structure. Painting shall be with 2 coats of aluminum paint including stenciling of location number on counter weights as directed by DFCCIL's Engineer-in charge of work. ISI mark good quality paint shall be used and the same to be supplied by the Contractor.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.21	Checking and maintenance of Feeder Termination& AEC Termination

The job shall cover checking and maintenance of a 25KV feeder/return conductor (along or across track) annually made of a single all aluminium bare, hard drawn conductors 288 sq. mm ACSR zebra conductor. Job shall also cover checking of all components including insulators and replacement of insulators (covered separately in the schedule) and ferrule if required. The job shall also cover checking and maintenance all materials required for the termination of all aluminium 25KV feeder including Guy rod assembly, appropriate mast anchor fittings, adjuster, strain clamp and end fitting and splices as required. The job shall also cover cleaning the muffing of anchor block of Guy Rod.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.22	Supply and erection of OHE Retro reflecting number plate including plate fixing.

The price shall cover providing and fixing of OHE Retro reflecting number plate including plate fixing with all complete accessories.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No.23	Supply and erection of caution board.

The price shall cover providing and fixing of caution board including with all complete accessories.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 24	Providing and replacing of DO Fuse at Auxiliary Transformer of 1 A/ 5A as per requirement.

The price shall cover theProviding and replacing of DO Fuse at Auxiliary Transformer of 1 A/ 5A as per requirement.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 25	Maintenance of Auxiliary Transformer at Station and ALH and RH Locations

The job shall cover checking & maintenance of AT (Quarterly) as mentioned below,

A. Auxiliary Transformer (Quarterly)

1. Clean externally the tank, conservator, bushings.
2. Check oil level in conservator.
3. Check silica-gel breather. If silica-gel is pink, replace it with new dry silica-gel and recondition the old silica-gel. Makeup oil if required.
4. Check for proper condition and alignment of dropout fuse element and assembly.
5. Check and record arcing horn gap settings.

B. Auxiliary Transformer (Half yearly)

1. Do all the test as indicated in schedule A.
2. Measure and record insulation resistance of all windings to earth with 2.5 kV megger along with temperature of winding and ambient temperature.
3. Test Oil samples for BDV.
4. Check foundation and structure assembly for proper conditions and tightness.

C. Auxiliary Transformer (Yearly)

1. Do the entire test as indicated in schedule A& B.
2. Test oil sample for acidity.
3. Measure and record earth resistance. Take remedial action if earth resistance is above the prescribed limits.

The Schedule of Maintenance to be followed as per DFCCIL Maintenance Manual.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch.1 Sl.No. 26	Checking and maintenance of 25 kV OHE feeder & AEC conductors excluding termination arrangement

The Checking and maintenance of 25kV HIGH RISE OHE Feeder & AEC Conductors shall be carried out in line with Maintenance Manual/Approved drawings (As Build drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Schedule 02: Emergency & Other maintenance activities

Sch.2 Sl.No. 01	Loading, unloading of DFCCIL supplied material to places directed by Engineer in-charge (i.e. From station to tower wagon, station to station etc.)(applicable for material more than 2 MT)

Price shall cover loading and unloading activity for transportation of all DFCCIL supplied materials for execution of the work and dismantled materials to consignee's depot. Also safe handling and shifting of DFCCIL materials during the breakdown. Price shall also cover collection of materials from store depot, loading and unloading of materials from depot to site and site to depot.

Sch. 2 Sl.No.02	Erection of Catenary wire splicing or Contact wire splicing.

The Checking and maintenance against this item shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings) /Specifications of DFCCILs with its latest correction slips if anyas per instruction of DFCCIL representative.

Price shall cover erection of catenary wire splicing with fasteners to splice existing HIGH RISE OHE with newly laid HIGH RISE OHE and adjustment there of as per requirement.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch. 2 Sl.No. 03	Replacement / Re-erection of various types of insulators

The job shall cover replacement of insulators of various types with all components required for the insulators assembly including small parts steel work with bolts & nuts etc. as per the relevant DFCCIL drawings. The insulators are replaced when they are heavily flashed, petticoat broken, breakage of insulator etc. Insulator and SPS will be supplied by DFCCIL.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Sch. 2 Sl.No.04	Breakdown attention by a gang for restoration of 25 kV OHE during accidents/ unusual occurrence for checking OHE Parameters- (one gang consisting of 7 staff)

The price shall cover Supply of Man Power for restoration of 2x25kV OHE during Break down round the clock on hourly basis for all restoration of 2x25kV OHE during Break down. The Contractor is required to deploy one Supervisor, Three Technicians and Three Helpers who were conversant with rules and procedures of working on 2x25 kV A.C. Traction Overhead Equipment installations and medically fit for DFCCIL's working circumstances.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

The price against this item is applicable for Supply of Man Power on hourly basis consisting of the above staff in one Gang.
Note: The contractor should deploy additional gangs as per the requirement of DFCCIL for restoration of 2x25kV OHE during Break down.

Sch. 2 Sl.No. 05	Erection of traction masts & portal other than boom

The materials required in this part of work shall be supplied by DFCCIL.

Erection of Mast: The job shall cover manual erection, alignment and setting before grouting of individual traction mast including dwarf mast. Erection of traction mast also includes painting with cold galvanizing paint in rusted area if any in the mast supplied by Railways. The masts released may also have to be reused.

For erection, the contractor can use his own road crane duly transporting the structures to the site. Transporting and Crane price are covered separately in the schedule. Temporary bonding of

structure by means of 2 nos. of 8 SWG wire shall be done before boom erection, where proper bonding arrangement is not available.

Erection of Portal other than boom: The job shall cover erection, alignment and setting before grouting, wherever required, the portals, gantries, 2/3 tracks cantilever structures. The job shall also include erection of galvanized bolts, nuts washers etc. Wherever required as per approved designs and drawings. In case of road approach is not available, the transportation of mast by Tower wagon may be allowed by the DFCCIL.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch. 2 Sl.No. 06	Transfer of OHE equipment from one mast or support to another.

The job shall cover transfer of overhead equipment to a bracket assembly on a new mast or support, and dismantling of the erected bracket assembly from the old mast or support and consequent adjustment to overhead equipment required such as re-spacing of droppers, levelling etc. The foundation and steel work and bracket assembly for the new mast or structure will be paid for under appropriate items

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Schedule -03 Foundation item

Sch. 3 Sl.No. 01	Casting of all types of foundation (The rate includes supply of the material- ballast, sand, cement, mixture & reinforcement etc.) with shuttering

There are 2 types of foundation in DFCCIL in which RDSO foundation PCC type and Circular foundation RCC type. The volume of RDSO type foundation is higher than circular type foundations which are reinforced. There will be liberty with the contractor to cast any type of foundation .The applicable volumes and drawings shall be provided in the drawing as part of CSD. In case the contractor opts for circular foundation the required steel for the reinforcement shall be supplied by the DFCCIL.

The RDSO type foundation shall be cast in M-15 grade and the Circular type foundation shall be cast in M-20 grade. The price shall cover the supply of the cement, sand, water, ballast, mixing, curing, arrangement of scroll, grouting and muffing the mast with required shuttering as per maintenance manual.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Schedule -04 Additional OHE work

(Supplied OHE Material suitable for the OHE of PRYJ(E) Jurisdiction)

Sch. 4 Sl.No. 01	Supply and maintenance of petrol operated telescopic pole pruner model no. HT 75 of STIHL or equivalent model of FISKAR make for tree trimming purpose

The price shall cover for supply and maintenance of petrol operated telescopic pole pruner model HT.75 of STIHL make or equivalent model of FISKAR make 2 nos. per depot. Price includes its necessary fueling, availability of good conditioned saw/blade and one year maintenance of said

machine. After completion of contract, machine shall be handed over to DFCCIL in well–working condition.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Sch. 4 Sl.No. 02	Supply and fixing of Splicing Clamp Assembly For 150 sq. mm Contact Wire (Crocodile Type)

The price shall cover forSupply and fixing of Splicing Clamp Assembly for 150 sq. mm Contact Wire (Crocodile Type) including all accessories.

Sch. 4 Sl.No. 03	Supply and fixing Catenary Wire Splice 125 Sq. mm.

The price shall cover for Supply and fixing Catenary Wire Splice 120 Sq. mm including all accessories.

Sch. 4 Sl.No. 04	Supply and fixing Feeder wire splice for 288 sq. mm AAAC conductor.

The price shall cover forSupply and fixing Feeder wire splice for 288 sq. mm AAAC conductor including all accessories.

Sch. 4 Sl.No. 05	Supply and fixing Aerial Earth wire splice for 181.6 sq. mm ACSR conductor.

The price shall cover forSupply and fixing Aerial Earth wire splice for 181.6 sq. mm ACSR conductor including all accessories.

Sch. 4 Sl.No. 06	Supply and fixing of Splicing Clamp Assembly for 107 sq. mm Contact Wire (Crocodile Type).

The price shall cover for Supply and fixing of Splicing Clamp Assembly for 107 sq. mm Contact Wire (Crocodile Type) including all accessories.

Sch. 4 Sl.No. 07	Supply and fixing Catenary Wire Splice 65 Sq. mm.

The price shall cover forSupply and fixing Catenary Wire Splice 65 Sq. mm. including all accessories.

Sch. 4 Sl.No. 08	Erection of Cantilevers

The price shall cover on a flat rate basis for erection of any bracket assembly on a traction mast or support or drop arm and shall include those on high/low level platform, in the vicinity of turnouts, over bridges or over-laps and at locations with reduced encumbrance or terminating wires. The price shall include the erection of all components including galvanized steel tube, dropper wires and small parts steel work complete with bolts and nuts etc., if any. The price shall cover erection of all components including solid core insulators and dropper wires, small parts steel work, if any. However, this does not include the anti-creep arrangement at masts/ structures.

Sch. 4 Sl.No. 09	Erection of material for solid core cut in insulator

The price shall cover for Erection of material for solid core cut in insulator as per DFCCIL drawing.

Sch. 4 Sl.No. 10	Erection of material for suspension insulator

The price shall cover forErection of material for suspension insulatoras per DFCCIL drawing.

Sch. 4 Sl.No. 11	Erection of structure bonds.

The price shall cover for Erection of structure bonds as per DFCCIL drawing.

Sch. 4 Sl.No. 12	Supply of material for single earth electrode.

The price shall cover for Supply of material for single earth electrode as per DFCCIL drawing.The price shall cover supply of an earth electrode in all types of soil except hard soil/soft rock. The price shall cover the provision of a protective concrete box with removable cover as shown in the drawing. The price shall include the testing of earth value and painting the particulars on the box.

Sch. 4 Sl.No. 13	Erection of material for single earth electrode.

The price shall cover for erection of material for single earth electrode as per DFCCIL drawing. The price shall cover erection of an earth electrode in all types of soil except hard soil/soft rock. The price shall cover the provision of a protective concrete box with removable cover as shown in the drawing. The price shall include the testing of earth value and painting the particulars on the box.

Sch. 4 Sl.No. 14	Slewing of OHE.

The price shall cover forSlewing of OHE as per DFCCIL requirement in all respect & site condition.

Sch. 4 Sl.No. 15	Preparation of design and drawing for overhead equipment and verification as per plan.

The price shall cover forPreparation of design and drawing for overhead equipment and verification as per plan for DFCCIL requirement.The price shall cover preparation and submission of overhead equipment plans indicating location of structures in stages, and preparation of all drawings and designs relevant to the tendered works and required to be finalized by the Contractor in the format approved by Engineer along with 3 paper copies of the drawings for approval. The price shall include the following:

(i) Preparation and submission of pegging plans layout plans incorporating span, height, chainage, curves, gradients, type of masts/portals, foundations, ATD locations, stagger, location of cut-in-insulators, signal locations etc., making minor modifications with the approval of the Employer/Engineer to the layout of the structures and overhead equipment, if necessary.
(ii) Preparation and submission of cross section drawings and structure erection drawings for each structure locations
(iii)Choice of type and size of foundations to suit soil and loading conditions
(iv)Preparation and submission of long section drawings of overhead equipment where such drawings are required including detailed study of over line structures such as foot over bridges, road over bridges, track over bridges, overhead Pipelines etc. for maintaining the specified height of contact wire and requisite clearances.
(v) Preparation and submission of other designs and drawings including drawings of small parts steel work (other than those for which RDSO standard drawings are available) and detailed designs for LT Supply Transformer stations, design and drawings of OHE structures for bridges etc.
(vi)Preparation and Supply of Bonding Plan drawings and buried rail earthing drawings.
(vii)Design, preparation and submission of switching station drawings including survey, investigation of soil bearing pressure from National Test House or at any other laboratory approved by the Engineer-in-charge, preparation of general arrangement drawings, detailed layout of equipment, bus-bar connections and insulators, layout of earthing system and earth connections, cable run layout, detailed designs and drawings for steel work and structural support, excluding the ones for which supply is made by the Employer/Engineer, suitable concrete plinths for equipment and drawings for equipment's, components, fitting and materials

supplied by the Contractor. The price shall include supply of six numbers of copies of all drawings, including completion drawings.

(viii)Preparation, supply and fixing of Sectioning / Schematic / TSWR diagram boards for stations / Cabins / SWS / RCC/ Section Controller and 25 KV AC Traction Station Working Rule instructions including supply & fixing of shock treatment chart etc as directed and approved by Engineer.

(ix)Supply of soft copy (in Auto Cad drg. format) and requisite eight (8) number of hard copies, one copy on non-tearable tracing (Engineering matte film of 75 micron or more thickness) of all drawings including completion/approved/as erected drawings for OHE and Switching stations. In addition one copy in RTF to be given of all completion/Aserected drawings. Soft copy to be given in DVD(R).

Sch. 4 Sl.No. 16	Erection of rolled / fabricated and galvanized traction mast, TTC, Portals, AT Mast, Feeder Mast, bridge mast etc.

The Price shall cover erection of fabricated galvanized OHE structure with necessary components. The prices shall also cover the cost of erection, alignment and setting before grouting of individual traction masts and main masts of switching station, dwarf Masts, Portals, TTC and masts for LT supply transformer stations whether rolled or fabricated including those for head spans. These structures will be grouted in already cast foundation. The contractor shall carry out the erection in presence of authorized Railway representative.

Sch. 4 Sl.No. 17	Erection of material for Guy rod assembly

The price shall cover for Erection of material for Guy rod assembly as per DFCCIL drawings.The price shall cover erection of a guy rod assembly of various lengths for traction masts/Portals/TTC, feeder line towers or supports etc. complete with mast guy rod fittings, guy rod with adjustments and part/s to be grouted in the anchor block.

Sch. 4 Sl.No. 18	Erection of large span wire

The price shall cover erection of all components including large span wire, adjusters, terminal fittings and mast attachments required to attach a large span wire or a Head span wire or Cross span wire or Steady span wire or a Support span wire for supporting contact wire only, at both ends, to traction masts/structures or special brackets, solid core insulators. The price shall cover erection of all components including mounting arrangements, span wire, 9 Ton solid core insulators and all small part steel work if any.The price shall cover for Erection of large span wire as per DFCCIL drawings

Sch. 4 Sl.No. 19	Erection of material for Regulating Equipment (ATD)

The price shall cover for Erection of material for Regulating Equipment (ATD) as per DFCCIL drawings.The price shall cover supply and erection of a 3 Pulley type counter weight assembly suitable for 2400 kgf tension (3:1 ratio) as per the Employer's requirement including 9 ton adjuster with double strap assembly and normal/anti-theft guide tube assembly, the supply of regulating equipment, provision of adequate length pipe on Hex-Tie rod at crossovers and short tension length ATDs wherever required and stainless steel wire rope required for the regulating equipment, anti-slipping device assembly, forged fittings (mast bracket clevis 3071-1, clevis pin 3072) and small part steel work, if any. Wherever applicable, fittings shall be forged type the price shall also cover adjustment of the entire regulating equipment.

Sch. 4 Sl.No. 20	Erection of Material for termination of single/double conductor of overhead equipment

The price shall cover forErection of Material for termination of single/double conductor of overhead equipment as per DFCCIL drawings.The price shall cover erection all material

necessary for the yoked termination of two overhead equipment conductors on a traction mast or structure, including all SPS such as appropriate mast anchor fittings, clevis assembly , two adjusters, ending clamps for catenary and contact wires, anchor double strap assembly, equalizing/compensating plates, and double eye distance rods (if required) and fittings and terminating wire ,if any including 9-ton insulators assembly The price shall also cover erection of all materials with 9 ton insulator.

Sch. 4 Sl.No. 21	Supply and erection of Guy rod assembly.

The price shall cover supply and erection of a guy rod assembly of various lengths for traction masts/Portals/TTC, feeder line towers or supports etc. complete with mast guy rod fittings, guy rod with adjustments and part/s to be grouted in the anchor block. The price shall not include the cost of supply and erection of a dwarf or stub mast with anchor plates drilled and welded in position, where required for anchorage, and small parts steel work, complete with bolts and nuts etc., if any for attaching the mast guy rod fittings to the mast/structure which shall be paid for separately under the relevant item.

Sch. 4 Sl.No. 22	Erection of Anticreep wire

The price shall cover erection of all materials for an anti-creep including adjusters, galvanized steel wire, mast anchor fittings at its terminations on either side of structures, ending clamps, fittings and including 9- ton insulators assembly conforming to DFCCIL specification.
The price shall cover erection of all materials including 9- ton insulator assembly with small parts steel work, if any.

Sch. 4 Sl.No. 23	Erection of Section Insulator assembly and associate Fittings & fasteners.

The price shall cover erection and adjustment of all components required for a standard section insulator assembly (serving both the overhead equipment conductors) including 9 ton insulator, bar insulator special droppers etc. for supporting the equipment and all terminal fittings for conductors and the section insulator assembly, dropper wires as required as per DFCCIL drawings.

Sch. 4 Sl.No. 24	Erection of PTFE neutral section assembly and associate Fittings & fasteners.

The price shall cover erection and adjustment of PTFE type short neutral sections assembly as per latest DFCCIL specification. The price shall also cover supply and erection of, all fittings for contact and catenary wire as necessary including supply of required dropper wire.

Sch. 4 Sl.No. 25	Erection of 25 kV DP Isolator with all material as required.

The price shall cover erection of adouble pole isolator 1250 Amp capacity complete with mounting base, operating rod, operating rod guides required for the operation ofthe isolator, jumper connectors. The price shall also cover erection of aluminium-copper strips, a pad–lock, integral lock and interlock if required, a number plate of approveddesign for each isolator, erection of small parts steel works for support of isolatorsand for support of operating rods on gantries masts including erection of 25 KV Solid Core Post and Operating rod insulator.

The price shall also cover erection of an earth contact assembly in the isolator.The price shall cover the cost of supply and erection of 3 x 25 mm copper connections between earth contact assembly and the structures.
The price shall cover erection of an interlocking mechanism on an isolator along with small parts steel if any, to permit working of two or more isolators. The prices exclude sprovision of pipe electrode earthing.

Sch. 4 Sl.No. 26	Erection of 25 kV SP Isolator with all material as required.

The prices shall cover erection of isolator switches of approved make 1250 Ampcapacity, complete with arcing horns, operating rods, operating rod guides, and mounting base including erection of 25KV Solid Core Post and Operatingrod insulator.

Theprice shall also cover erection of anumber plate of approved design and erection of small parts steel work complete with bolts and nuts etc. for support ofeachisolator and for support of operating rods on gantries/ masts, jumper connectors and post insulator to support jumper. The price shall also cover erection of pad lock, integral lockand interlock if required. The price excludes provision of pipe electrode earthing.

Sch. 4 Sl.No. 27	Dismantling of traction structure, Portals, TTC and associate SPS by cutting

The price shall cover on flat rate basis dismantling of OHE structures or portals by cutting the same below ground/formation level to the required depth and handing over the same to the nominated person at nominated place as directed by Engineer. The price shall also include dismantling of drop arms and booms of the portal and their all associated fittings like SPS, bonds etc. Crane charges for the purpose are included in the flat rate

Sch. 4 Sl.No. 28	Supply and Erection of Retro-reflective type boards- 25KV AC OHE danger board/danger board for height gauge, public, staff caution board and special boards.

The payment under this item shall cover supply and erection of **Retro-reflective type boards-**25 KV AC danger board, danger board for height gauge, public/ staff caution boards **and special boards** on uniform basis as decided by the engineer.Purchaser will advise the requirement of the various types of boards and location to contractor. The above payment shall also include supply of necessary clamps, nuts, and bolts etc., required for the erection of theboards. Caution boards shall be made in bi/Tri-lingual languages i.e Hindi/English and vernacularlanguage, where ever required and same will be advised to contractor. The various types' ofabove boards to be supplied shall be as per the standard size and standard specification of Railways/DFCCIL.

This item shall also cover special caution boards to be provided on all departmental vehicles, track machines, platform shelters as per Railway board letter No. 2009/RE/161/4 FTS-748dtd.26-08-14as per directions of the engineer.

Schedule-05 Additional OHE items

(Supplied OHE Material suitable for the OHE of PRYJ(E) Jurisdiction)

Sch. 5	Supply of spares, tools & equipment's required during maintenance & break downs for a period of 2 years- As per appendix-A. The payment will be made as per actual.

The List of Items to be required as in spare, tools, equipment is mention in the Schedule of work. The Item should be RDSO/CORE approved or as per DFCCIL specification. The Item shall be provided as per instruction & requirement of DFCCIL Representative in day to day maintenance work. The quantity is lumpsum, hence payment against this schedule will be made as per actual.

1.4.3 The detailed scope of work of OHE is as under:-

1.4.3.1 2x25kV OHE installations maintenance schedule:-

1. Cantilever: (As per DFCC Maintenance Manual)

i. Check rail level and setting distance against markings on the masts and entries in the Register. Variation above 30 mm in setting distance and 20mm in rail level should be notified for correction. Variations, even within the above limits, should not be permitted if the Schedule of Dimensions areinfringed.
ii. Check all tightness of bolts, nuts and check nuts andpins.
iii. Check all galvanized pipes and fittings. Where galvanization is found to be chipped off, the fitting of pipe should be replaced. Minor chippings may be repaired using 'cold galvanizing paint'.
iv. Examine register arm and all hooks and fittings for cracks. Check for cracks on steady arm tube also.
v. Clean all insulators and carefully check as per approved drawing.
vi. Check and adjust heights and staggers on the basis of setting distance and rail level marked. Close coordination with track works is required for keeping the permanent way at the correct location.
vii. Check carefully condition of contact and catenary wires, particularly for kinks and twists in contact wire and broken strands of catenary wire. Any stranded conductor (catenary wire, negative feeder wire, aerial earth wire etc.) should be spliced if more than 20 per cent of the strands are broken.
viii. Check droppers and tighten bolts wherever required.
ix. Clean insulators and replace defective insulators as per approved maintenance plan.
x. Check staggers carefully on Tangent and Curvedlines.
xi. Check and ensure exact Encumbrance and steady clearance as per site.
xii. Check kinks and twist on contact wire and removed.
xiii. Check all bolts, nuts, check nuts, pins etc.
xiv. Checking of RRA clamps and contact wire at double cantilevers.
xv. Miscellaneous, if any.

2. Turn Outs & Crossovers: (As per DFCC Maintenance Manual)

a. With OHE Inspection Car running on main line check up if pantograph glides smoothly under the loop line OHE.
b. With OHE Inspection Car running on loop line check up if pantograph glides smoothly under the main line OHE.
c. Check stagger of both the OHEs at turn outs. (It shall not normally exceed 300mm).
d. Check that the main line OHE of overlap type turn out is about 50mm below that of the turnout OHE.
e. Checkup cross contact bar, if any, for displacement and distortion.
f. Check up for hit marks, if any.
g. Checkup rail level and setting of the obligatory mast.
h. Check up for hard spots near rigid droppers, if any.
i. Miscellaneous, if any.

3. Isolators: (As per DFCC Maintenance Manual)

a. Check number plates for cleanliness andsecurity.

b. Check correctness of operation, alignment of contacts and arcinghorns.

c. Check earth continuity whereapplicable.

d. Lubricate moving parts andlocks.

e. Check interlocks where provided.

f. Check that the distance between male and female contacts in open position as per drawing depending upon the type of isolator.

g. Miscellaneous, if any.

4. Section Insulators: (As per DFCC Maintenance Manual)

a. Replace defective insulators as per maintenance manual.

b. Check runners for flash-marks, hit marks and proper adjustment,

c. Check for excessive contact wire wear near anchor clamps,

d. Check the level of the assembly and adjust if necessary,

e. Tighten PG clamps of dropper's and stiffeners.

f. Miscellaneous, if any

5. <u>Overlaps:(As per DFCC Maintenance Manual)</u>

a) Check height and stagger of OHE in the overlap section.

b) Check whether the lifting of out-of-run OHE is correct.

c) Check that parallel running of contact wires in the overlap for a minimum 2m in the panto sweep region.

d) Miscellaneous, if any.

6. <u>ATDs:(As per DFCC Maintenance Manual)</u>

Regulating Equipment:

a) Check 'X' and 'Y' dimensions in the case of pulley block type equipment against prescribed values for the temperature at the time of checking. Make use of turn-buckles to adjust as required.

b) Check that the compensating plate is vertical. If not, adjust as required.

c) Lubricate pulleys and other moving parts.

d) Check if 20 rnm wide bands in black colour are painted on the mast to indicate upper and lower limits of movement of counter weight.

e) Check condition of stainless steel wire rope for any signs of corrosion and breakage of strands.

f) Ensure the availability of correct length sleeves; if not available same are to be provided.

g) Miscellaneous, if any.

7. Insulators: (As per DFCC Maintenance Manual)

Checking the insulators at regular intervals as per maintenance manual and approved drawings.

8. Jumpers: (As per DFCC Maintenance Manual)

All kinds of Jumpers with broken strands should be invariably replaced as per maintenance manual and approved drawings. Broken strands are most likely at the point of entry into PG clamps, possibly due to sharp edges in the clamp. PG clamps should have properly

rounded off edges to prevent the cutting of strands. The clamps should be checked for signs of overheating and proper tightness.

9. Splice: (As per DFCC Maintenance Manual)

The splice in OHE becomes necessary when a small length requires replacement as a result of excessive wear or restoration after breakdown as per maintenance manual.
The main points requiring attention during inspection of splice fittings are:

1. Careful examination for cracks or other casting defects or abnormalities.
2. In case of catenary splice fitting tightness of the right-hand and left-hand joint sockets.
3. Check to see if any slipping of the ends of two contact wires has taken place. When viewed through the top window, there should be no gap between the two contact wire ends.
4. Tightness of the stainless steel studs.

Note : Contact wire splices should not be re-used.

10. Leaning mast: (As per DFCC Maintenance Manual)

Masts which appear to be out-of-plumb should be checked with a plumb bob. Since the normal height of the contact wire is 5.80m above rail level, the extent of deflection of the masts at this height would be measured by conventional method and If the mast is out-of-plumb, by more than 3cm upto 5cm, it should be kept under watch after making sure that there is enough earthwork all-round.

During patrolling and inspection, make a particular check of the condition of earthwork around foundations of masts on embankments. If the earthwork has been or is likely to be eroded away, same shall be strengthened.

Note: To eliminate excess/abnormal leaning mast suitable foundation to be cast and new mast to be provided.

11. Foot patrolling: (As per DFCC Maintenance Manual)

I. The object of foot-patrolling is to make visual inspection of every part of the OHE (including feeder line) so that any defects and abnormalities noticed are recorded and reported to the maintenance gangs for attention.

II. The engaged staff on foot-patrol should be equipped with signal flags, an emergency telephone instrument and essential tools required for attending to defects on the spot e.g., spanners for tightening bond connections.

III. The staff/labour on patrol duty should particularly look for the following:
   (a) Damaged insulators.
   (b) Displaced fittings and droppers.
   (c) Excessive sagging or hogging of contact wire.
   (d) Whether equalizing plate is tilted.
   (e) Free movement of auto-tensioning device and position of with counterweight reference to upper and lower limits of movement marked on themast.
   (f) Presence of protective screens, caution and warning boards and anti climbing devices.
   (g) Structural soundness of height gauges at level crossings.
   (h) Bird-nests and pieces of stray wire likely to cause short circuits and branches of trees likely to infringe the HIGH RISE OHE;
   (i) Defective bonds and earth connections;
   (j) Any obstructions including tree branches in the way of free movement of Pantograph and trains;
   (j) Signs of heavy sparking when trains pass;
   (k) Isolators blades being fully in and for signs of sparking or overheating of isolators also condition of locks;
   (l) General condition of switching stations en-route;

(m) Tilting of masts especially on high banks and masts with san Core foundations;
(n) Numberplates.
(o) Any other abnormal/unusual situation.
(p) Miscellaneous, if any.

12. Anti-Creep:(As per DFCC Maintenance Manual)

i. Check the tightness of suspension clamps bolts.
ii. Check the healthiness of double suspension clamps.
iii. Ensure availability of every part.
iv. Miscellaneous, if any.

13. OHE Conductors by Tower car: (As per DFCC Maintenance Manual)

i. Ensure smooth passage of pantograph.
ii. Recording of contact wire height and staggers, and adjust to be done if required.
iii. Checking and tightening of all kinds of PG clamp available. Contact & Catenary splices are to be provided if required.
iv. Contact & Catenary splices are to be provided if required.
v. Checking of in span droppers and if found no load taken are to replaced.
vi. Replacement of catenary and dropper clips if required.
vii. Miscellaneous, if any.

14. <u>Rail level and setting distance: (As per DFCC Maintenance Manual)</u>

During periodical checking rail level and setting distance should be found out against the GPS Coordinates as per executed works and the same shall be rectified by the concerned party.

15. Checking and Maintenance of Portal Booms: (As per DFCC Maintenance Manual)

Check all steel part sandremoverust, if any, from painted steel works. Rusted portions, after cleaning must be given two coats of Zinc chromate premier followed by Aluminum paint.

Any Preventive OHE maintenance activity/ Schedule maintenance should be as per DFCCIL maintenance Manual.

1.4.4 Maintenance Schedule of Power Supply Installations(PSI):-

Schedule 6 Maintenance of Traction Sub Stations

Item no. 01- Monthly Maintenance of 132kV/55kV, 39/54.6/65.13 MVA Traction Power Transformer.

The job shall cover checking & Monthly maintenance of 132 kV/55kV, 39/54.6/65.13 MVA Traction Power Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 02-Half Yearly Maintenance of 132kV/55kV, 39/54.6/65.13 MVA Traction Power Transformer.

The job shall cover checking & Half Yearly maintenance of 132kV/55kV, 39/54.6/65.13 MVA Traction Power Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 03 -Yearly Maintenance of 132kV/55kV, 39/54.6/65.13 MVA Traction Power Transformer.
The job shall cover checking & Yearly maintenance of 132kV/55kV, 39/54.6/65.13 MVA Traction Power Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 04 -Monthly Maintenance of 132kV TP SF-6 Circuit Breaker.
The job shall cover checking & Monthly maintenance of 132kV TP SF-6 Circuit Breaker shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 05 -Half Yearly Maintenance of 132kV TP SF-6 Circuit Breaker
The job shall cover checking & Half Yearly maintenance of 132kV TP SF-6 Circuit Breaker shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 06 -Yearly Maintenance of 132 kV TP SF-6 Circuit Breaker
The job shall cover checking & Yearly maintenance of 132/220kV TP SF-6 Circuit Breaker shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 07 -Three Yearly Maintenance of 132kV TP SF-6 Circuit Breaker
The job shall cover checking & Three Yearly maintenance of 132kV TP SF-6 Circuit Breaker shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 08 -Monthly Maintenance of 132kV Current Transformer
The job shall cover checking & Monthly maintenance of 132kV Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 09 -Half Yearly Maintenance of 132kV Current Transformer
The job shall cover checking & Half Yearly maintenance of 132kV Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 10 -Yearly Maintenance of 132kV Current Transformer

The job shall cover checking & Yearly maintenance of 132kV Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 11 -Three Yearly Maintenance of 132kV Current Transformer

The job shall cover checking & Three Yearly maintenance of 132kV Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 12 -Half Yearly Maintenance of 132kV Potential Transformer

The job shall cover checking & Half Yearly maintenance of 132kV Potential Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 13 –Yearly Maintenance of 132kV Potential Transformer

The job shall cover checking & Half Yearly maintenance of 132kV Potential Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

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Item no. 14 –Monthly Maintenance of 120 kV Lightning Arrester

The job shall cover checking & Monthly maintenance of 120 kV Lightning Arrester shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 15 –Quarterly Maintenance of 120 kV Lightning Arrester

The job shall cover checking & Quarterly maintenance of 120 kV Lightning Arrester shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 16 –Half Yearly Maintenance of 120kV Lightning Arrester

The job shall cover checking & Half Yearly maintenance of 120/198 kV Lightning Arrester shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 17 –Yearly Maintenance of 120 kV Lightning Arrester

The job shall cover checking & Yearly maintenance of 120kV Lightning Arrester shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 18 –Monthly Maintenance of 132kV TP Motorized Isolator with or without earthing heel.

The job shall cover checking & Monthly maintenance of 132 kV TP Motorized Isolator shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 19 –Half Yearly Maintenance of 132kV TP Motorized Isolator with or without earthing heel

The job shall cover checking & Half Yearly maintenance of 132/220kV TP Motorized Isolator shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 20 –Yearly Maintenance of 132kV TP Motorized Isolator with or without earthing heel

The job shall cover checking & Yearly maintenance of 132/220kV TP Motorized Isolator shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

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Item no. 21 –Monthly Maintenance of 25 kV Current Transformer

The job shall cover checking & Monthly maintenance of 25 kV Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 22 –Half Yearly Maintenance of 25 kV Current Transformer

The job shall cover checking & Half Yearly maintenance of 25 kV Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 23 –Yearly Maintenance of 25 kV Current Transformer

The job shall cover checking & Yearly maintenance of 25 kV Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 24 –Three Yearly Maintenance of 25 kV Current Transformer

The job shall cover checking & Three Yearly maintenance of 25 kV Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 25 –Monthly Maintenance of 25 kV DP Circuit Breaker.

The job shall cover checking &Monthly Maintenance of 25 kV DP Circuit Breaker shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 26 –Half Yearly Maintenance of 25 kV DP Circuit Breaker.

The job shall cover checking &Half Yearly Maintenance of 25 kV DP Circuit Breaker shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 27 –Yearly Maintenance of 25 kV DP Circuit Breaker.

The job shall cover checking &Yearly Maintenance of 25 kV DP Circuit Breaker shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 28 –Monthly Maintenance of 42 kV Lightning Arrester

The job shall cover checking & Monthly maintenance of 42kV Lightning Arrester shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 29 –Quarterly Maintenance of 42 kV Lightning Arrester

The job shall cover checking & Quarterly maintenance of 42kV Lightning Arrester shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 30 –Half Yearly Maintenance of 42kV Lightning Arrester

The job shall cover checking & Half Yearly maintenance of 42kV Lightning Arrester shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 31 –Yearly Maintenance of 42kV Lightning Arrester

The job shall cover checking & Yearly maintenance of 42kV Lightning Arrester shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 32 –Quarterly Maintenance of 25 kV Potential Transformer Protection PT(Type I)

The job shall cover checking & Quarterly Maintenance of 25 kV Potential Transformer (Type I) shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 33 -Half Yearly Maintenance of 25 kV Potential Transformer PT (Type I)

The job shall cover checking & Half Yearly Maintenance of 25 kV Potential Transformer (Type I) shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 34 -Yearly Maintenance of 25 kV Potential Transformer PT (Type I)

The job shall cover checking & Yearly Maintenance of 25 kV Potential Transformer(Type I) shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 35 -Quarterly Maintenance of 25 kV Potential Transformer PT (Type II)

The job shall cover checking & Yearly Maintenance of 25 kV Potential Transformer(Type II) shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 36 –Half Yearly Maintenance of 25 kV Potential Transformer PT (Type II) The job shall cover checking & Yearly Maintenance of 25 kV Potential Transformer(Type II) shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 37 -Yearly Maintenance of 25 kV Potential Transformer PT (Type II)

The job shall cover checking & Yearly Maintenance of 25 kV Potential Transformer(Type II) shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 38 –Monthly Maintenance of 25 kV Current Transformer

The job shall cover checking & Half Yearly Maintenance of 25 kV Current Transformer at Auto Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 39 – Half Yearly Maintenance of 25 kV Current Transformer.

The job shall cover checking & Yearly Maintenance of 25 kV Current Transformer at Auto Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 40 –Yearly Maintenance of 25 kV Current Transformer.

The job shall cover checking & Three Yearly Maintenance of 25 kV Current Transformer at Auto Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 41 – Three Yearly Maintenance of 25 kV Current Transformer.

The job shall cover checking & Three Yearly Maintenance of 25 kV Current Transformer at Auto Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 42 -Monthly Maintenance of 25 kV Vaccum DP Interrupter

The job shall cover checking & Monthly Maintenance of 25 kV DP Interrupter shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 43 – Half Yearly Maintenance of 25 kV Vaccum DP Interrupter

The job shall cover checking &Half Yearly Maintenance of 25 kV DP Interrupter shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 44 – Yearly Maintenance of 25 kV Vaccum DP Interrupter

The job shall cover checking & Yearly Maintenance of 25 kV DP Interrupter shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 45 -Quarterly Maintenance of 25kV/240V, 100kVA LT Auxiliary Transformer–

The job shall cover checking & Quarterly Maintenance of 25kV/240V, 100kVA LT Auxiliary Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slip, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 46 – Half Yearly Maintenance of 25kV/240V, 100kVA LT Auxiliary Transformer

The job shall cover checking &Half Yearly Maintenance of 25kV/240V, 100kVA LT Auxiliary Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 47 – Yearly Maintenance of 25kV/240V, 100kVA LT Auxiliary Transformer

The job shall cover checking &Half Yearly Maintenance of 25kV/240V, 100kVA LT Auxiliary Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slip, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 48 –Quarterly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer

The job shall cover checking & Quarterly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 49 – Half Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer

The job shall cover checking & Half Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 50 – Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer

The job shall cover checking & Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 51 – Quarterly maintenance of 2500 KVAR CAPACITOR BANK INCLUDING SERIES REACTOR

The job shall cover checking & Quarterly maintenance of 2500 KVAR Capacitor Bank including Series Reactor in line with SMI No. TI/MI/0026(07/03) or latest, DFCCIL Maintenance instructions, if any.

1. Clean the dust over the insulators with the help of a damp cloth. In case of oily deposits carbon tetrachloride or any other suitable solvent may be used for cleaning of the insulators.
2. Observe for any dielectric leakage/seepage, if any leakage/seepage is found, rectify it.

3. Observe for any birdcages in and around the traction substations.
4. Observe physically for any abnormal temperature rise of the capacitor units.
5. Check and & set right the anti-bird nest.
6. Check duplicate earth connection& tightened.
7. Check the bus bar /jumper terminal connection tightness.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 52 – Half yearly maintenance of 2500 KVAR CAPACITOR BANK INCLUDING SERIES REACTOR

The job shall cover checking & Half Yearly maintenance of 2500 KVAR Capacitor Bank including Series Reactor in line with RDSO SMI No. TI/MI/0026(07/03) or latest, DFCCIL maintenance instructions, if any.

During Half Yearly maintenance, the following checks also to be done along with the checks mentioned item no. 66 above):

1. Check the excessive tension on any of the connectors. Ease out the tension on the bushings, if required.
2. Observe for any rust collection/corrosion marks on the metallic parts and clean them.
3. Observe the current and voltage variations for the capacitor bank for at least 24 hours (Hourly readings of voltage and current for the capacitor bank should be recorded. If continuous recording facility is available, the same may be used).
4. Compare the records of measurements with last recorded readings. Measurements with Digital meters shall be ideal. Examine and execute the changes for the past few years.
5. Measured combined capacitance value of capacitor bank & record

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 53 – Yearly maintenance of 2500 KVAR CAPACITOR BANK INCLUDING SERIES REACTOR

The job shall cover checking & Yearly maintenance of 2500 KVAR Capacitor Bank including Series Reactor in line with RDSO SMI No. TI/MI/0026(07/03) or latest, DFCCIL Maintenance instructions if any.

During Yearly maintenance, the following checks also to be done along with the checks mentioned in Item no. 56 & 57 above.

1. Ensure proper tightening of the fasteners and the connectors.
2. Measure the capacitance value and tan delta of the capacitor units at nearly the same ambient temperature. Compare with last measured values.
3. Measure the IR value & capacitance value of each capacitor unit & combined value of IR & Capacitance value.
4. Check and recorded the spill voltage.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 54 – Quarterly Maintenance of 25 kV Neutral Current Transformer

The job shall cover checking &Quarterly Maintenance of 25 kV Neutral Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

1. Clean externally the tank and bushing with dry cloth.
2. Check explosion vent diaphragm for any damage and presence of oil.
3. Check for any oil leakages at all joints, valves, plugs etc., rectify the leakage parts if found and restore the oil level.
4. Check all bonding & earthing connection.
5. Check and record oil level in bushes
6. Check terminal connectors.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 55 - Yearly Maintenance of 25 kV Neutral Current Transformer

The job shall cover checking & Yearly Maintenance of 25 kV Neutral Current Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

1. Clean externally the tank bushing with dry cloth.
2. Check explosion vent diaphragm for any damage and presence of oil.
3. Check for any oil leakage.
4. Check all bonding & earth connection.
5. Record IR values with 2.5 kV megger.
6. Check and record oil level in the bush.
7. Check terminal connectors.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 56 – Fortnightly battery & battery charger maintenance of TSS

The job shall cover checking & Fortnightly battery & battery charger maintenance of TSS shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 57 – Yearly battery & battery charger maintenance of TSS

The job shall cover checking &Yearly battery & battery charger maintenance of TSS shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 58 – Half Yearly maintenance of Earthing station

The job shall cover checking &Half Yearly maintenance of Earthing station shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized

1. Check all bonding & earth connection.
2. Record Combined and individual Earth Resistance with Earth tester.
3. Stenciling of Earth Resistance values shall be done with date.

Item no. 59 – Yearly maintenance of Earthing station

The job shall cover checking &Yearly maintenance of Earthing station and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized

1. Check all bonding & earth connection.
2. Record Combined and individual Earth Resistance with Earth tester.
3. Stenciling of Earth Resistance values shall be done with date.
1. Check all bonding & earth connection.
2. Record and individual Earth Resistance with Earth tester.
3. Stenciling of Earth Resistance values shall be done with date.

Item no. 60 – Yearly Buried Rail Connection

The price shall cover Yearly maintenance of Buried rail, connection with 400 sq. mm XLPE cable

1. Check all bonding & earth connection duly excavate.
2. Intactness of welding & Bonding Bolt needs to be ensured.
3. Painting of bond and welded joints.
4. If corroded, same shall be replaced or attended. (As per Schedule 03 item no. 16/17)
5. If earth value is below the prescribed value the same to be improved

Item no. 61 – Half Yearly Thermal Imaging of Equipment connector

The job shall cover Thermal Imaging of Equipment connectors as per directives of DFCCIL/RDSO instructions if any.

1. Thermal Imaging of Equipment connectors shall be done during loaded condition.
2. The Images shall be stored in Heat format. Necessary backup shall be made available in Depot systems for verifying on later date.
3. Thermal Imaging devices will be supplied by Railway.
4. Defects noticed during the check shall be escalated to depot in charge and as well as to DFCCIL officers and steps to be taken to attend the same at the earliest.

Item no. 62– Yearly Maintenance of Earth Screen Conductor

The job shall cover checking & Yearly maintenance of Earth Screen Conductor

1. Tightness checking of earth flat and its accessories.
2. Visual checking of corrosion & strands cut if any.
3. Painting of earth flat and its accessories.

Item no. 63 – Yearly maintenance of Cable Trench Cleaning

The job shall cover checking & Yearly maintenance of Cable Trench Cleaning

1. Cleaning of cable trench and cables.
2. Painting of trench cover frame.

3. Repairing of minor damage of cable trench and its cover.

Item no. 64 – Reclamation of DCP (5kG, 10 kG & 25 kG),CO2 (9kG) & form type fire extinguisher.

The job shall cover Servicing & maintenance of,

1) Dry-chemical powder (DCP) type: 5, 10 Kg & 25Kgs.
2) CO2: 9 Kg.
3) Foam type Fire Extinguisher

Servicing of Fire extinguisher will be done once in quarter and replacement of dry chemical powder will be done once in 2 years. All accessories required for replacement to be arranged by the contractor. Details of servicing/replacement are to be stenciled on fire extinguisher.

Item no. 65 – Refilling of DCP (5kG, 10 kG & 25 kG), CO2(9kG) & form type fire extinguisher.

The job shall cover refilling of,

1) Dry-chemical powder (DCP) type: 5, 10 Kg &25Kgs.
2) CO2: 9 Kg.
3) Foam type.

Details of refilling are to be stenciled on fire extinguisher.

Note: As the Contractor's each gang of staff is head quartered at respective TSS, the TSS yard shall be maintained vegetation free for which no additional payments are admissible.

Schedule 7 SP/SSPs/ATS/PP Maintenance :

Item no.1 - Monthly Maintenance of 9 MVA Auto Transformer.

The job shall cover checking & Monthly Maintenance of 9 MVA Auto Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 2 – Half Yearly Maintenance of 9 MVA Auto Transformers

The job shall cover checking &Half Yearly Maintenance of 9 MVA Auto Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 3 – Yearly Maintenance of 9 MVA Auto Transformers

The job shall cover checking & Yearly Maintenance of 9 MVA Auto Transformer shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 4 – Monthly Maintenance of 25 kV DP Interrupter

The job shall cover checking & Monthly Maintenance of 25 kV DP Interrupter shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 5 – Half Yearly Maintenance of 25 kV DP Interrupter
The job shall cover checking & Half Yearly Maintenance of 25 kV DP Interrupter shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 6 – Yearly Maintenance of 25 kV DP Interrupter
The job shall cover checking & Half Yearly Maintenance of 25 kV DP Interrupter and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 7 – Monthly Maintenance of 25 kV DP Isolator
The job shall cover checking & Monthly Maintenance of 25 kV DP Isolator and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 8 – Half Yearly Maintenance of 25 kV DP Isolator
The job shall cover checking & Half Yearly Maintenance of 25 kV DP Isolator and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 9 – Yearly Maintenance of 25 kV DP Isolator
The job shall cover checking & Yearly Maintenance of 25 kV DP Isolator and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.
The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 10 – Quarterly Maintenance of 25 kV Potential Transformer
The job shall cover checking & Quarterly Maintenance of 25 kV Potential Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 11 –Half Yearly Maintenance of 25 kV Potential Transformer

The job shall cover checking & Half Yearly Maintenance of 25 kV Potential Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 12 –Yearly Maintenance of 25 kV Potential Transformer

The job shall cover checking & Yearly Maintenance of 25 kV Potential Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 13 –Monthly Maintenance of 42 kV Lightning Arrester

The job shall cover checking & Monthly Maintenance of 42 kV Lightning Arrester and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 14 –Quarterly Maintenance of 42 kV Lightning Arrester

The job shall cover checking & Quarterly Maintenance of 42 kV Lightning Arrester and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 15 –Half Yearly Maintenance of 42 kV Lightning Arrester

The job shall cover checking & Half Yearly Maintenance of 42 kV Lightning Arrester and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 16 -Yearly Maintenance of 42 kV Lightning Arrester

The job shall cover checking & Yearly Maintenance of 42 kV Lightning Arrester and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 17 –Quarterly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer

The job shall cover checking & Quarterly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 18 – Half Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer

The job shall cover checking & Half Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 19 – Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer

The job shall cover checking & Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformers and hall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 20 – Fortnightly battery & battery charger maintenance at SPs/SSPs

The job shall cover checking & Fortnightly battery & battery charger maintenance at SP/SSPsand shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 21– Yearly Maintenance of Battery and Battery Charger

The job shall cover checking & Yearly Maintenance of Battery and Battery Charger maintenance at SPs/SSPs and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 22 – Half Yearly maintenance of Earthing station

The job shall cover checking & Half Yearly maintenance of Earthing station at SCPs shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 23 – Yearly maintenance of Earthing station

The job shall cover checking & Yearly maintenance of Earthing station at SCPs shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office

Item no. 24 – Yearly Buried Rail Connection

The price shall cover Yearly maintenance of Buried rail, connection with 400 sq. mm XLPE cable

1. Check all bonding & earth connection duly excavate.
2. Intactness of welding & Bonding Bolt needs to be ensured.
3. Painting of bond and welded joints.
4. If corroded, same shall be replaced or attended. (As per Schedule 03 item no. 16/17)
5. If earth value is below the prescribed value the same to be improved

Item no. 25 – Monthly maintenance of 25 kV SSP interrupter

The job shall cover checking & Monthly Maintenance of 25 kV SP Interrupter at SCPs and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL

Item no. 26 – Half yearly maintenance of 25 kV SSP interrupter

The job shall cover checking & Half Yearly Maintenance of 25 kV SP Interrupter and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCILwith its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL

Item no. 27 - Yearly maintenance of 25 kV SSP interrupter

The job shall cover checking & Yearly Maintenance of 25 kV SP Interrupter and shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL

Item no. 28- Half Yearly Thermal Imaging of Equipment connector

The job shall cover checking & Half Yearly Thermal Imaging of Equipment connector shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCIL with its latest correction slips, if any.

1. Thermal Imaging of Equipment connectors shall be done during loaded condition.
2. The Images shall be stored in Heat format. Necessary backup shall be made available in Depot systems for verifying on later date.
3. Thermal Imaging devices will be supplied by Railway.
4. Defects noticed during the check shall be escalated to depot in charge and as well as to Railway officers and steps to be taken to attend the same at the earliest.

Item no. 29 – Yearly Maintenance of Earth Screen Conductor

The job shall cover checking & Yearly maintenance of Earth Screen Conductor

1. Tightness checking of earth flat and its accessories.
2. Visual checking of corrosion & strands cut if any.
3. Painting of earth flat and its accessories.

Item no. 30 - Yearly maintenance of Cable Trench Cleaning

The job shall cover checking & Yearly maintenance of Cable Trench Cleaning

Item no. 31 –Reclamation of DCP (5kG,10 kG & 25 kG), CO2(9kG) & form type fire extinguisher.

The job shall cover Servicing & maintenance of,

1) Dry-chemical powder (DCP) type: 5, 10 Kg & 25Kgs.
2) CO2: 9 Kg.
3) Foam type Fire Extinguisher

Servicing of Fire extinguisher will be done once in quarter and replacement of dry chemical powder will be done once in 2 years. All accessories required for replacement to be arranged by the contractor. Details of servicing/replacement are to be stenciled on fire extinguisher.

Item no. 32 –Refilling of DCP (5kG,10 kG & 25 kG),CO2(9kG) & form type fire extinguisher.

The job shall cover refilling of,

1) Dry-chemical powder (DCP) type: 5, 10 Kg &25Kgs.
2) CO2: 9 Kg.
3) Foam type.

Details of refilling are to be stenciled on fire extinguisher.

Schedule 8: Panels & Gantry Bus Bar insulator other Maintenance:

Item no. 1 –Monthly panel maintenance in TSS

The Checking and maintenance against this item shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCILs with its latest correction slips if any as per instruction of DFCCIL representative.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 2 –Monthly panel maintenance in SP/SSP

The Checking and maintenance against this item shall be carried out in line with Maintenance Manual/Approved drawings(As Build Drawings)/Specifications of DFCCILs with its latest correction slips if any as per instruction of DFCCIL representative.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 3 –Half yearly Cross gantry or any others Gantry Bus Bar maintenance of TSS

The Checking and maintenance against this item shall be carried out in line with Maintenance Manual/Approved drawings(As Build Drawings)//Specifications of DFCCILs with its latest correction slips if any as per instruction of DFCCIL representative.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 4 –Half yearly Cross gantry or any others Gantry Bus Bar maintenance of of SP/SSPs

The Checking and maintenance against this item shall be carried out in line with Maintenance Manual/Approved drawings (As Build Drawings)/Specifications of DFCCILs with its latest correction slips if any as per instruction of DFCCIL representative.

The Joint Report/Maintenance sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 5 – Removal and re-erection of PSI Equipment

Removal and re-erection of PSI Equipments shall be done as per OEM manual. This job shall cover replacement of PSI equipments viz CTs, PTs, ATs, LAs, Capacitors, Isolators, Interrupters, CBs etc. The rates are calculated for each occasion. The supply of material will be provided by DFCCIL. The man power deputed shall leave the work spot with the permission of engineer in charge. All released materials to be handed over to Railways.

The Joint Report sheets to be signed by Engineer in-charge and Contractor's representative which will be submitted by contractor to DFCCIL centralized office.

Item no. 6 –Supply & Erection of Caution Board

The payment under this item shall cover supply and erection of Retro-reflective type boards- 25 KV AC danger board, danger board for height gauge, public/ staff caution boards and special boards on uniform basis as decided by the DFCCIL Engineer.

Item no. 7 –Supply and spreading of ballast/Pebbles/Gravels in Switching Stations/TSS yard

The price shall cover the supply and spreading of 20 mm crushed stone ballast / pebbles / gravels in Switching Stations / TSS yard. The graded ballast shall be between 30 mm to 15mm machine crushed without any mixing of soil. The price shall also cover the spreading and leveling of ballast in switch yard smoothly with a good workmanship.

This price shall also include the following:

a) Removal of wild vegetation in switch yard in existing ballast areas along with its roots.
b) Cleaning of existing ballast and screening of soil from existing ballast.
c) Smoothing and re-spreading of existing ballast so collected.

The rates are calculated in CUM as per requirement for the entire section. The man power deputed shall leave the work spot with the permission of engineer in charge

Item no. 8 -Reinforce concrete for cable trench & cover

The price shall cover the provision of cable Trenches and its cover made with Reinforced concrete including digging of soil/surface as per instruction of Engineer in charge at site.

The rates are calculated in Sq.m as per requirement for the entire section. The man power deputed shall leave the work spot with the permission of engineer in charge. All released materials to be handed over to Railways.

Item no. 9 – Supply and repainting of PSI Equipment like Transformer CT ,PT ,LA BM, CB, AT as per site requirement with water proof gray enameled paint by approved brand i.e. Asian Berger etc. as per IS 2932 or latest

The price shall cover the supply of paint and complete repainting of PSI equipments like Traction Transformer, CB, BM, PT, AT etc. as per site requirement with water proof gray enameled paint from any of RDSO approved brand paint i.e. Asian or Berger brand / make paint confirming to IS: 2932 or latest including rubbing / scrubbing of surface to remove corrosion/foreign material etc from PSI equipments as per instruction of Engineer in charge at site. The small patches or small patch rusting painting will be covered under maintenance schedule. Only complete repainting of any equipment will be paid under this item.

The rates are calculated in Sq. m as per requirement for the entire section. The man power deputed shall leave the work spot with the permission of engineer in charge. This work will be executed as per satisfaction of DFCCIL Engineer.

Item no. 10 – Supply and repainting of PSI assets ie. Fencing Panels, Fencing UP right, barbared wire, Tubular pole at TSS/SP/SSP with Aluminum Paint i.e. Asian Berger etc. as per IS 2339 or latest

The price shall cover the supply of paint and repainting of PSI assets i.e. Fencing Panels / uprights, barbed wires, TSS / Switching posts and Tubular Poles at TSS in electrified section with Aluminum Paint from any of RDSO approved brand / make confirming to IS:2339 or latest as per instruction of Engineer in charge at site.

The rates are calculated in Sq.m as per requirement for the entire section. The man power deputed shall leave the work spot with the permission of engineer in charge. This work will be executed as per satisfaction of Railway Supervisor.

Item no. 11 – Supply and erection of Earth Pit cover & Box

The price shall cover the Supply and erection of Earth Pit Box with cover as per RDSO specification / drawing available latest.

The rates are calculated in numbers of Earth Pit Box with cover provided as per requirement for the entire section. The man power deputed shall leave the work spot with the permission of engineer in charge.

Item no. 12 – Provision of Shock Treatment Chart

The price shall cover the supply and provision of Shock Treatment charts at TRD depots, TPC Control, TSS, Switching Stations and Level Crossing Gates as per requirement. The rates are calculated in the number of Shock Treatment Charts provided by the contractor as per requirement. The man power deputed shall leave the work spot with the permission of engineer incharge.

Item no. 13 – Drilling of holes in mast/ rails with contractor own labour and T&P complete.

The price shall cover the drilling and champehring of holes in mast / rails with contractor's own labour and T&P complete in the supervision of Engineer incharge and as per requirement of site.

The rates are calculated in the number of holes drilled in masts/rails as per requirement. The manpower deputed shall leave the work spot with the permission of Engineer in charge. All released materials to be handed over to Railways.

Item no. 14 – Removal of Wild vegetation in TSS/SP/SSPs

The price shall cover the complete removal of wild vegetation in Sub Station except Switching yard(Kacha Yard) on Quarterly schedule basis or as per requirement and as per instruction of Engineer In-charge at site. The contractor shall provide the requisite chemical for spraying to destroy the wild vegetation and requisite T&P to the staff deployed to ensure complete and effective removal of wild vegetation in in Sub Station except Switching yard (Kacha Yard). The rates are calculated in Sq.m for in Sub Station except Switching yard (KachaYard) in the entire section.The manpower deputed shall leave the work spot with the permission of engineer incharge.

Item no. 15 – Supply and erection of earth leads 75 x 8 mm mild steel flat laid in the ground or exposed as per site requirement"

The price shall cover supply and installation per meter length of 75x8mm mild steel flat, buried at a depth of 60 cm below ground level. The price shall also cover connections of the steel flats to the earth electrodes to constitute the main earth ring and to the earthed terminals of the power transformers etc. as required.

The price shall also cover supply and installation per meter length of 75x8 mm mild steel flat, painted all around with two coats of painting with red oxide and two coats of colour grass green shade-218 of IS:5 passing through cable trench or exposed above ground level. The price shall also cover the connections of the steel flats to the earth electrodes, to constitute the main earth ring and to the earthed terminals of the various equipments as required.

Item no. 16 – Supply and erection of earth leads 50 x6 mm mild steel flat laid in the ground or exposed as per site requirement"

The price shall cover supply and installation per meter length of 50x6mm mild steel flat buried at a depth of 60cm below ground level. The price shall also cover connections of the steel flats to the main earth ring and to the steel structures and metallic frame work/ terminals of various equipments, as required.

The price shall cover supply and installations per meter length of 50x6 mm mild steel flat painted all around with two coats of painting with red oxide and two coats of colour grass green shade-218 of IS:5 passing through cable trench or exposed above ground level. The price shall also cover the connections of the steel flats to the main earth ring and to the steel structures and metallic frame work/terminals of various outdoor equipments as required

Item no. 17 – Supply and erection of 8 SWG GI Wire for earthing

The price shall cover supply, shaping and erection of 8 SWG G.I wire per metre used for earthing of control panels, LT, AC and DC distribution boards, battery chargers, etc. at sub- station control rooms. The requirement of fencing panel earthing to the nearest fencing upright shall also be included and paid for under this item.

Schedule 9 -Break down attention

Item no. 1 – Breakdown attention of PSI equipments at TSS/SP/SSPs

The job shall cover the Breakdown attention of PSI equipments as mentioned below,

The job shall cover Supply of Man Power for restoration of all 2x 25kV PSI equipments such as

circuit breakers, Interrupters, Potential transformers, AT, CT, Capacitor bank ,Bus bar etc. during Break down round the clock on hourly basis for all restoration of 25kV PSI Equipments
.The Contractor is required to deploy one Supervisors, One Technicians and Two Helpers who are competent to attend Failures in PSI equipments. The job against this item is applicable for Supply of Man Power on hourly basis consisting of the above staff in one Gang.
In case of major repair that requires OEM/Specialized agency attention then such repair will be undertaken by DFCCIL separately.
Breakdown staff may be located at selected points as required by Railways to deal promptly with PSI equipments failures.

Item no. 2 –Maintenance of 25 KV dropout fuse AT TSS/SP/SSP

The job shall cover Rectification of 25 kV dropout fuse in Auxiliary Transformer locations between REJN-Madar section. Rectification to be done immediately, as and when required. Nominated staff for the above job should be available to reach the working spot round the clock..

Item no. 3 -Manning of SSP in case of Emergency

The job shall cover the Manning of SSP in case of Emergency as mentioned below:

1. Whenever remote control working is not possible due to any fault on the communication cable or in the remote control equipment or failure of battery etc. it is necessary to arrange for manning the switching station by posting suitably qualified and competent staff that is authorized to carry out emergency switching operations as instructed by TPC. The manning staff shall make himself conversant with the equipment is required to operate and the rules that are laid down by the Railway administration.

2. Manning staff shall carry out orders issued by TPC over the telephone, observing the rules laid down for exchange of telephone messages.

3. Manning staff should maintain a log book showing the details of operations in order in which they were done, interruption to power supply, abnormal occurrences, defects in plant requiring attention and other information if any. The log will be signed by both the relieving and relived staffs at every change of shift as a token of having taken over and hand over all equipment correctly.

4. The manning staff on shift duty is forbidden to leave the post station unless he is relieved by another person. No interchange of duties or variation of duty hours is permitted without the prior permission of TPC, and staff who are unable from any cause to take their shift, shall at once notify TPC.

5. One man day in this part of schedule is for 12 hours. Contractor has to arrange for transport of the personnel manning the SP/SSP. The man so deployed shall have mobile phone which shall be advised to TPC immediately he is assigned for manning duty.

Schedule 10 Additional PSI maintenance Activity (Material suitable for the PSI assets of PRYJ(E) Jurisdiction)

Item no. 1 –Dismantling, supply, erection & commissioning of LA, CT, PT, CB & BM in case of break down/bursting of the equipment- As per Appendix B.

Supply of spares required during maintenance break downs for a period of 2 years- As per **Appendix B.** The spares required for attending the breakdown & preventive maintenance will be arranged by

the contractor from OEM / authorized dealer of OEM. The contractor will be paid the cost of the spare / materials supplied as per price list of Annexure-B along with the released materials to the consignee.

Schedule 11: Maintenance of Traction Sub Stations /SCPs (Optional)

Maintenance of this schedule will be performed as per **Appendix-C** as and when requirement for a period of 2 years.

Item no. 1 to 3 –Oil Filtration for power Transformer: Streamline Oil filtration work & Conservator tank

This shall cover the cost towards oil filtration for Power Transformer during topping up of oil or during any replacement of gasket/Bushing. Oil filtration needs to be done to improve oil BDV**.**

Item no. 4 to 17–Bushings Oil leakage attention in Transformer: Streamline Oil filtration work & Conservator tank

This shall cover the cost towards Oil leakage attention in Transformer bushings.

Item no. 18 to 20–Oil Leakage attention and overhauling of TAP changer: Leakage attention to OLTC tapping gear and new Gasket O ring changing work .

This shall cover the cost towards Oil leakage attention and overhauling of TAP changer of Power Transformers.

Item no. 21 –Calibration of Measuring instruments [Will be paid based on the submission of proof] This job shall cover calibration of Measuring instruments supplied by DFCCIL at the NABL accredited labs. It also includes the transportation of instruments from Depot to Labs and return. The payment for this item will be made based on the submission of certificate for the calibrated instruments with original bill/invoice from the NABL accredited labs. The periodicity of calibration will be as per extant rule and as advised by authorized Railway in-charge. of bill of calibrated instruments in the NABL accredited labs]

Maintenance Schedule of Power Supply Installations (PSI):-

Normally all Maintenance Schedule should be followed as per DFCCIL Maintenance Manual for all type of Transformers, Circuit Breakers, Isolators, CT, PT etc. PSI equipment of different voltage levels in TSS, SP, SSP and ATS etc.

A. FORTNIGHTLY SCHEDULE

Battery

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Specific	Check & record the specific gravity of each cell. At 27ºC, 1210 in charged condition and	

	gravity	1150 means discharged condition.	
2.	Distilled water	Check the level of electrolyte of the cells. Top up to the maximum mark, if required.	
3.	Temperature	Check & record the temperature of each cell.	
4.	Sulphation	Check clean sulphation on terminal & and applypetroleum jelly,if connectors required.	
5.	Condition of Plate	Check & clean physical condition such as cracks, distortions and accumulation of whitish deposit on +ve plates. Replace cell, if required.	
6.	Cell voltage	Check & record the voltage of each cell, it should be in the range of 2.0V to 2.2V.	
7.	Total voltage	Check & record the total voltage of battery, it should not be less than 110 Volts.	
8.	Vent plugs	Check for clear passage of gases. If hole is blocked, clean it.	
9.	Sedimentation and any internal damage	Check the cells for undue sedimentation and any internal damage. If observed, clean it. If damage can not be attended, replace the cell.	
10.	Inter cell connections	Check & clean withdry cloth. Replace defective nuts, bolts & washers.	
11.	Battery room	Clean the room and ensure proper ventilation.	

B. MONTHLYSCHEDULE

1. General Works on TSS, SSP &SP

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	General cleanliness	Check surface of the roadway, proper drainage, rail access and pathways in the substation. Roadway and pathway should be firm and sufficiently elevated to prevent water-logging and proper drainage.	
2.	Vegetation	Check & clean vegetation near and around equipment in yard.	
3.	Tree and branches	Check & trim tree branches likely to come in the vicinity of live lines.	
4.	Caution, danger board, shock treatment chart and other boards	Check & clean the boards for damages, availability and well secured, replace if any damage is observed.	
5.	Fire extinguishers, fire buckets and firstaid Box	Check for expiry of fire extinguisher and first aid box and refill with necessary medicines. Fill up/replace sand in fire buckets, if required.	

6.	Structure and plant foundations	Check for any sinking or cracking and go round the structural work for checking tightness of various bolts and nuts.	
7.	All indication lamps on control panels	Check loose connections, fuse indicationetc. Tighten the same and replace the fuse, if required.	
8.	State electricity board meter readings	Check & record meter reading, MD, variation in voltage, frequency and power factor and important data parameters.	
9.	All jumpers & other connections	Check visually for flash/spark marks on jumper, nuts & bolts. Tighten the respective bi-metallic clamp/connections. Replace, if required.	
10.	Discharge Rod	Check for cable strands broken and damages. If strands 20% broken, replace the cable.	

2. Power Transformer (V-Connected)

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Maximum temperature of transformer oil on dial indicator	Check and compare it with the previous values. Abnormal change in the temperature should be further investigated and reset indicator.	
2.	Maximum temperature of transformer winding on Dial indicator	Check and compare it with the previous values. Abnormal change in the temperature should be further investigated and reset indicator	
3.	Oil level in conservator (MOLOG)	Check as per transformer oil temperature indication. If low, top up with the filtered oil.	
4.	Buchholz Relay	Check for gas collection. In case gas is collected, the DGA test of oil must be carried out.	DGA report must be examined for any abnormality.
5.	Oil level in Oil Immigrated Paper (OIP) condenser bushing	Check for oil level with reference to the oil level indicator:- • In case of sealed bushing, if no oil./less than minimum level indication. Measure Tan-Delta & capacitance and compare the test values recorded earlier. • In case of oil filled bushing, if any leakage is observed, the same shall be attended	Max. Allowable tan-Delta-0.007 and capacitance is 110% of the factory set value respectively or as per OEM manuals.
6.	Tap changer	Check & record the position of tap changer in standby and service transformer.	

7.	Tank, radiators, conservator, Bushing, Oil level indicator, gauges	Check & clean dirt deposits, leakage and crack. If crack/leakage is observed, replace/attend it.	
8.	Dehydrating breather	• Check breather for choking due to insect/dirt. If breather is choked, remove the dirt etc. • Check the intactness of gasket and color of silica gel. If gasket is damaged and silica gel is pink, replace the same with new gasket and dry silica gel or recondition the old silica gel.If silica gel is too wet, check the BDV of transformer oil. • Check oil level in oil cup. Fill up oil in cup, if required.	If BDV is less than 50 kV, filter the oil till it reaches 50 kV.
9.	Heater in marshalling box	Check for proper functioning. In case not working, the connection should be checked and rectified.	
10.	Sound	Check abnormal humming, observe and arrest the humming sound.	Find out the reason
11.	All external connection	Check visually that all connections are normal without any dis-coloration due to local heating. In case of any sign of heating, clean and tighten the bolts and nuts.	
12	NIFPS	Visually Check for any abnormality. In the Nitrogen Injection Fire Protection System (NIFPS). Check pressure of nitrogen gas in the dial gauge as per OEM recommendation.	

3. AutoTransformer(9 MVA)

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Maximum temperature of transformer oil on dial indicator	Check and compare it with the previous values. Abnormal change in the temperature should be further investigated and reset indicator	
2.	Maximum temperature of transformer winding on Dial indicator	Check and compare it with the previous values. Abnormal change in the temperature should be further investigated and reset indicator	
3.	Oil level in conservator (MOLOG)	Check as per transformer oil temperature indication. If low, top up with the filtered oil	

4.	Buchholz Relay	Check for gas collection. In case gases collected, the DGA test of oil must be carried out.	DGA report must be examined for any abnormality.
5.	Oil level in Oil Immigrated Paper (OIP) condenser bushing	Check for oil level with reference to the oil level indicator:- • In case of sealed bushing, if no oil./less than minimum level indication. Measure Tan-Delta & capacitance and compare the test values recorded earlier. • In case of oil filled bushing, if any leakage is observed, the same shall be attended.	Max. allowable tan-Delta-0.007 and capacitanceis 110% of the factory set value respectively or as per OEM manual.
6.	Tank, radiators, conservator, Bushing, Oil level indicator, gauges	Check & clean dirt deposits, leakage and crack. If crack/leakage is observed, replace/attend it.	
7.	Dehydrating breather	• Check breather for choking due to insect/dirt. If breather is choked, remove the dirt etc. • Check the intactness of gasket and colour of silica gel. If gasket is damaged and silica gel is pink, replace the same with new gasket and dry silica gel or recondition the old silica gel. If silica gel is too wet, check the BDV of transformeroil. • Check oil level in the oil cup. Fill up oil in cup, ifrequired.	If BDV is less than 50 kV, filter the oil till it reaches 50 kV.
8.	Heater in marshalling box	Check for proper functioning. In case not working, the connection should be checked and rectified.	
9.	Sound	Check abnormal humming, observe and arrest the humming sound.	Find out the reason
10.	All external connection	Check visually that all connections are normal without any discolouration due to local heating. In case of any sign of heating, clean and tighten the bolts and nuts.	
11	NIFPS	Visually Check for any abnormality in Nitrogen Injection Fire Protection System (NIFPS). Check pressure of nitrogen gas in the dial gauge as per OEM recommendation.	

4. 132 KV Triple Pole SF-6 CircuitBreaker

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Surface of Porcelainpole insulatorunit	Check for damages, flash mark, chipping of insulator. Replace, if required. Clean with dry cotton cloth for dirtiness.	
2.	Counter reading	Check operation of counter and record counter reading of Circuit Breaker: - Beforemaintenance - Aftermaintenance	
3.	Gas pressure	Check and Record gas pressure With temperature	7.0Kg/cm sq at 20ºC temp or as per OEM manual.
4.	Mechanism box	Open the cover, check & clean mechanism box for condensation rain water, gasket of door, dust and hinges. Arrest the reason and attend it.	Clean &apply weather sealant material as per OEM manual.
5.	Heater, thermostat & lamp	Check function of heater, thermostat &lamp. If any defect, attend it.	Working & setting of thermostat is 25 – 30^0C.
6.	Control circuit	Record operating voltage, check control circuit wiring and all connections should have proper lugs and ferule number in terminal box.	
7.	Local/Remote switch operation	Check the operation of breaker on local and remote switch. Breaker should have open & close on selected position.	
8.	Local and Remote switch	Check the function of local and remote switch.	
9.	Position of indicator	Check the proper alignment of breaker operation indicator with its position.	
10.	Shock observer	Check the oil leakage from shock absorber. Repair or replace, if necessary.	
11.	Limit switch & auxiliary contact	Check & clean the function of auxiliary limit switch, auxiliary contact and connection for tightness.	
12.	Condenser tripping device, if provided	Check the function of CTD for proper operation. If defective, attend the same.	
13.	Anti pumping device for CB	Check the function of APD for proper operation. If defective, attend the same.	
14.	Interlocking	Check the proper interlocking with isolator.	

5. 132 KV Triple Pole SF-6 CircuitBreaker

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Surface of porcelain pole Insulator unit	Check for damages, flash mark, chipping of insulator. Replace, if required. Clean with dry cotton cloth for dirtiness.	
2.	Counter reading	Check operation of counter and record counter reading of CB: Before maintenance After maintenance	
3.	Gas pressure	Check & record gas pressure With temperature	7.0Kg/ sq cm at 20ºC temp.
4.	Mechanism box	Open the cover, check & clean mechanism box for condensation rain water, gasket of door, dust and hinges. Arrest the reason and attend it.	Clean & apply weather sealant material as per OEM manual.
5.	Heater, thermostat & lamp	Check function of heater, thermostat & lamp. If any defect, attend it.	Working & setting of thermostat is 30ºC –35ºC.
6.	Control circuit	Record operating voltage, check control circuit wiring and all connections should have proper lugs and ferule number in terminal box.	
7.	Local/Remote switch operation	Check the operation of breaker on local and remote switch. Breaker should have open & close on selected position.	
8.	Localand Remote switch	Check the function of local and remote switch.	
9.	Position of indicator	Check the proper alignment of breaker operation indicator with its position.	
10.	Shock observer	Check the oil leakage from shock absorber. Repair or replace, if necessary.	
11.	Limit switch &auxiliary contact	Check & clean the function of limit switch, auxiliary contactandconnection fortightness.	
12.	Condenser tripping device, if provided	Check the function of CTD for proper operation. If defective, attend the same.	
13.	Anti-pumping device forCB	Check the function of APD for proper operation. If defective, attend the same.	
14.	Interlocking	Check proper interlocking with isolator.	

6. 25 kV Double Pole Vacuum Circuit Breaker

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Surface of porcelain pole insulator unit	Check for damages, flash mark, chipping of insulator.Replace, if required. Clean with dry cotton cloth for dirtiness.	
2.	Magnetic actuator operating mechanism and Drive link assembly ,if applicable	Check presenceofdust,loosenessofboltsand distortion in the operating mechanism. Clean the same with dry cloth tighten the bolts and investigate the problem in mechanism & rectify.	
3.	Counter reading	Check operation of counter and record counter reading of CB: - Before maintenance - After maintenance	
4.	Mechanism box	Open the cover, check & clean mechanism box for condensation rain water, gasket of door, dust and hinges. Arrest the reason andattend it.	Clean & apply weather sealant material as per OEM manual.
5.	Heater, thermostat & lamp	Check function of heater, thermostat & lamp.If any defect, attend it.	
6.	Position Of Indicator	Check alignment and missing indicator	
7.	Control circuit	Record operating voltage, check control circuit wiring and all connections should have proper lugs and ferule number in terminal box.	
8.	Tripping Mechanism	Check & Correct operation of tripping mechanism.	
9.	Shaft of Pole Assembly	Check visibility of red band on shaft of the pole assembly.	
10.	Auxiliary circuits	Check the connections & function of auxiliary control circuit.	
11.	Local/Remote switch operation	Check the operation of breaker on local and remote switch. Breaker should have open &close on selected position.	
12.	Connections	Check loose/overheating connections. Tight, if found loose.	
13.	Earth connections &foundation bolts	Check & tight the earth connections & foundation bolts.	
14.	Condenser tripping device for CB, if provided.	Check the function of CTD for proper operation. If defective, attend the same.	

SN	Item	Inspection And Work to be Carried Out	Remarks
15.	Antipumping device for CB	Check the function of APD for proper operation. If defective, attend the same.	
16.	Interlocking	Check the proper interlocking with isolator.	

7. 132 kV Triple Pole Motorized Isolator

S N	Item	Inspection And Work to be Carried Out	Remarks
1.	Isolator	Check visually the conditions of the support insulator. If observe any abnormality, attend it.	
2.	Mechanism & earthing	Check & clean mechanism, ensure proper operation, tightness of earthing connection and lubricate the moving parts.	
3.	Operation of Isolator	Check operation of isolator forcorrect adjustment of blade and smoothhand operation.	
4.	Interlock	Check working of interlock without obstruction.	
5.	Earthing connections	Check & tight earthing of the frame with its fittings. Check tightness and conditionof lead of earthing heel, if provided.	
6.	AC Motor	Check the working of AC Motor	

8. 132 kV Triple Pole Motorized BusCoupler

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Motorized Bus Coupler	Check visually the conditions of thesupport insulator. In case of any abnormality, attend it.	
2.	Mechanism	Check & clean mechanism, ensureproper operation, tightness of earthing connectionand lubricate the moving parts.	
3.	Operation of Bus Coupler	Check operation of isolator for correct adjustmentof blade and smooth handoperation.	
4.	Interlock	Check working of interlock without obstruction.	
5	AC Motor	Check the working of AC Motor.	

9. 25 KV Double Pole MotorizedIsolator

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Main contacts	Check overheating and clean main contacts and lightly wipe with petroleum jelly	
2.	Small parts	Check all nuts, bolts, split pins for good condition. Replace if rusted or defective.	
3.	Simultaneous operation of blades	Check the simultaneous operation of blades for correct alignment. In case of any variation, adjustit.	

	(doubl e pole)		
4.	Locking arrangement	Check the condition of locking arrangements to the operating handle and provision of padlocks.	
5.	Arcing horn, if provided	Check arcing horn for correct alignment & working, if provided.	
6.	Earthing o f operating handle	Check earthing of operating handle with copper flexible wire.	
7.	AC Motor	Check the working of AC Motor	

10. 132KV/25kVCurrentTransformer type-Single phase,oilfilled Natural Air Cooled

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Surface of porcelainpole insulator unit	Check damages, flash mark, chipping of insulators. Replace, if required. Clean with dry cotton cloth for dirtiness.	
2.	Terminal connectors	Check overheated/rusted terminalconnectors. Replace, if any sign of overheating/rusted	
3.	Terminalbolts, Nuts &washers	Check tightness of terminal bolts, nuts & washers.Replace, if any sign ofrusting/oxidation.	
4.	Oil level	Check Oil level for leakage. Top up oil, if requiredand arrest the leakage.	
5.	Earthing connections	Check & tight the earth connections, iffounds loose.	
6.	Arching horn, if provided	Check flash mark on horn tips	

11. 132 KV/ 25 kV Lightening Arrester

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Visual inspection of lightning arrestor	Check sign of overheating. If observed, find out the reason and attend it.	
2.	Surface of porcelain pole Insulator unit	Check damages, flash mark, chipping of insulators. Replace, if required. Clean with dry cotton cloth for dirtiness.	
3.	Lightning counter, if provided	Check & record the number of discharges of lightening counter, if meter is provided.	

12. Battery Charger

SN	Item	Inspection And Work to be Carried Out	Remark
1.	Carry out following work in addition to fortnightly schedule		

2.	Charger	Check & clean the charger outside and inside with dry cloth	
3.	Voltmeter & Ammeter	Check the proper function of voltmeter & ammeter.	
4.	Overheating	Check any sign of overheating inside the charger. Find out the reason and attend it.	

i. Control and Relay Panel

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Cleaning of Panel	Check and clean accumulated dust externally & internally with dry cloth	
2.	Indicating and recording instrument	Check all indicating and recording instrument are working normally	
3.	Relay	Check & clean outer terminals of relay for any abnormality	
4.	Cable connections	Check & tighten all cable connections, if found loose	
5.	Terminal board	Check & clean terminal board, cable damage and cable leads with dry cotton cloth and attend the damage cable	
6.	Fuses	Check all fuses for proper rating & overheating, replace if necessary	
7.	Earthing connections	Check & tight the earth connections. If founds loose.	
8.	Doors	Check doors & hinges for intactness	
9.	Holes in panel	Check & plug the holes to avoid entry of moisture and insects	

C. QUARTERLYSCHEDULE

1. General Works on TSS, SSP &SP

SN	Item	Inspection And Work to be Carried Out	Remark
1.	Carry out following work in addition to monthly schedule		
2.	Bus bar, clamps &connectors by thermos vision Camera.	Check nut, bolt & washers for overheating. Replace, if necessary.	

2. Auxiliary Transformer Type Double wound, single phase, oil immersed natural air cooled and step down transformer for outdoor installation.

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Visual inspection of transformer	Check any sign of oil leakage, overheating. If observed, attend it.	
2.	Cleaning of transformer	Clean the transformer, conservator, bushing and tank externally with clean cotton cloth.	
3.	Silica gel	• Check the condition of silica gel. If colour is pinkreactivate/replace. • Check oil in the cup of breather. Top up the oil in cup, ifrequired.	
4.	Connection	Check, clean & tight all connections of HT and LTbushing terminals.	
5.	Oil level in conservator	Check & top up oil level in conservator with new filtered oil up to mark, if required.	
6.	AT enclosure	Check & clean AT enclosure for vegetation and other materials.	
7.	Condition of pole mounted switch, control panel and its fuses	Check condition of pole mounted switch, control panel and its fuses. Replace overheated lugs, fuses and tighten loose connections. Note: Use fuse wire 20 SWG for 34 Amp, 22 SWG for 24 Amp	
8.	Caution board and anti-climbing device	Check caution board and anti-climbing device for availability and proper condition.	
9.	Earthing connections	Check & tight the earth connections, if found loose.	
10.	Arcing horn HV bushing.	Check flash mark on arcing horn. Attend, if flashover marks observed & check the arcing horn gap.	
11.	Drop out (DO) fuse	Check the condition of DO fuse barrel and fuse element. Replace the breakage, over heated and non-standard fuse wire, if any.	

3. 25 kV Potential Transformer

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Inspection of PT	Check oil leakage, chip or insulator broken and any sign of overheating. If observed, attend it.	
2.	Terminal	Check any over heating of terminals. Replace, if found overheated.	
3.	Terminal bolts. Nuts &washers	Check & replace terminal bolts, nuts & washers, if any sign of rusting/oxidation is found.	
4.	Oil level	Check the oil level in PT & top up with new oil up to mark, if required & measure BDV of oil.	BDV of oil More than 40KV
5.	Fuse	Check fuse and neutral link for proper rating and tightness. Replace the fuse, if necessary	
6.	Earthing connections	Check & tight the earth connections, if found loose.	

4. 25 KV Motorized Isolator Type – Double Pole

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	Door gasket and hinges	Check weather proof gasket and hinges for good condition. Replace/repair, if damaged.	
3.	Manual operation	Check the operation manually in local and remote, keeping the control door open. Observe whether the mechanism and operating rod functions smoothly without any rubbing or obstruction.	
4.	Electrical operation	Check the operation electrically in local and remote, keeping the control door open. Observe whether the mechanism and operating rod functions smoothly without any rubbing or obstruction.	
5.	Wiring connection	Check & tight wiring connections for loose, overheating or any defect.	
6.	Relays and contactors	Check & clean healthiness of relays, contactors and its contacts.	
7.	Heater	Check working condition of heater, if defective, attend it.	
8.	Grease and lubrication	Check & clean and apply grease and lubricate in all moving parts.	
9.	Earthing connections	Check & tight the earth connections, if found loose.	
10.	Locking arrangement	Check working of locking arrangement, for smooth functioning.	

5. 132 / 25 kV LighteningArrester

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	EarthingTerminal&earthingstrip	Check & tight earthing terminal strip, tighten if loose.	

3.	Guarding ring, if provided	Check guarding ring, connections, tighten, if loose	

6. Battery Charger

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	Terminal connection	Check the terminal connection on the disconnecting link. Replace any overheatingofterminal connectors, if found overheated orrusted.	
3.	Earth terminals	Check & tight the earth connections, if found loose.	
4.	MCB	Check visually for proper functioning and rating.	
5.	Three pin plug with socket	Check & replace overheating or defective three pin plug/socket.	
6.	Termination ends of the cable	Check & tight all termination ends of the cable, if loose.	

7. AC/ DC DistributionPanel

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Distribution panel	Check & clean the panel outside and inside with dry cloth.	
2.	Voltmeter	Check function of voltmeter	
3.	Earth terminals	Check & tight earth termination points on both ends. Attend, if any deficiency observed.	
4.	MCB	Check visually for proper functioning and rating	
5.	Temperature at termination points	Measure & record the temperature at termination points. If variation is more than 5 deg. With room temp, ensure the tightness.	
6.	LED	Check & replace the defective LED with tested LED.	
7.	Fuses	Check all fuses for proper rating & overheating, replace, if necessary	
8.	Holes in panel	Check & plug the holes to avoid entry of moistu re and insects	

D. HALF YEARLYSCHEDULE

1. General Works on TSS, SSP &SP

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly and quarterly schedule		
2.	Fencing	Inspect all around switching station to observe any abnormality. If seen, attend the same.	
3.	Door and bonding between metal fencing panel sand earth	Check hinges of all doors and bonding between metal fencing panels and earth, lubricant the hinges of all doors. If bonding deficient in metal fencing panels and earth, attend it.	
4.	Boards	Check and ensure proper painting of all caution, danger board, shock treatment board, schematic diagram, key box and other boards, if faded. Replace or repaint again by enamel paint	
5.	Fire extinguisher, buckets, first aid boxes	Inspect expiry date of fire extinguisher, fill buckets with sand, Refill first aid boxes with necessary medicine with valid date of expiry.	
6.	Oil sump, if Available	Check & clean oil sump for dirtiness	

2. Traction Power Transformer (V-Connected)

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	Test oil sample with oil test kit	Test for BDV and acidity. Compare and take action.	
3.	Insulation resistance of Winding and polarization. Index (PI) with 2.5kV Or 5kV meggerfor HV-LV, HV-ELV-E.	Insulationresistanceistobemeasuredfor10 sec,60secand600sec.forHV-LV, HV-E and LV-E. Calculate PI (Polarization index) • Insulation resistance values should be compared with the last recordedvalue. • Compare PI values with values at the time of commissioning/ lastrecorded. • PI Insulation/condition ▪ < 1.0Dangerous ▪ Poor ▪ 1.25Questionable ▪ 1.25 - 2.0Satisfactory ▪ >2.0Good • If PI value is less than 1.1, oil should be filtered. In case, the value does not improve even after filtrations, periodic overhauling should be under taken.	Ensure that transformer is disconnected. Ensure bushing are clean and free from moisture and temperature on which IR valueis recorded. The OEM's manual may also be referred.
4.	PRD Explosion vent	Check and investigate for operation of PRD/explosion vent for any damage and presence of oil. Check connection and operation of PRD/explosion vent. Replace the damaged PRD with new PRD, if	

		required.	

3. AutoT ransformer(9 MVA)

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	Test oil sample with oil test kit	Test for BDV and acidity. Compare and takeactionasindicatedinenclosedANNEXURE-1	
3.	Insulation resistanceof Windingand polarization. Index (PI) with 2.5kV Or 5kV meggerfor HV-L HV-E,LV-E.	Insulation resistance is to be measured for 10sec,60secand600secforHV-LV, HV-E and LV-E. Calculate PI (Polarization index) • Insulation resistance values should be compared with the last recordedvalue. • Compare PI values with values at the time of commissioning/ lastrecorded. • PI Insulation/condition ▪ < 1.0Dangerous ▪ Poor ▪ 1.25Questionable ▪ 1.25 - 2.0Satisfactory ▪ >2.0Good • If PI value is less than 1.1, oil should be filtered. In case the value does not improve even after filtrations,periodicoverhauling should be under taken.	Ensure that transformer is disconnected. Ensure bushing are clean and freefrom moisture and temperature on which IR value isrecorded The OEM's manual may also be referred.
4.	PRD Explosion vent	Check and investigate for operation of PRD/explosion vent for any damage and presence of oil. Check connection and operation of PRD/explosion vent. Replacethedamaged PRD with new PRD, if required.	

4. 25 kV Double Pole Vacuum CircuitBreaker

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	All the moving part of the mechanism	Check, clean & lubricate the gear, bearingcum shaft rollers and latches	Lubricate as per annexure 'VI'
3.	All circlip, split clip and dowel pin	Check for availability anddamages. Replace, if any damages.	
4.	Spring stroke	Measure & record spring stroke contact pressure.	Minimum 4 mm and max 5 mm.

5.	Contactvwear indication	Check contact wear mark. Ifgreen indication is not visible under thebottle,then contacts may be worn off.	Change bottle or contactmanufacturer/OEM
6.	Insulation Resistance of pole unit (when breaker in open position)	Check & record IR value of pole unit as per OEM: i. Top-Bottom ii. Top-Earth iii. Bottom-Earth Check with 2.5/5.0 KV megger.	More than5000 MΩ
7.	Insulation Resistance of pole unit (when breaker in open position)	Check & record continuity & IR value of pole unit as per OEM: Top-Bottom- for continuity Top & Bottom-Earth Check with multimeter& 2.5/5 KV megger.	IR More than 5000 MΩ
8.	Insulation Resistance of . Motor . Closing coil . Tripping coil . AC&DC wiring	Check & record IR value of: Motor Closing coil Tripping coil AC wiring&DC wiring Check with 500 V megger	i. Motor- more than 2MΩ ii. Closing coil- More than 2 MΩ iii. Tripping coil- More than 2 MΩ iv. AC wiring &DC wiring more than 2 MΩ
9.	Motor, if applicable	Check carbon brushes &clean commutator. Replace carbon brushes,ifworn out.	
10.	Top cover	Check sealing of top cover for any moisture trapping.	
11.	Wipe & travel measurement	Measure & record the wipe & travel measurement as per OEM manual.	

5. 132 KV Triple Pole SF-6 CircuitBreaker

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	All the moving part ofthe mechanism	Check, clean & lubricate the gear, bearing cum shaft rollers and latches	Lubricate as per annexure 'III'
3.	Insulation Resistance of pole unit (when breaker in open position)	Check & record IR value of pole unit i. Top-Bottom ii. Top-Earth iii. Bottom-Earth Check with 2.5/5.0 KV megger.	IR More than 1500 MΩ

4.	Insulation Resistance of pole unit (when breaker in open position)	Check & record continuity & IR value of pole unit as per OEM: iii. Top-Bottom- for continuity iv. Top & Bottom-Earth Check with multimeter & 2.5/5.0 KV megger.	IR More than 1500 MΩ
5.	Insulation Resistance between control circuit to ground	Measure & record the Insulation Resistance between control circuits to ground by 500 V megger	IR More than 2 MΩ
6.	Closing/Trip coil	Check & record closing coil parameter: i. Voltage ii. Resistance iii. IR values Check with measuring instrument (megger&multimeter)	i. Voltage 110V DC+/-10% ii. Resistance 32 OHM iii. IR value more than 2MΩ
7.	Mechanism box	Check penetration of rain water, rust and door hinges. Arrest the reason and rectify.	Weather sealant as per annexure 'V'
8.	Main terminal connector	Check overheated & rusted nuts, bolts, washers and bi-metallic strips. Replace, if required.	
9.	Shock observer	Check for oil leakage, if leakages attend it.	
10.	Charging time of closing spring	Check and record charging time of closing spring	15 sec. or as per OEM manual.

- Incaseofanyvariationinmeasuredvalueofaboveparameters,OEM'smanualforabove parameter may be referredto.

6. 132 KV Double Pole SF-6 CircuitBreaker

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	All the moving part of the mechanism	Check, clean & lubricate the gear, bearing cum shaft rollers and latches	Lubricate as per annexure 'III'
3.	Insulation Resistance of pole unit (when breaker in open position)	Check & record IR value of pole unit i. Top-Bottom ii. Top-Earth iii. Bottom-Earth Check with 2.5/5.0 KV megger.	More than 1500 MΩ
4.	Insulation Resistance of pole unit (when breaker in open position)	Check & record continuity & IR value of pole unit as per OEM: i. Top-Bottom- forcontinuity ii. Top & Bottom-Earth Check with multimeter & 2.5/5.0 KV megger.	More than 1500 MΩ
5.	Insulation Resistance betweencontrol circuit toround	Measure & record the Insulation Resistancebetween control circuits to ground by 500 V megger	More than 2 MΩ Record the make & serial number of megger

6.	Closing/Trip coil	Check & record closing coil parameter: i. Voltage ii. Resistance iii. IRvalues Check with measuringinstrument (megger&multimeter)	i. Voltage 110V DC+/-10% ii. Resistance 32 OHM iii. IR value more than 2MΩ
7.	Mechanism box	Check penetration of rain water, rust and door hinges. Arrest the reason and rectify.	Weather sealant as per annexure 'V'
8.	Main terminal connector	Check overheated & rusted nuts, bolts, washers ad bi-metallic strips. Replace, if required.	Replace anduse conducting compound
9.	Shock observer	Check for oil leakage, if leakages attend it.	Attend or Replace
10.	Charging time ofclosing spring	Check and record charging time of closing spring	15 sec. or as per OEM'S manual.

7. AuxiliaryTransformer

TYPE – Double wound, singlephase, oil immersed natural air cooled and step down transformer for outdoorinstallation

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to quarterly schedule		
2.	BDV oil	Take sample of oil from bottom of tank and check the BDV of oil with BDV tester.	BDV more than 30 KV (with 2.5 mm spindle gap)
3.	Additional arching horn on fixed 9-toninsulator	Check for any flash mark on arching horn and measure the gap of aching horns.	Maintain gap 165 mm (min) & record.
4.	Measure & record the Insulation Resistance between		
(i)	HV-Earth	200 M ohm. Minimum (use 2.5 KV megger)	
(ii)	HV-LV	200 M ohm. Minimum (use 2.5 KV megger)	
(iii)	LV-Earth	2 M ohm. Minimum (use 500 V megger)	
5.	Earth resistance	Check earth connections, measure & record the earth resistance by earth tester.	Not more than 10 ohm.
6.	LT cable	Check & replace damage, overheating of wires, lugs etc. of LT cable. Measure & record IR value of cable: i. BetweenATtoswitch panel. ii. Betweenswitch panel to control panel by 500 Vmegger.	2 M ohm min. at 30^0Temperature.

8. 25 kV PotentialTransformer

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to quarterly schedule		
2.	Measure Insulation Resistance between		
(i)	HV-Earth, if possible	200 M ohm. Minimum (use 2.5 KV megger)	
(ii)	HV-LV	200 M ohm. Minimum (use 2.5 KV megger)	
(iii)	LV-Earth	2 M ohm. Minimum (use 500 V megger)	

3.	Rod gap, if provided	Check & record rod gap setting	

9. 132/25 kV CurrentTransformer

Type- Single phase, oil filled natural air cooled

SN	Item	Inspection and Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	Earth link	Check & tight earth link in secondary box.	
3.	Measure Insulation Resistance between:		
(i)	HV-Earth	i. 2000MΩmin.for132kV(use2.5kVmegger) ii. 200 MΩ min. for 25 kV (use 2.5 kVmegger)	
	HV-LV	i. 2000 MΩ min. for 132 kV (use 2.5 kVmegger) ii. 200 MΩ min. for 25 kV (use 2.5 kVmegger)	
	LV-Earth	i. 200MΩ min.for132kV(use2.5kVmegger) ii. 2 MΩ min. for 25 kV (use 500 Vmegger)	
4.	Fuses	Check fuse for proper rating & overheating, replace, if necessary.	
5.	Arching horn, if provided	Check arching horn for flash mark and measurethe gap of arching horns.	

10. 132 kV Triple PoleIsolator

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	Small parts	Check all nuts, bolts, split pins for good condition.Replace, if rusted or defective.	
3.	Jaws	Check the spring of jaws for proper gripping	
4.	Main contacts	Check overheating and clean main contacts andlightly wipe with petroleum jelly.	
5.	Articulated joints, sliding andbearing surface	Check & clean all articulated joints, sliding and bearing surface with kerosene oil and lubricate.	
6.	Interlock	Checkinterlock operation and lubricate all moving parts.	
7.	Arching horn, if provided	Check arching horn for flash mark and measure the gap of arching horns.	
8.	HV connections	Check & tight HV connections for overheating/rusting. Replace, if required	
9.	Earthing of operating handle	Check earthing of operating handle with copper flexible wire.	
10.	Electrical operation	Check the isolator for smooth operation and correct alignment of male and female contacts.	

11. 25 KV Double Pole Motorized Isolator

SN	Item	Inspection and Work to be Carried Out	Remark
1.	Carry out following work in addition to quarterly schedule		

2.	Clearance of blades in open condition	Check, measure & record the distance between male and female contacts in fully open position.	Minimum 500mm
3.	Electrical operation	Check the isolator for smooth operation and correct alignment of male and female contacts.	
4.	Alignment of isolator	Check the correct alignment of isolator for its firmgrip, while isolator is in closed condition.	
5.	Blade tipsandcontactfingers	Check blade tips for overheating and contact fingers and apply petroleum jelly on the contactsurface.	
6.	Earthing ofoperating handle	Check earthing of operating handle with copper flexible wire.	Intact

12. 120/42 kV LighteningArrester

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly & quarterly schedule		
2.	Leakage current, Ifmonitor provided	Measure & record of leakage current	Should be in green Zone.

13. Control and RelayPanel

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly schedule		
2.	Indicationand recordinginstrument	Check all indication and recordinginstrument for healthiness. Replace ifdefective.	
3.	Relay	Check & clean outer terminals of relay	
4.	Door gasket & hinges	Check & replace gasket for damages. Replacewith new, if necessary	
5.	All connections	Check all connections. Tighten, if found loose.	

14. Condition Based Maintenance through Thermovision Camera(Traction Substation)AC TRD (Traction Sub-Station).

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Cable Termination of cable isolators ends connection	- Check thermal scanning by thermo vision camera. - The temperature of hot spots is compared with adjacent/nearby similar components.	
2.	All joints, commotions, jumpers PG clamps of incoming switch yard and outgoing switch gear	- Check thermal scanning by thermo vision camera. - The temperature of hot spots is compared with adjacent/nearby similar components.	
3.	Transformers bushing connection	- Check thermal scanning by thermo vision camera. - The temperature of hot spots is compared with adjacent/nearby similar components.	
4.	Bus bar joints	- Check thermal scanning by thermo vision camera. - The temperature of hot spots is compared with adjacent/nearby similar components.	
5.	LA,CT,PT connections from bus bar and PG clamps	- Check thermal scanning by thermo vision camera. - The temperature of hot spots is compared with adjacent/nearby similar components.	
6.	HV side bi-polar isolators. Single pole isolator contact and bas bar	- Check thermal scanning by thermo vision camera. - The temperature of hot spots is compared with adjacent/nearby similar components.	
7.	Power cable terminations and joints provided in sub-stations	- Check thermal scanning by thermo vision camera. - The temperature of hot spots is compared with adjacent/nearby similar components.	

15. Earthing &Bonding

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Bonding & earth connection with structure	Check physical soundness & tightness of bonding & earth connection with structure, Lightning arrestor and electricalequipmentinter panel connections.	
2.	Earth resistanceof electricalequipment body, fencingand Structurewith electrode	Measure & record the earth resistance of electrical equipment body, fencing, structures by earth tester.	
3.	Shielding wire	Check termination of shieldingwirecondition and bonding with structures.	
4.	Earth resistanceof each electrode after disconnection	Measure & record the earth resistance of each electrode after disconnecting it from common earth system by earth tester.	
5.	Combined earth resistance of TSS/SP/SSPwith rail	Measure & record the earth resistance of combined electrode without disconnecting it from common earth system by earth tester.	For TSS< 0.5 □ and SP andSSP <2.0 □

16. BatteryCharger

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly & quarterly schedule		
2.	Cleaning	Check and clean battery charger from outsideand inside with soft wire brush.	
3.	i. Rectifier ii. Coarse,fine/ controlswitch, iii. Trickle/Boost changeover switch	Check & tight connection of all terminal connectors andworking: i. Rectifier, ii. Coarse/fine controlswitch iii. Trickle/Boost change overswitch	

Note: In case battery charger is of SMPS type, OEM's manual may be referred to for the scheduled maintenance.

17. AC/DC DistributionPanel

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to quarterly schedule		
2.	Panel	Check & clean the panel inside and outside bysoft wire brush.	
3.	MCB, rotary Switches	Check & clean for smooth operation & workingwithout obstruction.	
4.	Tightness	Check&tightcableterminationofMCBs,rotary switch and bus bar.	

E. YEARLYSCHEDULE

1. General Works on TSS, SSP &SP

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Building	Check for roof cleaning, leakage and condition ofbuilding.	
3.	Lightning screen(earth screen wire)	Check strain clamps of wire. If any defect is observed, attendit.	
4.	Structure and fencing	CheckStructureandfencingforsoundness,loose connectionetc.	
5.	Trenches	Openandcleantrenchesforpossibilityoflizardand otherinsectsentryincontrolpanels/equipments.	
6.	Tree &branches	Check&prunethetreebranchesneartolive conductor asrequired.	

2. Traction Power Transformer (VConnected)

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Transformer tank,bushings, taps, changer, radiator and connectionjoints.	Infra-red temperature scanning is to be done preferably at the time of full load to find any over heating parts & compare with previous results.	
3.	OilImmersed Paper (OIP)conde nser bushing	Measure, record & compare the testfor Tan-delta, capacitance and IR(Shearing bridge may be used for tan delta & capacitance).Comparewithearliervalu e. In case of deviation in reading from standard value, replace or consult manufacture. -Bushing should be cleaned for dust and moisture. - Testshouldbedoneonsunnyday. - MaxallowableTan-deltais0.007 - Max allowable capacitance110%	OEM's manual may also be referred to.

4.	Gasket joints of transformer	Check & tight the bolts evenly to avoid uneven pressure in case of leakage only.	Tightening of bolts to be done in proper sequence.
5.	Rod gap setting of bushing	Check rod gap setting. Adjust, if required.	
6.	Test oil in transformer	The oil sample is tested as per IS-1866-2000. If the oil value does not meet the requirement, oil to be replaced.	The oil test results should confirm IS 1866- 2000 or latest or as per OEM's manual.
7.	Dissolved gas analysis (DGA) on oil	Oil sample taken for DGA as per OEM's manual.	The DGAtest resultsshould meet asper OEM's manual
8.	Working of tap changer switch	Move the tap setting switch up and down full Rangesothatbyself-wipingactiongood contacts areassured.	
9.	Relays, alarm & their circuits	Check relay and alarm contacts, their Operation, fuses etc. and relay accessories. Clean the components, replace contacts andfuses,ifnecessary.Changetherelay setting only if necessary.	
10.	Control boxes & Terminal boxes/cable	Checkforwater, tightnessofboxes&terminal boxes. Replace gasket, ifrequired	
11.	Temperature Indicators	Check for thermometer holding pockets, oil to be replenished, if required.	
12.	Dial type oil Gauge	Check pointer for free movement.Adjust, ifrequired.	
13.	Earth resistance	Measure&recordearthresistancebyearth tester. Take suitable action, if earth resistance ishigh.	Less than 10 ohms
14.	Buchholz relay	Check operation and measure the insulation resistance by 500V megger and continuity test for contacts with test lock screw set as 5°.	IR not less than 20 mega ohm. On continuity test relay shall operate.
15.	Voltage ratiotest with wheatstone bridge,voltmeter	Precautions to be taken as per normal practice being followed for measurements with wheat stone bridge. Compare the trends of the ratio with referencetoprecommissioning/factory value/ earliertest.	Thesudden variation in ratio from the last measured value should call for further investigation.

16.	Winding resistance test with wheat stone bridge voltmeter-ammeter	The test conducted on principal tap by applying DC current. The measured value should be converted to 75°C for Conversion. Comparethe value with the pre- commissioning/ factory testvalues. Deviation in absolute value should be less than ± 5% of pre-commissioning or factory set value.	This test shall be last test on winding to avoid DC flux remaining in core resulting in incorrect values in the other tests.

3. AutoTransformer(9 MVA)

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Transformer tank,bushings, taps, changer, radiator and connectionjoints.	Infraredtemperaturescanningistobedone preferably at the time of full load to findany overheatingparts&comparewithprevious results.	
3.	OilImmersed Paper (OIP) condenser bushing	Measure, record & compare the test for Tan-delta, capacitance and IR(Shearing bridge may be used for tan delta & capacitance). Compare with earlier value. In case of deviation in reading from standard value, replace or consult manufacturer. -Bushingshouldbecleanedfordustand moisture. - Testshouldbedoneonsunnyday. - MaxallowableTan-deltais0.007 - Max allowable capacitance 110%	OEM's manual may also be referred to.
4.	Gasket joints of transformer	Check & tight the bolts evenly to avoid uneven pressure in case of leakage only	Tightening of the bolts to be done in proper sequence.
5.	Rod gap setting of bushing	Check rod gap setting. Adjust, if required.	
6.	Test oil in transformer	The oil sample is tested as per IS-1866-2000. If the oil value does not meet the requirement, oil to be replaced.	The oil test results should confirm IS 1866-2000 or latest or as per OEM's Manual.
7.	Dissolved gas analysis (DGA) on oil	Oil sample taken for DGA as per OEM's manual.	The DGA test results should meet as per OEM's manual
8.	Relays, alarm & their circuits	Check relay and alarm contacts, their Operation, fuses etc. and relay accessories. Clean the components, replace contacts andfuses,ifnecessary.Changetherelay setting only ifnecessary.	

9.	Control boxes & Terminal boxes/cable	Check for water tightness of boxes & terminal boxes. Replace gasket, if required	
10.	Temperature indicators	Check for thermometer holding pockets, oil to be replenished, if required.	
11.	Dial type oil Gauge	Check pointer for free movement. Adjust, if required.	
12.	Earth resistance	Measure&recordearthresistancebyearth tester. Take suitable action, ifearth resistance ishigh.	Less than 10 ohms
13.	Buchholz relay	Check operation and measure the insulation resistance by 500V megger and continuity test for contacts with test lock screw set as 5°.	IR not less than 20 mega ohm. Oncontinuity test relay shall operate.
14.	Voltage ratio test with wheatstone bridge,voltmeter	Precautions to be taken as per normal practice being followed for measurements with wheat stone bridge.Compare the trends of the ratio withreferencetoprecommissioning/factory value/ earliertest.	The sudden variation in ratio from the last measured value should call for further investigation.
15.	Winding resistance test with wheat stone bridge voltmeter-ammeter	The test conducted on principal tap by applying DC current. The measured value should be converted to 75°C for conversion. Compare the value with the pre-commissioning/ factory test values. Deviation in absolute value should be less than ± 5% of pre-commissioning or factory set value.	This test shall be last test on winding to avoid DC flux remaining in core resulting in incorrect values in the other tests.

4. 25 kV Vacuum CircuitBreaker

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Auxiliary switches connected in conjunction with mechanism	Check for correct position of the aux. switches and carry out few close & open operations. Signals occurred correctly and driving level is correctly positioned auxiliary switch.	
3.	Cable glands	Check tightness of the fairleads and locked. The free fairleads must be covered with relative plate and blocked.	
4.	Terminal connectors	Check & clean connector, nuts, bolt, washer and bimetallic strip Polish the surface and freely plate bimetallic strip properly, if provided	
5.	Travel Graph Recorder Test	Measure&recordtheclosingandtripping TiminginmilisecondasperOEMmanual:	
		Travel of contact in mm.	

		Measure the Contact resistance in Micro ohms as per OEM:	

5. 132kV SF-6 CircuitBreaker Type–120–SFM–32A,

SN	Item	Inspection And Work To Be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Surface of rollers and Sliding	Check & lubricate the bearing surface of rollers and sliding surfaces of lever.	Lubricate as Per annexure'III'
3.	Mechanism	Check manual operation of mechanism slowly at 80% of normal voltage. Ensure that link and lever should move freely.	Operate at 88% VoltDC
4.	Tripping mechanism	Check the clearance ST(solenoid magnet stroke) between armature and core by feeler gauge.	Between armature and core 2.0 to 2.4 mm
		Check & record the clearance GT between plunger and trigger by feeler gauge.	0.5 to 0.9 mm
		Check the clearance & record of ST, GT	1.5 to 1.7 mm
5.	Closing Mechanism	Check the clearance SC(solenoid magnet between Armature and core SC	4.5 to 5.5 mm
		Check the pumping prevention pin to latch distance clearance "P" between antipumping Pin and latch	P=1 to 2 mm
6.	Pole and Mechanism setting Check & record mechanism setting of interrupter & operating mechanism:		
	Operating Mechanism	Check over stroke "SO" completely open position to stop position.	6+1 mm (B2-B1)
	Interrupter	Measure the stroke and contact wipe between fix contact and moving contact of pole	Stroke (A1) –(A3) = 180=2 mm,-5 mm Wipe(A2-A3) = 36+ 2mm
		Operation Mechanism Stroke:- Check stroke "S" from closed portion to completing opened position	Stroke (B3-B2) = 40+1 MM – 3 MM
7.	DCmotor:		
	i. Inletfilter	Check & clean inlet filter. Replace, if damaged.	
	ii. Carbon brushes	Check & clean condition of carbon brushand commutator. Replace, if defective carbon brush.	
	iii.'V'Belt of motor.	Check condition and tension of belt motor to compressor. Replace the belt,if defective or loose.	Tension <2 times of beltdiameter.

SN	Item	Inspection And Work To BeCarried Out		Remarks
8.	Operation timing	Check & recordclosing & opening timing with timer	70 - SFM-32A	i. Closing time <100ms ii. Opening time <30ms
			120-SFM-32A	i. Closing time <100 ms ii. Opening time <30 ms
9.	Contact resistance (CB close position)	Check & record contact resistance of fixed & moving contact with contact resistance meter.		< 50 μ Ω
10.	Safety valves	Check the control valve for air leakage and safety valve for function.		Working condition
11.	Checking of setting of			
		70-SFM-40AA		120-SFM-32B
	Gas pressure Normal	6.0 kgf/cm2		7.0 kgf/cm2
	Gas pressure Alarm	5.5 kgf/cm2		6.5 kgf/cm2
	Gas pressure Lockout	5.0kgfcm2		6.0 kgf/cm2

Note: The above values/settings need to be matched from the manual of respective OEM, in case of any variation of above parameters.

6. Auxiliary Transformer

Type-Double wound, single phase, oil immersed natural air cooled and step down transformer for outdoor installation.

SN	Item	Inspection And Work To Be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Winding Continuity	Measure & record winding continuity on all tapings with multimeter /500 V megger.	
3.	Tap changer	Check the smooth operation of tap changer on all tapings.	
4.	Acidity of oil	Check the acidity of transformer oil.	Maximum 0.5mg KOH/gm
5.	Ratio test	Conduct ratio test by applying AC supply to HV winding and measure the voltage at LV side winding.	
6.	Jumpers	Check HT and LT jumpers & lugs for loose& flash mark. Replace, if loose & flash.	
7.	Painting	Paint to be done, if color of tank is faded/rusted. Paint to be done with epoxy and polyurethane paints as per A& C slip no. 8 to the RDSO specification no. ETI/PSI/118(10/93) or as perOEM'smanual.	
8.	DO fuse wire	Replace the fuse wide with new one.	

7. 132 KV/ 25 kV Potential Transformer

SN	Item	Inspection And Work To Be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Duplicate Earthing	Check duplicate earth conditions for broken& loose. Attend the same	
3.	Oil testing if possible	Test the oil with BDV tester. If possible.	
4.	Ration test	Conduct ratio test by applying AC supply to HV winding and measure the voltage at LV side winding.	
5.	Painting	Paint to be done, if colour of tank if faded/rusted. Paint with epoxy and Polyurethane paints or as per OEM manual.	

8. Current Transformer132/25kV Type Single phase, oil filled natural air cooled.

SN	Item	Inspection And Work To Be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Arching horn gap, if provided	Check & measure arching horn gap as required.	
3.	Oil testing, if Possible	Test the oil with BDV tester	BDV more than 40KV.
4.	Painting	Paint to be done, if colour of tank if faded/rusted. Paint with epoxy and polyurethane paints as per OEM's manual.	
5.	Polarity test	Conduct polarity test and Check the direction of current	
6.	Ratio test	Conduct ratio test by applying AC supply to HV winding and measure the voltage at LVside winding.	

9. 132/ kV Isolator Type –Triple Pole

SN	Item	Inspection And Work To Be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Operation of isolator (double & Triple Pole)	Check the operation of isolator slowly and check for simultaneous operation of blades on the poles and correct alignment of blade tips in the fixed contact jaws of the poles	
3.	Insulation resistance	Measure & record IR values of pedestal and tie rod insulators with 2.5 KV megger.	Morethan1000MΩ
4.	Operating handle of main blade and earth blade, if provided	Check the locking arrangement to the operating handle of main blade and earth blade	

5.	Bearing	Check & clean the bearings of rotating bushings of insulator and lubricate with grease.	
6.	Bus connections and bimetallic strips	Check & clean for tightness, sign of oxidation bus connections and bimetallic strips correct if necessary. Replace bimetallic, if required.	
7.	Paint	Check & replace rusted parts and paint theon rusted parts, if any.	Cold galvanizing paint

10. MotorisedIsolator,25kV Type – Double Pole

SN	Item	Inspection And Work To Be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Insulation resistance of motor	Measure & record Insulation resistance of winding with 500V megger	More than 2 MΩ
3.	Commutator/slip rings.	Check & clean commutator with dry cotton cloth.	
4.	Carbon brushes	Check carbon brushes for under size. Replace, if necessary.	
5.	Arching horn, if Provided	Check correct setting and alignment of arcing horn. Adjust, if required	

11. 132 KV/ 25 KV Lightening Arrester

SN	Item	Inspection And work to be carried out	Remarks
1.	Carry out following work in addition to half yearly schedule.		
2.	Lightning arrestor (LV side) HT –E	Check, measure & record insulation resistance of each unit of lightning arrestor with by 2.5/5.0 kV megger.	IR value more than 1000 M ohms
3.	Lightning arrestor (HV side) HT-E	Check, measure & record insulation resistance of each unit of lightning arrestor with by 2.5/5.0 kV megger.	IR value more than 1000 M ohms
4.	Earth resistance	Check &record the earth resistance of each earth connection with earth resistan ce meter.	Not more than 0.5 ohms
5	Lightning arrestor details	Check & record the following: i. Location ii. Rating iii. Make iv. SR No v. Date of MFG vi. Date of commission vii. Date of measurement viii. IR value ix. THRC value of leakage current, x. No. of Lightening passed	Record

6.	THRC leakage current value	Check & record leakage current before and after cleaning of LA with THRC meter.	If the leakage current between 350- 500 µ A, keep it under close observation &beyond 500 µA, remove fro m service.

12. Control and RelayPanel

SN	Item	Inspection And work to be carried out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Operation of relay	Check & record operation of all relays	
3.	Testing of relay	Conduct relay testing by testing instrument and record. Compare as per previous settings.	
4.	Contactors,push button,switches	Check & clean al contactors, push button and switches from burnt, carbonize or corrodedmarks, Replace if defective.	
5.	Check voltage	Check & record voltage between + (ve) to Earth & -(ve|) to Earth. If observe more difference, then necesasry take action.	

13. ConditionBasedMaintenancethroughThermovisionCamera(Traction Substation)

1. AC TRD (Traction Sub-station, SP andSSP)

SN	Item	Inspection And Work to be carried out	Remarks
1.	Carry out all works as in half yearly schedule		

14. Earthing &Boding

SN	Item	Inspection And Work to be carried out	Remarks
1.	Carry out all work in half yearly schedule		
2.	Buried rail	Check condition of connections traction rail to buried rail and mat to buried rail. Clean & tighten all connections	

15. BatteryCharger

SN	Item	Inspection And Work to be carried out	Remarks
1.	Carry out all work in addition to half yearly schedule		
2.	Transformer winding	Measure & record the insulation resistance of winding at room temperature with 500 V megger.	More than 2 M Ω
3.	Electrolyte condenser	Measure & record the capacitance value with LCR meter. Replace if open circuited/short circuited.	
4.	Cable glands	Check cable holes and unwanted holes. Provided proper size of glands, close unwanted holes and gaps.	
5.	Cable ends	Check for crimping of cable ends with connectors\lugs and cable ends crimped with suitable size of connectors/lugs.	

16. AC/DC DistributionPanel

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to half yearly schedule		
2.	Cable glands	Check cable holes and unwanted holes. Provide proper size of glands, close unwanted holes and gaps.	Use gasket and HOLDITE compound
3.	Cable ends	Check for crimping of cable ends with connector/lugs and cable ends crimped with suitable size of connectors/lugs.	Proper crimped
4.	Insulation resistance of cable	Measure & record insulation resistance ofcable at room temp. with 500 V megger.	More than 2M□
5.	Stickers/paint	Check stickers/paint to MCBs/rotary switch. Paste new sticker/paint to MBCs/rotary switch, if faded.	
6.	Painting	Paint to be done, if color of panel is faded/rusted. Paint with epoxy and polyurethane paints as per A & C slip no.8 to the RDSO specification no. ETI/PSI/118 (10/93) or as per OEM manual.	

F. THREE YEARLYSCHEDULE

1. SF-6 CircuitBreaker

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to yearly schedule		
2.	Mechanical travels	Measurement & record of mechanical travels, Adjust if required.	As per maintenance manual
3.	Door gasket & hinges	Replace & check the door gasket of the operating mechanism and hinges for damages. Replace with new one.	
4.	Movement of rollers	Check the free movement of rollers. If not free, replace the same.	
5.	Contact resistance	Measure the value of contact resistance of pole between upper terminal and lower terminal.If value is morethan120%ofthe design value specified in maintenance manual contact manufacturer.	Approach the Manufacturer for rectification

2. 132 kV/ 25kV CurrentTransformer

SN	Item	Inspection And Work to be Carried Out	Remarks
1.	Primary injection test	Conduct primary injection test and record reading. Compare with pre commissioning test.	

FIVE YEARLYSCHEDULE

1. Power Transformer/AutoTransformer

SN.	Item	Inspection And Work to be Carried Out	Remark
1.	Carry out following work in addition to monthly, half yearly & yearly schedule		
2.	Painting of transformer tank, conservator radiator and other exposed parts	Clean the exposed parts thoroughly. Transformer tank and other parts should be painted with epoxy and polyurethane paints asperOEM recommendation	-In case of previous enamel paints, the repainting may be carried out after 3 years polluted area. -In case of previous epoxy and polyurethane pants the repair painting may be carried out after 5 years
3.	Pipe work	Check for any damages, misalignment and leakages. If any misalignment thepipe should be realigned and jointmade.	-----
4.	Test oil in transformer	Measure the inhibitor content in the oil. In the new oil it has to be within 0.25-0.30% by total weight of oil. If the inhibitor content in the oil reduces to 0.15% it should be re- inhibited by adding required amount of DBPC (2,6 Ditertiary Butyl para Cresol) or as per OEM recommendation	
5.	Magnetizing current test with voltmeter, ammeter and lamp	Check by applying 230 V AC supply preferably on LV side with series lamp. Compare the value with respect commissioning value. Any abnormal increase to the orderof50timesindicatesthat these are a fault inside.	Ensure that the comparison is done to the value taken at LV side only
6.	Winding resistance test with wheat stone bridge, voltmeter and ammeter	The test conducted on principal tap by applying DC current. Measure value should be converted to 75^0C. Compare the value with the pre-	This test should be last the test on winding to avoid DC flux remaining in Core resulting erroneous value in

		commissioning/ factory test values. Deviation in absolute vale shall be less than +-5%pre-commissioning or factory test value.	the other test
7.	Impedance test with voltmeter and ammeter	Test to be conducted on principal tap applying230V single-phase AC to the HV side with LV side shorted and calculate V/I and convert to percentage impedance. Compare the value with the pre-commissioning value, any deviation beyond 5%calls for further analysis.	Any deviation beyond 2% from the earlier values shall be considered for keeping watch on the transformer.

G. Vacuum Circuit Breaker

The operating mechanism should be checked/attended (without dismantling the circuit breaker/interrupter) if circuit breaker has competed 5 years of service or 10,000 electrical switching operations.

a. SIX YEARLYSCHEDULE

1. SF-6 Circuit Breaker,

The following items should be checked/attendee (without dismantling the circuit breaker/interrupter) if circuit breaker has competed 6 years of service or 2000 electrical switching operations or 5000 mechanical CO operations.
In case of interrupter, if it has completed 6 years of service or 5000 Electrical/ Mechanical CO operations.

SN.	Item	Inspection And Work to be Carried Out	Remarks
1.	Carry out following work in addition to monthly, half yearly, yearly, three yearlyschedule.		
2.	Inspection and re-adjustment of Operating mechanism	Measurement ofmechanism dimension, Lubricating the mechanism, leakage check ofdashpotoil,Loosenessof circlips and nuts, check free movement of antipumping pin and trip & closing plungers, Replacementof some parts of mechanism.	
3.	Connecting rod end joint and Bellows	Check the crack of connecting rod end joint and Bellows. Replace, if crack	Replace
4.	Lubricate themechanismlinkages	Check & clean the lubricating mechanism linkage withdrycotton cloth.	As per annexure
5.	Contacts andnozzle interrupting pole	Check contact and nozzle.Renew them, if required.	As per maintenance manual

6.	Absorbent	Check absorbent for SF6 gas by-products. Renew the absorbent for SF6 gas by-products	Renew
7.	Moisture sealant	Check moisture sealant to all cemented joints of porcelain. Apply moisturesealant to all cemented joints of porcelain.	Apply moistur e sealant
8.	Shock absorber	Replace Shock absorber	Replace
9.	Gas system	Check setting of gas density Switch	As per maintenance Manual
10	Compressor	Take out the compressor after every sis year refit theitems which are damaged.	Replacethe defectiveitems.

Any Preventive PSI maintenance activity/ Schedule maintenance should be as per DFCCIL maintenance Manual. For Any Clarification on Schedule of Maintenance the DFCCIL Maintenance Manual for OHE and PSIcan be referred.

1.4.5 MISCELLANEOUS Electrical Manning and Testing Miscellaneous

Schedule-12: Manning of TSSs/OCC/Rack siding round the clock to maintain the register and operation of equipment.

Schedule-13: Engineer will perform the various test on Circuit Breakers, Relays, power transformers etc. installed at various SPs/SSPs/TSSs under jurisdiction of CGM/PRYJ(E) as per schedule of maintenance and every test will be conducted under supervision of DFCCIL with the help of Conventional Testing kit (appendix-1), TAN Delta Kit, CT Analyzer etc. Payment will be made to contractor after submission of final Report to DFCCIL**.**

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GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract April 2022 of the Indian Railway/DFCCILs shall be followed with its latest correction slips and amendments issued from Indian Railway/DFCCILs.

The General Conditions of Contract April 2022 of the Indian Railway/DFCCILs, along with its latest correction slips and amendments, will form part of the tender/contract documents.

In case, there is an ambiguity in any definition, the decision of DFCCIL regarding the interpretation shall be final and binding.

Wherever there is conflict in any condition between GCC and special condition mentioned in tender documents. The condition mentioned in special condition of contract will prevail. However, DFCCIL decision in this connection shall be final and binding.

A copy of the book-let incorporating the above "General Conditions of Contract (Apr-2022)" may be perused in the Office of CGM/PRYJ(E) or respective division.

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ANNEXURES

ANNEXURE-I

Performa for Experience Certificate. {on the letter head of the issuing department}

M/s .....has executed the following work to this department and has completed the work successfully. The details are as under:

1. Name of work:

2. Agreement/contract number:

3. Date of start of work:

4. Date of completion of work:

5. Total value of work during the contract period (if completed):

6. In case of on-going work, please indicate the annual payment for
   a) F.Y. 2022-23
   b) F.Y. 2021 -22
   c) F.Y.2020-21

(Name and Signature of the officer with seal of the department and phone no.)

ANNEXURE-II

Performa for Affidavit. {on the letter head of the bidder}

I_____ Proprietor/Director/Partner of the firm M/s._____do hereby solemnly affirm that the firm M/s.____has never been black listed/debarred by any organization/office and there has not been any work cancelled against them for poor performance in the last three years reckoned from the date of invitation of Tender.

Signature of
Proprietor/Director/Partner

Annexure-III

CERTIFICATION OF FAMILIARISATION

A. I/We hereby solemnly declare that I/We have visited the site of work and have familiarized myself/ourselves of the working conditions there in all respects and in particular, the following:

a) Topography of the Area.
b) Climatic condition and law and order situation in project area.

B. I/We have kept myself/ourselves fully informed of the provisions of this tender document comprising Instructions to the Tenderers, General Conditions of the Contract, Special Conditions, special terms and conditions apart from information conveyed to me/us through various other provisions in this tender document.

C. I/We have quoted my / our rates as "Percentage above / below / at par" of costs as per Schedule of items Rates **in Offer Sheet,** taking into account all the factors given above.

(Signature of Tenderer/s)

ANNEXURE – IV

SUPPLEMENTARY AGREEMENT

Articles of Agreement made on this ……. in the year.....and between DFCCIL acting through the Chief General Manager hereinafter called as one party and..... of the second part.

Where the party hereto of the second part executed an agreement with the party hereto of the first part being agreement No. ……. dated..... for the performance of.....herein called the principal agreement.

And whereas it was agreed by and between the parties hereto that the works would be completed by the party hereto of the second part on ....."date last extended" and whereas the party hereto of the second part has executed the work to the entire satisfaction of the party hereto of the first part and whereas the party hereto of the first part already made payments to the party hereto of the second part diverse sums from time to time aggregating to **Rs.** …….. including the final bill bearing voucher No.……dated……. (the receipt of which is hereby acknowledged by the party hereto of the second part) in full and final settlement of all his claim under the principal agreement.

Now it is hereby agreed by and between the parties in the consideration of sums already paid by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for all works done under the aforesaid principal agreement including / excluding security deposit, the party hereto of the second part have no further dues / claims against the party hereto of the first part under the said principal agreement.

It is further agreed by and between the parties that they party hereto of the second part has accepted the said sums mentioned above in full and final satisfaction of all its dues and claims under the said principal agreement.

It is further agreed and understood by and between the party that in consideration of the payment already made under the agreement the said principle agreement shall finally discharged and rescinded all the terms and conditions including the arbitration clause.

It is further agreed and understood by and between the parties that the arbitration clause contained in the said principal agreement shall cease to have any effect and / or shall seems to be nonexistent for all purposes.

Signature of the Tenderer/s

For and on behalf of

Witness of the signatures

Witness ……..

……

1.

2

ANNEXURE-V

AFFIDAVIT

FORMAT FOR AFFIDAVIT TO BE UPLOADED BY TENDERER ALONGWITH THE TENDERDOCUMENTS

(*To be executed in presence of Public notary on non-judicial* ***stamp paper of the value of Rs. 100/-.*** *The stamp paper has to be in the name of the tenderer*) **

I .....(*Name and designation*)** appointed as the attorney/authorized signatory of the tenderer (including its constituents),M/s .....(hereinafter called the tenderer) for the purpose of the Tender documents for the work of ……as per the **E- Tender No.: ------ Date----------** of (DFCCIL), do hereby solemnly affirm and state on the behalf of the tenderer including its constituents as under:

1) I/we the tenderer (s), am/are signing this document after carefully reading the contents.
2) I/We the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3) I/we hereby declare that I/we have downloaded the tender documents from Indian Railway website www.ireps.gov.in . I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with the DFCCIL shall be final and binding upon me/us.
4) I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5) **I/ We also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding uponme/us.**
6) **I/We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.**
7) I/we undersigned that if the certificates regarding eligibility criteria submitted by us are found to be forged/false or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender EMD besides banning of business for five year on entire IR. Further, I/we (*insert name of the tenderer*)**……..and all my/our constituents understand that my/our offer shall be summarily rejected.
8) I/we also understand that if the certificates submitted by us are found to be false/forged or incorrect at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of EMD/SD and Performance guarantee besides any other action provided in the contract including banning of business for five year on entire IR.
9) I/We certify that I/we the tenders(s) is /are not blacklisted or debarred by Railways or any other Ministry/Department of Govt. Of India from participation in tender on the date of submission of bids, either in individual capacity or as a HUF/member of the partnership firm/LLP/JV/Society/Trust.
10) I/We have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India and certify that I am/We are not from such a country or, if from such a country, have been registered with the competent Authority. I/we hereby certify that I/We fulfill all the requirements in this regard and am/are eligible to be considered (evidence of valid registration b the competent authority is enclosed)

DEPONENT
SEAL AND SIGNATURE
OF THE TENDERER

VERIFICATION

I/We above named tenderer do hereby solemnly affirm and verify that the contents of my/our above affidavit are true and correct. Nothing has been concealed and no part of it is false.

DEPONENT

SEAL AND SIGNATURE
OF THE TENDERER

Place:
Dated:

**The contents in Italics are only for guidance purpose. Details as appropriate, are to be filled in suitably by tenderer. Attestation before Magistrate/Notary Public .

Signature of Tenderer for CGM/PRYJ(E)

ANNEXURE-VI

(Guarantee –Bond offered by bank to DFCC in connection with the execution of Contracts)
(SD)
GUARANTEE BOND FORMAT
(To be used by approved Schedule Banks)

1. In consideration of the Employer DFCCIL (herewith called " The Employer") having agreed to exempt_____(hereinafter called "The said Contractor(s)") from the demand, under the terms and conditions of an Agreement No..... dated_____made between _____and _____for_____(hereinafter called the "The Said Agreement") of **security deposit** for the due fulfillment by the said contractor(s) of the terms and conditions contained in the said Agreement, on production of a Bank Guarantee for Rs._____(Rupees_____only),we, _____(indicate the name of the bank) (hereinafter referred to as " The Bank") at the request of contractor(s) do hereby undertake to pay to the Employer an amount not exceeding Rs._____against any loss or damage caused to or suffered or would be caused to or suffered by the Employer by reason of any breach by the said contractor(s) of any of the terms and conditions contained in the said Agreement.

2. We_____(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demur merely on a demand from the DFCCIL stating that the amount claimed is due by way of loss or damages caused to or would be caused to or suffered by the DFCCIL by reason of any breach by the said Contractor(s)of any of the terms or conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. _____.

3. We undertake to pay to the Employer any money so demanded not withstanding any dispute or disputes raised by the Contractor(s)/ Supplier(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present is being absolute and unequivocal. The payment so made by us under this Bond shall be valid discharges of our liability for payment hereunder the Contractor(S)/Supplier(s) shall have no claim against us for making such payment.

4. We_____(indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Agreement have been fully paid and its claims satisfied

Signature of Tenderer for CGM/PRYJ(E)

or discharged or till_____the Employer/DFCCIL certify that terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges the Guarantee. Unless a demand or claim under this Guarantee is made on us in writing on or before the _____, we shall be discharged from all liability under this Guarantee thereafter.

5. At any time during the period in which this guarantee is valid the Employer may request for its extension and the Bank will extend this guarantee under the same condition for the required time at the cost of the Contractor.

6. We_____(indicate the name of Bank) further agree with the DFCC that the DFCC shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extent time of performance by the said Contractor(s) from time to time any of the powers exercisable by the DFCCIL against the said Contractor(s) and to forbear or enforce any of terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the DFCCIL or any indulgence by the DFCCIL to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties for the said reservation would relieve us from the liability.

7. This Guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s)/Supplier(s).

8. We_____, (indicate the name of Bank) lastly undertake not to revoke this Bank Guarantee during its currency except with the previous consent of the DFCCIL in writing.

IN WITNESS WHEREOF we of the Bank have signed and stamped this guarantee on this day of.....being herewith duly authorized.

Bank Seal Signature of Bank Authorize Official with Seal

Name:.....
Designation:.....
Address:

Witness:

1. Name:……..
   Designation:……..
   Address:

2. Name:…….
   Designation:…….
   Address:……

ANNEXURE-VII

Format of Bank Guarantee for Performance Security

Bank Guarantee No. :…… Dated :……

To,

Dedicated Freight Corridor Corporation of India Limited, Metro Station Building Complex
5th Floor, Pragati Maidan, New Delhi
Acting through Chief General Manager, PRYJ(E), DFCCIL, 2nd floor OCC BUILDING JHALWA, SUBEDARGANJ , PRAYAGRAJ-211012 (Uttar Pradesh)

Reference: - Contract No.....…, Awarded on .....

This deed of guarantee made this day of_____Between_____ (Name of Bank) having registered office at_____(hereinafter referred to as "Bank") of the one part, and Dedicated Freight Corridor Corporation of India Limited (hereinafter called the "Client") of the other part.

Whereas Dedicated Freight Corridor Corporation of India Limited has awarded the contract no._____for_____ (hereinafter called "the Contract") to _____ (Name of the Firm/ Consultant) having its registered office at_____(hereinafter called the Firm/ Consultant).

AND WHEREAS the Firm/ Consultant is bound by the said Contract to submit to the Client an irrevocable performance security guarantee bond for a total amount of Rs. _____(Rupees Amount in words).

Now, we the undersigned (name of the Bank official), of the Bank being fully authorized to sign and to incur obligations for and on behalf of the Bank hereby declare that the said Bank will guarantee the Employer the full amount of Rs ----------(Rs. In words) as stated above.

After the Contractor has signed the aforesaid contract with the Employer, the Bank further agrees and promise to pay the amount due and payable under this guarantee without any demure merely on a demand from the Employer stating that the amount claimed is due by way of loss or damage cause to or would be caused or suffered by the Employer by reason of any breach by the said contractor of any of the terms or conditions contained in the said agreement or by reason of the contractor failure to perform the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However our liability under this guarantee shall be restricted to an amount not exceeding Rs----------(in words) only.

We ----------(indicate the name of Bank), further undertake to pay to the Employer any money so demanded not withstanding any dispute or dispute raised by the contractor in any suit or proceeding pending before any court or Tribunal relating to liability under this present being absolute and unequivocal.
The Payment so made by us (name of Bank) under this bond shall be a valid discharges of our liability for payment there under and the Contractor shall have no claim against us for making such payment.

Signature of Tenderer for CGM/PRYJ(E)

We----------(indicate the name of bank), to further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till at all the dues of the Employer under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged by ------
(Designation and address of contract signing authority) on behalf of Employer certify that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor and accordingly discharges this guarantee.

Not with standing anything to the contrary contained herein the liability of the bank under this guarantee will remain in force and effect until such time as this guarantee is discharged in writing by the Employer or until (date of validity/extended validity) whichever is earlier and no claim shall be valid under the guarantee unless notice in writing , thereof is given by the Employer within validity/extended validity period of guarantee from the date aforesaid.

Provided always that we …….(name of bank) un conditionally undertakes to renew this guarantee or to extend the period of guarantee from year to year before the expiry of the period or the extended period of guarantee, as the case may be on being called upon to do so by the Employer. If the guarantee is not renewed or the period extended on demand, we (name of bank) shall pay the Employer the full amount of the guarantee on demand without demur.

We----------(indicate the name of Bank), to further agree with the Employer that the Employer shall have the fullest liberty without our consent and without effecting in any manner out of obligation hereunder to vary any of the terms and conditions of the said contract from time to time or to postpone for any time or from time to time any to power exercisable by the Employer against the said contractor and to forbear or enforce any of the terms and conditions of the said agreement and we shall not be relieved from our liabilities by reason of such variation, or extension being granted to the said contractor for any forbearance act or omission on the part of the Employer or any indulgence by the Employer to the said contractor or by any such matter or thing whatsoever which under the law relating to sureties for the said reservation would relieve us from the liability.

The Guarantee hereinbefore contained shall not be affected by any change in the constitution of Bank or of the Contractor.

The expression “The Employer”, “The Bank” and “The Contractor” hereinbefore used shallinclude their respective successors and assigns.

We ----------(name of the bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing. Notwithstanding anything to the contrary contained hereinbefore:

i) Our liability under this Bank Guarantee shall not exceed and restricted to Rs. ---------- (in words).

Signature of Tenderer for CGM/PRYJ(E)

ii) This Bank Guarantee shall be valid up to ---------- , unless extended on demand by Employer.

iii) The Bank is liable to pay the Guaranteed amount or any part thereof under this Bank Guarantee only if Employer serve a written claim or demand on or before--- - - - - - - -

IN WITNESS WHEREOF we of the Bank have signed and stamped this guarantee on this day of ----------being herewith duly authorized.

Bank Seal

Signature of Bank Authorize Official with Seal

Name :.....
Designation:.....
Address :

Witness:

1. Name :……..
   Designation :……..
   Address :

2. Name
   :…….
   Designation:…….
   Address :……

ANNEXURE-VIII

FORM OF AGREEMENT

(To be executed on requisite value of stamp Papers)

AGREEMENT

THIS AGREEMENT made on_____day of_____(Month/year) between, DFCCIL ,_____(*address*). (Hereinafter called "the Employer")of the one part and_____(name and address of the Contractor) (hereinafter called "the Contractor") of the other part.

WHEREAS the Employer is desirous that certain works should be executed by the Contractor viz. **Contract No._____**(hereinafter called "the works, and has accepted a Bid by the Contractor for the execution and completion of such works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH as follows:

1.0 In this Agreement, words and expressions shall have the same meaning as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

2.0 The following documents shall be deemed to form and be read and construed as part of this Agreement: -

i) The Contract Agreement.
ii) Letter of Acceptance.
iii) Tender Form
iv) General Information
v) Notice Inviting Tender (with Annexes)
vi) Instructions to Tenderers
vii) Special Conditions of Contract
viii) Annexures
ix) Bill of Quantities (BOQ)/Schedule of Rates
x) General Terms and Conditions of Contract

3.0 In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the works and remedy any defects therein in conformity in all respects with the provisions of the Contract.

4.0 The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement executed the day and year first before written.

(Name, Designation and address of the authorized signatory)	(Name, Designation and address of the authorized signatory)
Signed for and on behalf of the Contractor in the presence of:	Signed for and on behalf of the Employer in the presence of:
Witness:	*Witness:*
1.	1.
2.	2.

Signature of Tenderer for CGM/PRYJ(E)

ANNEXURE -IX

PRE CONTRACT INTEGRITY PACT

General

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on------ --------- ----------day of the month of ---------- 20xx, between, on one hand, the DFCCIL acting through Shri ----------Designation of the officer, (hereinafter called the CLIENT, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s---------- -------- represented by Shri ----------Chief Executive Officer (hereinafter called the "BIDDER/SELLER" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second part.

WHEREAS the CLIENT proposes to procure (Name of the Stores/Equipment/Item, Name of the Consultancy Service, Name of Works Contract, Name of Services) and the [A] is willing to Offer/has offered for stores or works.

WHEREAS the [A] is a private company/ public company/ Government undertaking/ partnership/ registered export agency, constituted in accordance with the relevant law in the matter and the CLIENT is a PSU performing its functions or behalf of the President of India.

NOW, THEREFOR,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

Enabling the CLIENT to obtain the desired said (Name of the Stores/Equipment/Item, Name of the Consultancy Service, Name of Works Contract, Name of Services) at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERs to abstain from bribing or indulging in any corrupt practice in order to secure [B] by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the CLIENT will commit to prevent corruption, in any form, by its Officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

Commitments of the CLIENT

1.1 The CLIENT undertakes that no official of the CLIENT, connected directly or indirectly with the [B], will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the [A] either for themselves or for any person, organization or third party related to the [B], in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the [B].

1.2 The CLIENT will, during the pre-contract stage, treat all BIDDERs alike, and will provide to all BIDDERs the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular [A] in comparison to other BIDDERs.

1.3 All the officials of the CLIENT will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the part of such official(s) in reported by the [A] to the CLIENT with full, and verifiable facts and the same is prima facie found to be correct by the CLIENT, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the CLIENT and such a person shall be debarred from further dealings related to the [B] process. In such a case while an enquiry is being conducted by the CLIENT the proceedings under the [B] would not be stalled.

Commitments of BIDDERS

3. The [A] commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage) in order to secure the [B] contract or in furtherance to secure it and in particular committee itself to the following:-

3.1 The [A] will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission fees, brokerage or inducement to any official of the CLIENT, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the (B] in exchange for any advantage in the bidding, evaluation, contracting and implementation of the [B].

3.2 The (A] further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any Material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the CLIENT or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the [B] or any other [B] with the Government for showing or forbearing to show favour or disfavor to any person in relation to the [B] or any other [B] with the Government.

3.3 * [A] shall disclose the name and address of agents and representatives and Indian [A] shall disclose their foreign principals or associates.

3.4 * [A] shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.

3.5 The [A] further confirms and declares to the CLIENT that the [A] is the original manufacturer/integrator/authorized government sponsored export entity of the defense stores and has not engaged any individual or firm orcompany whether Indian or foreign to intercede, facilitate or in any way to recommend to the CLIENT or any of its functionaries, whether officially or unofficially to the award of the [B] to the [A] nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

3.6 The [A] either while presenting the bid or during pre-contract negotiations or before signing the [B] shall disclose any payments he has made, is committed to or intends to make to officials of the CLIENT or their family members, agents, brokers or any other intermediaries in connection with the [B] and the details of services agreed

upon for such payments.

3.7 The [A] will not collude with other parties interested in the [B] to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the [B].

3.8 The [A] will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.9 The [A] shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the CLIENT as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The [A] also undertakes to exercise due and adequate care lest any such information is divulged.

3.10 The [A] commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.11 The [A] shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12 If the, [A] or any employee of the [A] or any person acting on behalf of the [A], either directly or Indirectly, is a relative of any of the officers of the CLIENT, or alternatively, if any relative of an officer of the CLIENT has financial. Interest/stake in the Bidder‟s firm, the same shall be disclosed by the [A] at the time of filling of tender.

The term „relative‟ for this purpose would be as defined in section 6 of the companies act 1956.

3.13 The [A] shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the CLIENT.

3.14 The [A] shall not approach the courts while representing the matter to IEM and he/she will await their decision in this matter.

4. Previous Transaction

4.1 The [A] declares that no previous transgression occurred in the last three years immediately before signing of this integrity Pact, with any other company in any country in respect of any corrupt practices envisage hereunder or with any public sector enterprise in India or any Government department in India that could justify BIDDER‟s from the tender process.

4.2 The [A] agrees that if it makes incorrect statement on this subject, [A] can be disqualified from the ender process or the contact, if already awarded, can be terminated for such reason.

5. Security Deposit

5.1 While submitting commercial bid, the [A] shall deposit an amount (to be specified in RFP) as Earnest Money(if any)/Security Deposit, with the CLIENT through any of the following instruments:-

i. Bank draft/TDR or a pay order in favor of_____.

ii. A confirmed guarantee by an Indian nationalized bank, promising payment of the guaranteed sum to the CLIENT on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the CLIENT shall be treated as conclusive proof or payment.

iii. Any other mode or through any other instrument (to be specified in the RFP).

5.2 The earnest money/Security deposit shall be valid up to a period of five years or the contractual obligations to the complete satisfaction of both the BIDDER and the CLIENT, including warranty period, whichever is later.

5.3 In case of the successful [A] a clause would also be incorporated in the article pertaining to performance Guarantee in the [B] that the provisions of sanctions for violation shall be applicable for forfeiture of performance bond in case of a decision by client to forfeit the same without assigning any reason for imposing sanction for violation of this pact.

5.4 No interest shall be payable by CLIENT to the [A] on earnest Money/Security Deposit for the period of its currency.

6. Sanctions for Violations

6.1 Any breach of the aforesaid provisions by the [A] or any one employed by it or acting on its behalf (whether with or without the knowledge of the [A] shall entitle the CLIENT to take all or any one of the following actions, wherever required :-

(i) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the [A]. However, the proceedings with the other BIDDER(s) would continue.

(ii) The earnest money(if any) deposit (in pre-contract stage) and/or security Deposit/performance Bond (after the [B] is signed) shall stand forfeited fully and the CLIENT shall not be required to assign any reason therefore.

(iii) To immediately cancel the [B], if already signed, without giving any compensation to the [A].

(iv) To recover all sums already paid by the CLIENT, and in case of an Indian [A] with interest thereon at 2% higher that the prevailing prime lending rate of state bank of India, while in case of a [A] from the country other that India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to [A] from the CLIENT in connection with any other [B], such outstanding payment could also be utilized to recover the aforesaid sum and interest.

Signature of Tenderer for CGM/PRYJ(E)

(v) To encash the advance bank guarantee and performance bond, if furnished by the [A], in order to recover the payments, already made by CLIENT, along with interest.

(vi) To cancel all or any other contracts with the [A]. The [A] shall be liable to pay compensation for any loss or damage to the Client resulting from such cancellation/rescission and the client shall be entitled to deduct the amount so payable from the money(s) due to the [A].

(vii) To debar the [A] from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the CLIENT.

(viii) To recover all sums paid in violation of this pact by [A]) to any middleman or agent or broker with a view a view to securing [B] the contract.

(ix) In cases where irrevocable letters of credit have been received in respect of any [B] signed by the client with the [A], the shall not be opened.

(x) Forfeiture of Performance Bond in case of a decision by the client to forfeit the same without assigning any reason for imposing sanction for violation of this pact.

6.2 The client will entitled to take all or any of the actions mentioned at para 6.1(i) to (x) of this pact also on the commission by the [A] or any one employed by it or acting on its behalf (whether with or without the knowledge of the [A], of an offence as defined in chapter IX of the Indian penal code, 1860 or prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of the CLIENT to the effect that a breach of the provisions of this pact has been committed by the [A] shall be final and conclusive on the [A]. However, the [A] can approach the Independent Monitor(s) appointed for the purposes of this Pact.

7. Fall Clause

7.1 The [A] undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/system or sub systems way supplied by [A] to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the [A] to the CLIENT, if the [B] has already been concluded

8. Independent Monitors

8.1 The CLIENT has appointed Independent Monitors (hereinafter referred to as Monitors) for this pact in consultant with the central vigilance commission (Names and addresses of the Monitors to be given)

8.2 The task of the Monitors shall be to review independently and objectively, whether

and to what extent the parties comply with the obligations under this pact.

8.3 The monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

8.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

8.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the CLIENT.

8.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the CLIENT including that provided by the BIDDER. The [A] will also grant the Monitor, upon his request and demonstration of a valid Interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be und contractual obligation to treat the information and documents of the [A] with confidentiality.

8.7 The client will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.

8.8 The monitor will submit a written report to the MD/DFCCIL within 8 to 10 weeks from the date of reference or intimation to him by the CLIENT/BIDDER and, should the occasion arise, submit proposal for correcting problematic situations.

9. Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of commission, the CLIENT or its agencies shall be entitled to examine all the documents including the Books of Accounts of the [A] and the [A] shall provide necessary information and documents in English and shall exte4nd all possible help for the purpose of such examination.

10. Law and Place of Jurisdiction

This pact is subject to Indian law. The place of performance and jurisdiction is the seat of the CLIENT.

11. Other Legal Actions

The actions stipulated in this integrity pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

12. Validity

12.1 The validity of this integrity pact shall be from date of its signing and extend upto 5 years or the complete execution of the [B] to the satisfaction of both the CLIENT and the [A] including warranty period, whichever is later. In case [A] is unsuccessful, this integrity pact shall expire after six months from the date of the signing of the [B].

12.2 Should one or several provisions of this pact turn out to be invalid; the remainder of this pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

13. The parties hereby sign this integrity pact at …….. on …….

CLIENT
Name of the officer
Designation
Deptt./Ministry/PSU

BIDDER
CHIEF EXEUCTIVE OFFICER

Witness
1……..

Witness
2……

Note:
[A]- To be replaced by BIDDER/Seller/Consultant/Consultancy firm/Service provider as the case was may be

[B]- To be replaced by contract/supply contract/consultancy contract/works contract as the case was may be.

Appendix-1

Schedule 13: Testing of equipment at TSS/SP/SP

NORMAL TESTING EQUIPMENTS LIST			
SL.NO	**DESCRIPTION**	**RANGE**	**QTY**
1	Loading Transformer	800Amps	1
2	H.T.Megger	5000V	1
3	Earth Megger	0-200 ohm	1
4	Single Phase Variac	15A	1
5	Digital Multi Meter	600V	1
6	Welding Cable	185Sqmm	10Mtrs
7	Digital Clamp Meter	2000Amps	1
8	Ac Leakage Tester	200mA -100A	1
9	Single Pole Timer	0-99 mSEC	1
10	Digital Micro Ohm Meter	1A	1
11	Dc Power Pack	25A	1
12	Transformer Winding Resistance	10A	1

Appendix-2

Minimum Tools to cater the 2×25KV OHE/PSI work

Sl. No.	Descriptionofmaterial	Unit	Qty .	Supplied by
[I]	**Tirfors**			
1	3/5 tonne tirfors	Sets	3	Contractor
2	1.6/2.6 or 2/3 tonne tirfors	Sets	4	-do-
3	Pull-lift 1.6 Ton (Asper ACTM 3Ton- 2Nos.)	No.	3	-do-
4	Pull-lift 0.75 Ton	No.	3	-do-
[II]	**Come-along clamps**			-do-
1	Universal come-along clamps	No.	12	-do-
[III]	**Electrical safety items**			-do-
1	FRP type Discharge rods	No.	08	-do-
2	Rail Jumpers with clamps at both ends	No.	08	-do-
3	Rail Jumpers extension with clamps at one end	No.	08	-do-
[IV]	**Steel Slings**			-do-
1	Steel slings 01mtr. (Fibre rein forced)	No.	08	-do-
2	Polyster Webbings lings 01mtr.	No.	08	-do-
3	Steel slings 02mtr.	No.	08	-do-
4	Polyster Webbings lings 02 mtr.	No.	08	-do-
5	Steel slings 03 mtr.	No.	6	-do-
6	Steel slings 04 mtr.	No.	3	-do-
7	Steel slings 10 mtr.	No.	3	-do-
[V]	**D Shackles**			-do-
1	1"Dshackles	No.	8	-do-
2	3/4"Dshackles	No.	8	-do-
3	1/2"Dshackles	No.	8	-do-
[VI]	**Pulleys**			-do-
1	Steel pulleys 6"	No.	8	-do-
2	Steel pulleys 3½"	No.	8	-do-
3	Fibre pulleys	No.	8	-do-
4	Two way pulley of 3 tonne capacity	Nos.	3	-do-
[VII]	**Electrical Measuring Instruments**			-do-
1	Drop out fuse rod	No.	2	-do-
2	Megger 2500V	No.	3	-do-
2	Earth Megger/ Tester	No.	3	-do-
[VIII]	**Miscellaneous**			-do-
2	Counter weight stand	No.	3	-do-
2	Contact wire Splicing jig	No.	3	-do-
3	Contact wire twister cum bender	Sets	3	-do-
4	Ratchet clamp with drill bit (17.5mm)	Sets	3	-do-

Signature of Tenderer for CGM/PRYJ(E)

5	S Hooks	No.	30	-do-
6	Pulley chain block	No.	3	-do-

[IX]	**CuttingTools**			
1	Tree Pruner	No.	2	Contractor
2	Axe	No.	2	-do-
3	Power Operate grinding cum wire cutter	No.	2	-do-
4	Contact wire cutter	No.	2	-do-
5	Dropper wire cutter	No.	2	-do-
6	Hacksaw frame Adj.12"	No.	2	-do-
7	Drilling machine	No.	2	-do-
8	Grinding Machine	No.	2	-do-
9	Welding plant (3Ph. Or 1Ph.)	No.	2	-do-
[X]	**Manila Ropes**			
1	3/4"manila rope 20 m long	m	200	-do-
2	1/2"manila rope 20m long	m	200	-do-
3	1" maila rope 20 m long	m	60	-do-
4	1/2" manila rope 2 m long	m	15	-do-
[XI]	**Light fittings**			
1	Search lights	No.	2	-do-
2	Torch lights 3 cell	No.	5	-do-
3	Extension board with cable of 20 mtrs.	No.	2	-do-
4	LED Torch light	No.	5	-do-
[XII]	**Safety Items**			
1	Safety Belts	No.	5	-do-
2	Helmets	No.	10	-do-
3	First Aid Box	No.	2	-do-
[XIII]	**Mechanical Measuring Instruments**			
1	Micro meter	No.	2	-do-
2	Plumb bob	No.	3	-do-
3	Spirit level12"/6"	No.	2	-do-

FINANCIAL OFFER

SCHEDULE OF RATES					
NAME OF WORK:- Maintenance of 2x25 kV Over Head Equipment and PSI Equipments (at TSS/SP/SSP) on DDUN to KCNN section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty Four) months under CGM PRYJ(E) Unit.					
OHE Maintenance Activity					
Schedule 1- Regular Maintenance Activity					
S.No	**Description of Work**	**Unit**	**Total Qty.**	**Rate (Rs)**	**Total Amount(Rs.)**
1	**2**	**3**	**4**	**5**	**6**
1	Checking and Maintenance of Cantilever assembly (Annually)	Each	20280	804.30	16311204.00
2	Checking and maintenance of 25 kV OHE conductors. (Annually)	TKM	794	5144.75	4084931.50
3	Checking & maintenance of all type of 25 KV OHE Jumpers not covered in other items	Each	6006	470.42	2825342.52
4	Checking & maintenance of Overlaps (IOL) & (UIOL) (Annually)	Each	954	1715.28	1636377.12
5	Checking & Maintenance of Anti Creep arrangement (Annually)	Each	728	1286.46	936542.88
6	Checking & Maintenance of 25 KV Isolator (SP/DP) including earthing heel arrangement if any.	Each	250	1376.06	344015.00
7	Checking & Maintenance of 25 KV OHE at Turnouts by Tower Wagon (Annually)	Each	66	2234.30	147463.80
8	Checking & Maintenance of 25 KV OHE on a cross over by Tower Wagon (Annually)	Each	168	2636.91	443000.88
9	Checking & Maintenance of Section Insulator Assembly by Tower Wagon (Annually)	Each	120	1319.52	158342.40
10	Checking & Maintenance of Auto tension Device (ATD) (Annually))	Each	1782	2786.25	4965097.50
11	Checking & maintenance of all type of bonds & BEC connection including cleaning	Each	3500	30.94	108290.00

	of muffs at OHE mast				
12	Removal of & Re erection of bonds of various type during track machine working or Erection of missing/new bonds including Paint etc.	Each	4500	80.00	360000.00
13	Checking & maintenance of leaning of OHE mast till a new mast erected	Each	70	3668.42	256789.40
14	Checking & Maintenance of PTFE type neutral section (Quarterly)	Each	144	5592.70	805348.80
15	Checking and Maintenance of Portal boom & drop arms free from foreign body including bird nests	Each	760	409.62	311311.20
16	Trimming of tree branches to maintain minimum 5 to 6-meter clearance from OHE.	Each	2000	27.73	55460.00
17	Erection of 25 KV overhead equipment as per requirement	TKM	20	44518.16	890363.20
18	Checking and compilation of hotspot of OHE using Thermo vision camera by a skilled Engineer	TKM	100	1007.51	100751.00
19	Stenciling/Painting of rail level, implantation, MRL, ERL & location number etc. Sed Parameters	Each	1000	86.18	86180.00
20	Painting of counter weight of ATD & GUY Rod assembly including marking of Y value	Each	891	609.07	542681.37
21	Checking and maintenance of Feeder Termination and AEC termination	Each	705	370.05	260885.25
22	Supply and erection of OHE Retro reflecting number plate including plate fixing.	Each	1600	741.58	1186528.00
23	Supply and erection of caution board	Each	60	305.46	18327.60
24	Providing and replacing of DO Fuse at Auxiliary Transformer of 1 A/ 5A as per requirement.	Each	620	132.14	81926.80
25	Maintenance of Auxiliary Transformer at Station and ALH and RH Locations	Each	1400	900.12	1260168.00
26	Checking and maintenance of 25 kV OHE feeder & AEC conductors excluding	TKM	608	1509.10	917532.80

	termination arrangement				
	Schedule-1 Total				**39094861.02**
Schedule 02 - Emergency & Other maintenance activities					
S. No	**Description of Work**	**Unit**	**Qty.**	**Final Rate**	**Total Amount**
1	Loading, unloading of DFCCIL supplied material to places directed by Engineer incharge (i.e. From station to tower wagon, station to station etc.) (applicable for material more than 2 MT)	Each occasion	30	4154.85	124645.50
2	Erection of Catenary wire splicing or Contact wire splicing.	Each	20	3145.72	62914.40
3	Replacement / Re-erection of various types of insulators	Each	200	917.37	183474.00
4	Breakdown attention by a gang for restoration of 25 KV OHE during accidents/ unusual occurrence for checking OHE parameters- (one gang consisting of 7 staff)	Hour	240	1626.74	390417.60
5	Erection of traction masts & portal other than boom	Nos	25	2972.17	74304.25
6	Transfer of OHE equipment from one mast or support to another.	Each	35	1211.55	42404.25
	Schedule-2 Total				**878160.00**
Schedule -03 Foundation items					
S. No	**Description of Work**	**Unit**	**Qty.**	**Final Rate**	**Total Amount**
1	Casting of all types of foundation (The rate includes supply of the material- ballast, sand, cement, mixture & reinforcement etc.) with shuttering	Cum	80	7664.32	613145.60
	Schedule-3 Total				**613145.60**
Schedule -04 Additional OHE work					

S. No	Description of Work	Unit	Qty.	Final Rate	Total Amount
1	Supply and maintenance of petrol operated telescopic pole pruner model no. HT 75 of STIHL or equivalent model of FISKAR make for tree trimming purpose	Each	3	58863.28	176589.84
2	Supply and fixing of Splicing Clamp Assembly For 150 sq. mm Contact Wire (Crocodile Type)	Each	4	5516.53	22066.12
3	Supply and fixing Catenary Wire Splice 125 Sq. mm	Each	4	2587.40	10349.60
4	Supply and fixing Feeder wire splice for 288 sq. mm AAAC conductor	Each	4	3300.15	13200.60
5	Supply and fixing Aerial Earth wire splice for 181.6 sq. mm ACSR conductor	Each	4	1510.11	6040.44
6	Supply and fixing of Splicing Clamp Assembly for 107 sq. mm Contact Wire (Crocodile Type)	Each	4	2757.91	11031.64
7	Supply and fixing Catenary Wire Splice 65 Sq. mm.	Each	4	919.30	3677.20
8	Erection of Cantilevers	Each	50	1634.95	81747.50
9	Erection of material for solid core cut in insulator	Each	20	629.05	12581.00
10	Erection of material for suspension in insulator	Each	20	444.43	8888.60
11	Erection of structure bonds	Each	100	238.93	23893.00
12	Supply of material for single earth electrode	Each	25	2402.94	60073.50
13	Erection of material for single earth electrode	Each	25	1090.09	27252.25
14	Slewing of OHE	Span	15	3335.19	50027.85
15	Preparation of design and drawing for overhead equipment and verification as per plan	TKM	5	13357.46	66787.30
16	Erection of rolled / fabricated and galvanized traction mast, TTC, Portals, AT Mast, Feeder Mast, bridge mast etc.	MT	10	6852.91	68529.10
17	Erection of material for Guy rod assembly	Each	10	1176.25	11762.50

18	Erection of large span wire	Mtr	600	75.18	45108.00
19	Erection of material for Regulating Equipment (ATD)	Each	10	4688.42	46884.20
20	Erection of Material for termination of single/double conductor of overhead equipment.	Each	10	1810.05	18100.50
21	Supply and erection of Guy rod assembly	Each	10	9548.96	95489.60
22	Erection of Anticreep wire	Each	10	3391.72	33917.20
23	Erection of Section Insulator assembly and associate Fittings & fasteners.	Each	5	5678.46	28392.30
24	Erection of PTFE neutral section assembly and associate Fittings & fasteners	Each	3	7535.24	22605.72
25	Erection of 25 kV DP Isolator with all material as required.	Each	4	6590.24	26360.96
26	Erection of 25 kV SP Isolator with all material as required.	Each	5	6018.30	30091.50
27	Dismantling of traction structure, Portals, TTC and associate SPS by cutting	Mt	20	1603.04	32060.80
28	Supply and Erection of Retro-reflective type boards- 25KV AC OHE danger board/danger board for height gauge, public, staff caution board and special boards.	Each	15	621.51	9322.65
	Schedule-4 Total				**1042831.47**
Schedule-05 Additional OHE items					
S. No	**Description of Work**	**Unit**	**Qty.**		**Total Amount**
1	Supply of spares, tools & equipment required during maintenance & break downs for a period of 2 years- As per Appendix -A	As per Appendix -A	As per Site Requirement		**4168372.49**
	Schedule-5 Total as per appendix-A				**41,68,372.49**
	Grand Total of OHE maintenance activities (Sum of Schedule 1 to 5)				**4,57,97,370.51**
					Appendix-A

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Appendix A:- Part:A					
S. No.	**Description of Item**	**Unit**	**Qty.**	**Final Rate**	**Total Amount**
1.	Counter weight Guide tubes (6.3m long) (RI NO: 5062-1 (S) for OHE.	Nos	50	1710.43	85521.50
2.	9 Tone adjuster complete with Both side eye (5020) for OHE	Nos	20	676.94	13538.80
3.	Anchor Double strap (set of 2 nos. of 5031) (RI NO: 5030) complete with nut ,bolt, washer & split pin (RI 5031)	Nos (set)	20	192.67	3853.40
4.	Typical Structural number plate (125mm size) ((RI No 7503) Size: 310mm x 340mm x 2mm	Nos	100	499.9	49990.00
5.	Contact wire parallel clamp Large with GI bolt and nut 16x50/38 MM and spring washer B-16 as per RDSO Drg No ETI/OHE/P/1030-2 (Mod-D) (RI 1031-2)	Nos	50	253.07	12653.50
6.	Contact wire parallel clamp (part 2 Nos of 1031-3) (RI NO 1030-3) (157-65/107/150) (RI 1031-3)	Nos	20	510.31	10206.20
7.	Contact wire parallel clamp small Part no 1041-2 with fasteners Drg no ETI/OHE/P/1040-2 (Mod-E) (RI 1041-2)	Nos	20	253.07	5061.40
8.	Parallel Clamp (150/105 - 150) RI No: 1050-2 (RI 1051-2)	Nos	20	510.31	10206.20
9.	105 SQMM Large jumper wire annealed copper wire .	Metre	200	624.87	124974.00
10.	50 Sqmm flexible copper jumper wire.	Metre	200	273.9	54780.00
11.	Large suspension clamp to suit 288sqmm AAAC feeder wire (22.05 mm dia) complete assembly with armour tape and ferrule (RI No 1580)	Nos	20	1031.04	20620.80
12.	160 sqmm Large jumper annealed flexible copper wire .	Metre	200	1634.54	326908.00
13.	Post Insulator Jumper Clamp (set of 2 nos) (RI NO: 6094)	Nos	200	286.4	57280.00

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14.	Terminal Connector (19mm) Multiple hole (bolted type) (RI No:1009 & 1009-1)	Nos	20	1666.31	33326.20
15.	Structure bonds (50X6)	Nos	200	641.25	128250.00
16.	Single earth electrode (RI 7021)	Nos	50	2843.49	142174.50
17.	GS Snap Pin 16x50 mm	Nos	100	36.45	3645.00
18.	GS Flat Washer 16 mm	Nos	100	6.25	625.00
19.	GS Split Pin 4x32 mm	Nos	100	5.72	572.00
20.	GS Split Pin 4x36mm	Nos	100	6.25	625.00
21.	Anchor V Bolt	Nos	20	322.85	6457.00
22.	Anchor Bolt RI 5001-3	Nos	20	317.64	6352.80
23.	Anchor Loop RI 5008	Nos	10	1510.11	15101.10
24.	GS Bolt 16x 50/30 mm with Nut & Flat washer	Nos	100	29.16	2916.00
25.	GS Bolt 16x 50/38 mm with Nut & Flat washer	Nos	100	29.16	2916.00
26.	Copper Split Pin 2.5x25 mm	Nos	200	4.17	834.00
27.	Copper Split Pin 4x36 mm	Nos	200	9.37	1874.00
28.	GS 'J' Bolt 16X55 mm with Nut & flat Washer	Nos	50	43.74	2187.00
29.	GS 'J' Bolt 16X120 mm with Nut & flat Washer	Nos	50	81.24	4062.00
30.	GS Bolt 12x100/30 with Nut, Locknut & Flat Washer	Nos	100	20.83	2083.00
31.	GS Bolt 12x55/30 with Nut, Locknut & Flat Washer	Nos	100	17.7	1770.00
32.	GS Bolt 12x75/30 with Nut, Locknut & Flat Washer	Nos	100	18.75	1875.00
33.	GS Bolt 12x50/35with Nut, Locknut & Flat Washer	Nos	100	22.92	2292.00
34.	GS Bolt 12x200/49 with Nut & Spring washer	Nos	100	36.45	3645.00
35.	GS Bolt 16x40/38 with Nut, Locknut & Spring Washer	Nos	100	27.08	2708.00
36.	GS Bolt 16x220/57 with Nut, Locknut & Flat Washer	Nos	50	57.28	2864.00
37.	GS Bolt 16x260/57 with Nut, Locknut & Flat washer	Nos	50	62.48	3124.00

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38.	GS Bolt 16x300/57 with Nut, Locknut & Flat Washer	Nos	50	88.52	4426.00
39.	GS Bolt 16x 360/57 with Nut, Locknut & Flat Washer	Nos	50	98.93	4946.50
40.	GS Bolt 20x65/46 with Nut, Locknut & tapered washer	Nos	50	44.78	2239.00
41.	GS Bolt 20x85/46 with Nut Lock nut & Tapered Washer	Nos	50	48.95	2447.50
42.	GS Bolt 16x175/44 with Nut, Locknut & Flat Washer	Nos	100	50.01	5001.00
43.	GS Bolt 16x 220/57 with Nut, Locknut & Flat Washer	Nos	100	55.2	5520.00
44.	GS Bolt 10x50/26 with Nut & Flat Washer	Nos	200	15.62	3124.00
45.	GS Bolt 16x65/38 with Nut, Locknut & Flat Washer	Nos	100	31.25	3125.00
46.	GS Bolt 16x260/100 With Nut, Locknut	Nos	50	59.37	2968.50
47.	GS Bolt 16x320/100 with Nut, Locknut	Nos	50	83.32	4166.00
48.	GS bolt 20x50/37 with Nut, Locknut & Flat Washer	Nos	100	43.74	4374.00
49.	GS bolt 20x260/65 with Nut, Locknut & Flat Washer	Nos	50	98.94	4947.00
50.	GS bolt 20x280/65 with Nut, Locknut & Flat Washer	Nos	50	104.15	5207.50
51.	GS bolt 20x330/65 with Nut, Locknut & Flat Washer	Nos	50	135.39	6769.50
52.	GS bolt 16x360/57 with Nut, Locknut & Flat Washer	Nos	50	98.94	4947.00
53.	GS bolt 24x70/54 with , Locknut & Copper Split Pin 5x40 mm	Nos	50	72.9	3645.00
54.	GS bolt 20X85/37 with Nut, Locknut & Flat Washer	Nos	100	72.69	7269.00
55.	Pin Contact wire Swivel Clip RI 1222	Nos	300	23.36	7008.00
56.	Pin Copper Split 4x36 mm	Nos	300	9.62	2886.00
57.	Pin Copper Split 4x40 mm	Nos	200	7.48	1496.00
58.	Pin Copper Split 2.5x20 mm	Nos	200	5.35	1070.00
59	SNAP HEAD Pin Clevice GS 20x65 mm	Nos	50	38.48	1924.00
60	SNAP HEAD Pin Clevice GS 20x105 mm	Nos	50	102.62	5131.00

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61	SNAP HEAD Pin Snap Head GI 20x65	Nos	50	41.69	2084.50
62	SNAP HEAD Rivet Copper 6 x 50 mm	Nos	200	34.21	6842.00
63	SNAP HEAD Rivet Copper 12x65 mm	Nos	200	90.87	18174.00
64	SNAP HEAD Rivet Copper 6x55 mm	Nos	200	34.21	6842.00
65	SNAP HEAD Rivet Copper 6 x 50 mm	Nos	200	38.48	7696.00
66	Rivet Aluminium 6x35 mm	Nos	50	7.48	374.00
67	SS Bolt 16x50	Nos	200	86.59	17318.00
68	SS Nut 16 mm Dia	Nos	200	32.07	6414.00
69	SS Lock Nut 16 mm Dia	Nos	200	25.65	5130.00
70	SS Bolt 12 X 60 / 30 mm	Nos	200	54.52	10904.00
71	SS Bolt 12x45x30	Nos	200	41.69	8338.00
72	SS Bolt 10 X 35 / 30 mm	Nos	200	27.79	5558.00
73	SS Bolt 10 X 25 / 30 mm	Nos	200	23.52	4704.00
74	SS Bolt with Nut, L. Nut & Washer 10x65x30	Nos	200	54.52	10904.00
75	SS Bolt 10x35/30 with hole	Nos	200	27.79	5558.00
76	SS Nut 10 mm	Nos	200	18.17	3634.00
77	SS Lock Nut 10 mm	Nos	200	5.35	1070.00
78	SS Nut 12 mm	Nos	200	13.9	2780.00
79	SS Lock Nut 12 mm	Nos	200	16.04	3208.00
80	Bull dog clamp for 120 Sq. mm catenary (14mm dia.) copper material	Nos	10	769.69	7696.90
81	Bull dog clamp steel rope (14mm Dia) steel material	Nos	10	342.08	3420.80
82	14mm dia steel rope for Emergency mast guy rod	MTR	200	389.13	77826.00
83	LV junction Box for 25 kVA Auxiliary Transformer	Nos	8	14966.31	119730.48
84	LV junction Box for 10 kVA AT Auxiliary Transfomer	Nos	8	14966.31	119730.48

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85	LV junction Box for 50 kVA AT Auxiliary Transformer	Nos	8	16569.84	132558.72
86	LV junction Box for 100 kVA AT Auxiliary Transformer	Nos	8	20845.93	166767.44
87	Sigma Board Retro Reflective	Nos	20	3335.35	66707.00
88	Supply of Retro - Reflective structure number plate as per RDSO Spec No. ETI/OHE/33A(12/97) Rev. 8	Nos	200	422.97	84594.00
89	One set consisting of (i) Fuse carrier tube, glass fibre 500 mm long-1 No. (ii) Jaw tin bronze-1 No (iii) end fitting (FUSE carrier) 1 No (iv) Swivel with hook-1 no. (v) horn link 1 no. (vi) Terminal connector-2 nos . For 25 kV DO FUSE switch as per RDSO drawing nol ETI/PSI/032 REV. "D", Make IM as per CORE-ALD approved drg No. IM/120/04	Nos	20	6002.5	120050.00
90	Drop out fuse (Fuse Link of 1A)	Nos	100	87.31	8731.00
91	Drop out fuse (Fuse Link of 5A)	Nos	100	120.05	12005.00
92	25 kV Earthing Discharge Rod for High Rise OHE With length of cable 13 mtr (11.5+1.5) mtrs with folding fibre stick of total length 6700 mm in 4 equal sections, cable size 248/0.45 mm single core flexible multi stranded annealed copper as per our CORE-ALD approved Drg No IM. 107/95 Rev-A & RDSO spec no. ETI/OHE/51 (9/87) Rev-A (oct-92)	Nos	24	23873.40	572961.60
93	Operating pole for 25 kv drop out fuse switch make IM as per our core ALD approved dwg no. IM/118/04 and RDSO spect no. ET/PSI/14(1/56).	Nos	8	7561.40	60491.20
	Total				**2,92,3,312.43**
Appendix- A:- Part:B					

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S. No.	Description of Item	Unit	Qty.	Final Rate	Total Amount
1	Supply of GEARLESS HAND OPRATED PULLING AND LIFTING MACHINE TIRFOR, CAPACITY LIFTING 3 TON,PULLING 5 TON WITH 20 MTRS STEEL WIRE ROPE TO RDSO SPECIFICATION NO. TI/SPC/OHE/TOOLPL/0990 with A & C Slip No. 1 & 2 or latest" & EDFC requirement. ACCEPTED MAKE: IM, TRACTEL , OCC, CMIS or Similar- RDSO Approved.	Sets	4	22673.06	90692.24
2	Supply of RATCHET LEVER HOIST(PULL LIFT) WITH ROLLER CHAIN (20 Meter) WITH LIFTING CAPACITY OF 3 TON. AS PER RDSO SPEC NO.TI/SPC/OHE/TOOLPL/0990 with A & C Slip No. 1 & 2 or latest" & EDFC requirement 1.4 M LIFT OR LATEST. ACCEPTED MAKE : IM, OCC, TRACTEL, SAMSON, SHAKTI or Similar- RDSO Approved.	Nos	4	10363.30	41453.20
3	Supply of RATCHET LEVER HOIST(PULL LIFT) WITH ROLLER CHAIN (20 Meter) WITH LIFTING CAPACITY OF 0.75 TON. AS PER RDSO SPEC NO.TI/SPC/OHE/TOOLPL/0990 with A & C Slip No. 1 & 2 or latest" & WDFC requirement 1.4 M LIFT OR LATEST. ACCEPTED MAKE : IM, OCC, TRACTEL, SAMSON, SHAKTI or Similar- RDSO Approved.	Nos	4	6149.53	24598.12
4	Supply of COME ALONG CLAMP FOR Catenary WIRE SUITABLE FOR 125 SQMM 2.5 TONNE AS PER DRAWING NO. RE/33/P/550 & WDFC requirement WITH	Nos	8	2245.92	17967.36

	LOAD TEST CERTIFIED Make: IM/Shree Ram Engineers or Similar- RDSO Approved.				
5	Supply of COME ALONG CLAMP FOR Contact WIRE SUITABLE FOR 150 SQMM 2.5 TONNE AS PER DRAWING NO. RE/33/P/550 & WDFC requirement WITH LOADTEST CERTIFIED. Make: IM/Shree Ram Engineers or Similar- RDSO Approved.	Nos	8	2245.92	17967.36
6	Supply of Come along clamp for 181 sq.mm AEC Wire (ACSR) BOLT TYPE & WDFC requirement. Make- Sri ram Engineers or similar	Nos	8	9123.76	72990.08
7	Supply of Come along clamp for 288 sq.mm Feeder (AAAC) BOLT TYPE & WDFC requirement Make- Sri ram Engineers or similar	Nos	8	9123.76	72990.08
8	Supply of D' Shackles made of alloy steel. Set consisting one no. shackle of each size (1", 3/4", 5/8", 1/2"). Shackles shall have loading capacity upto 5T and made as per IS: 6132 and shall be suitable for use in TRD works Make IM or Similar- RDSO Approved.	Set	8	695.16	5561.28
9	Supply of Single sleeve pulley block 3 1/2 x 1/2" groove steel with capacity 2.5 ton Make IM or similar RDSO approved.	Nos	8	1272.69	10181.52
10	Supply of Double sleeve pulley block 3 1/2 x 1/2" groove steel with capacity 2.5 ton Make IM or similar RDSO approved.	Nos	8	1315.88	10527.04
11	Single sleeve pulley block 3 1/2" x 1/2" groove FIBER with capacity 2.5 ton Make IM or similar RDSO approved.	Nos	8	1674.75	13398.00
12	Single sleeve pulley block 6"X1" groove steel with capacity 3 ton Make IM or	Nos	8	1122.96	8983.68

	similar RDSO approved.				
13	Supply of Steel slings with eye each end 16 mm dia 1.5 mtr long. Flexible Make : IM/Mahadev/Bharat Wires/Usha Martin or equivalent	Nos	8	714.29	5714.32
14	Supply of Steel slings with eye each end 16 mm dia 2 mtr longflexible Make : IM/Mahadev/Bharat Wires/Usha Martin or equivalent	Nos	8	964.99	7719.92
15	Supply of Steel slings with eye each end 16 mm dia 3 mtr longflexible Make : IM/Mahadev/Bharat Wires/Usha Martin or equivalent	Nos	8	1212.93	9703.44
16	Supply of Steel slings with eye each end 16 mm dia 4.5 mtr longflexible Make : IM/Mahadev/Bharat Wires/Usha Martin or equivalent	Nos	4	1529.79	6119.16
17	Supply of Steel slings with eye each end 16 mm dia 10 m long. Flexible Make : IM/Mahadev/Bharat Wires/Usha Martin or equivalent	Nos	4	2923.06	11692.24
18	Supply of Contact wire twist cum bender for(107 Sq. mm and 150 sq.mm size wires) 6", Accepted make:IM or similar as per approved Drg No. IM/CWTB/05/12/101 Similar to RE/DNR drg.	Nos	4	721.90	2887.60
19	Contact wire Splicing jig (107 & 150 Sq.mm). (Contact wire splicing jig for contact wire as per Drg. No. RE/DNR/EL/TP/110 &as per our RE approved Drg No. IM/CWSJ/05/12/103, similar to RE/DNR Drg.	Nos	4	6246.86	24987.44
20	Supply of Manilla rope 20 mm dia. Circular GRADE 1 MANILA ROPE WITHOUT ROT PROFFING AS PER IS 1084: 2005 AMDS 2	Meter	200	144.95	28990.00

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21	Supply of Manilla rope 16 mm dia. Circular GRADE 1 MANILA ROPE WITHOUT ROT PROFFING AS PER IS 1084: 2005 AMDS 2	Meter	200	130.04	26008.00
22	Supply of Manilla rope 12 mm dia. Circular GRADE 1 MANILA ROPE WITHOUT ROT PROFFING AS PER IS 1084: 2005 AMDS 2	Meter	200	116.18	23236.00
23	Supply of Highly insulated fibre glass hot line stick telescopic- 10 m long with MS Hook, Make:IM as per Drg No. IM/145A/05/145B/08.	Nos	6	14202.57	85215.42
24	Hydraulic Crimping tools-Capacity 25 sq. mm to 400 sq. mm, Model: Ashoka-400, Make: Jainson	Nos	4	22602.86	90411.44
25	Supply of Insulator testing machine Tensile load Testing machine for testing of 25 kV porcelain and composite insulator as per RDSO specifiction No. TI/SPC/OHE/INSTEST/0090 (02/2009) with A&C slip No. of latest (Hydrolic Insulator Testing Jig) Make : BCPL or CCSPL or any other RDSO approved.	Nos	1	270888.10	270888.10
26	Supply of Industrial Safety Helmet (White & Yellow) as per IS CODE 2951 : 1984 or latest Make: Karam or similar	Nos	50	334.58	16729.00
27	Supply of Industrial Safety belt and harness Class:A, as per IS 3521 or latest Make: Karam or similar	Nos	20	1327.70	26554.00
28	Supply of Rubber insulated Safety Hand Gloves 25/33 kV as per IS 4770-1991 or latest , Make: Jyoti/Vidyut/Karam	Set	8	902.84	7222.72
29	Supply of Safety Anti acid hand gloves Make: Jyoti/Vidyut/Karam or similar	Nos	12	181.20	2174.40
30	Supply of Safety Shoes , Make : Allen Cooper/ Bata or similar , 7 No- 40, 8 No-40, 9 No-30, 10 No-10.	Nos	50	1216.18	60809.00

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31	Supply of Safety Jacket as per IS 15809 (2008) or latest	Nos	50	189.06	9453.00
32	Supply of Protective Glass (Eye protection) Make: Karam/PEC/Venus	Nos	20	863.35	17267.00
33	Supply of Personal tool bag	Nos	12	1726.69	20720.28
34	Petroleum jelly for battery cell maintenance	KG	50	660.84	33042.00
35	HRC Fuse 6A	Nos	20	191.86	3837.20
36	HRC Fuse 16A	Nos	20	202.51	4050.20
37	Cell tester analog (galvano meter)	Nos	4	1497.54	5990.16
38	Kit kat fuse 250A	Nos	4	662.96	2651.84
39	Kit kat fuse 200A	Nos	4	650.17	2600.68
40	Kit kat fuse 100A	Nos	4	639.51	2558.04
41	Battery Operated Metal Cutter Heavy Duty (PG CLAMP)	Nos	2	24258.96	48517.92
	Total				**1245060.48**

PSI Maintenance Activity

Schedule 6: Maintenance of Traction Sub Stations:

S.No	Description of Work	Unit	Total Qty.	Rate (Rs)	Total Amount(Rs.)
1	**2**	**3**	**4**	**5**	**6**
1	Monthly Maintenance of 132kV/55kV, 39/54.6/65.13 MVA Traction Power Transformer.	Each	160	1317.87	210859.20
2	Half Yearly Maintenance of 132 kV/55kV, 39/54.6/65.13 MVA Traction Power Transformer.	Each	16	1763.49	28215.84
3	Yearly Maintenance of 132kV/55kV, 39/54.6/65.13 MVA Traction Power Transformer.	Each	16	2756.62	44105.92

4	Monthly Maintenance of 132 kV TP SF-6 Circuit Breaker	Each	520	881.74	458504.80
5	Half Yearly Maintenance of 132kV TP SF-6 Circuit Breaker	Each	52	1373.57	71425.64
6	Yearly Maintenance of 132 kV TP SF-6 Circuit Breaker	Each	52	1652.08	85908.16
7	Three Yearly Maintenance of 132kV TP SF-6 Circuit Breaker	Each	26	1768.42	45978.92
8	Monthly Maintenance of 132kV Current Transformer	Each	1400	436.13	610582.00
9	Half Yearly Maintenance of 132kV Current Transformer	Each	140	654.75	91665.00
10	Yearly Maintenance of 132kV Current Transformer	Each	140	881.74	123443.60
11	Three Yearly Maintenance of 132kV Current Transformer	Each	70	944.31	66101.70
12	Half Yearly Maintenance of 132kV Potential Transformer	Each	108	395.23	42684.84
13	Yearly Maintenance of 132kV Potential Transformer	Each	108	799.06	86298.48
14	Monthly Maintenance of 120 kV Lightning Arrester	Each	520	701.17	364608.40
15	Quarterly Maintenance of 120 kV Lightning Arrester	Each	208	594.16	123585.28
16	Half Yearly Maintenance of 120 kV Lightning Arrester	Each	104	881.74	91700.96
17	Yearly Maintenance of 120 kV Lightning Arrester	Each	104	799.06	83102.24
18	Monthly Maintenance of 132 kV TP Motorised Isolator with or without earthing heel	Each	880	436.80	384384.00
19	Half Yearly Maintenance of 132 kV TP Motorised Isolator with or without earthing heel	Each	88	658.93	57985.84
20	Yearly Maintenance of 132 kV TP Motorised Isolator with or without earthing heel	Each	88	993.14	87396.32
21	Monthly Maintenance of 25kV DP Circuit Breaker	Each	640	334.04	213785.60
22	Half Yearly Maintenance of 25kV DP Circuit Breaker	Each	64	658.93	42171.52
23	Yearly Maintenance of 25kV DP Circuit Breaker	Each	64	1317.46	84317.44
24	Three Yearly Maintenance of 25kV DP Circuit Breaker	Each	28	1317.46	36888.88
25	Monthly Maintenance of 25 kV DP Motorised Isolator without earthing heel	Each	1480	658.07	973943.60

26	Half Yearly Maintenance of 25 kV DP Motorised Isolator without earthing heel	Each	148	1104.34	163442.32
27	Yearly Maintenance of 25 kV DP Motorised Isolator without earthing heel	Each	148	1651.87	244476.76
28	Monthly Maintenance of 42 kV Lightning Arrester	Each	912	333.97	304580.64
29	Quarterly Maintenance of 42 kV Lightning Arrester	Each	192	302.66	58110.72
30	Half Yearly Maintenance of 42 kV Lightning Arrester	Each	96	547.53	52562.88
31	Yearly Maintenance of 42 kV Lightning Arrester	Each	96	496.19	47634.24
32	Quarterly Maintenance of 25 kV Potential Transforme PT (Type I)	Each	48	436.13	20934.24
33	Half Yearly Maintenance of 25 kV Potential Transformer PT (Type I)	Each	24	659.15	15819.60
34	Yearly Maintenance of 25 kV Potential Transformer PT (Type I)	Each	24	881.74	21161.76
35	Quarterly Maintenance of 25 kV Potential Transforme PT (Type II)	Each	80	436.13	34890.40
36	Half Yearly Maintenance of 25 kV Potential Transformer PT (Type II)	Each	40	659.15	26366.00
37	Yearly Maintenance of 25 kV Potential Transformer PT (Type II)	Each	40	881.74	35269.60
38	Monthly Maintenance of 25 kV Current Transformer	Each	960	436.13	418684.80
39	Half Yearly Maintenance of 25 kV Current Transformer	Each	96	659.15	63278.40
40	Yearly Maintenance of 25 kV Current Transformer	Each	96	881.74	84647.04
41	Three Yearly Maintenance of 25 kV Current Transformer	Each	48	944.31	45326.88
42	Monthly Maintenance of 25 kV Vacuum DP Interrupter	Each	280	334.21	93578.80
43	Half Yearly Maintenance of 25 kV Vacuum DP Interrupter	Each	28	658.93	18450.04
44	Yearly Maintenance of 25 kV Vacuum DP Interrupter	Each	28	1317.87	36900.36
45	Quarterly Maintenance of 25kV/240V, 100kVA LT Auxiliary Transformer	Each	24	334.21	8021.04

46	Half Yearly Maintenance of 25kV/240V, 100kVA LT Auxiliary Transformer	Each	12	658.93	7907.16
47	Yearly Maintenance of 25kV/240V, 100kVA LT Auxiliary Transformer	Each	12	1763.48	21161.76
48	Quarterly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer	Each	24	334.20	8020.80
49	Half Yearly Maintenance of 25kV/240V, 10 kVA LT Auxiliary Transformer	Each	12	658.93	7907.16
50	Yearly Maintenance of 25kV/240V, 10 kVA LT Auxiliary Transformer	Each	12	1763.48	21161.76
51	Quarterly maintenance of 2500 KVAR CAPACITOR BANK INCLUDING SERIES REACTOR	Each	24	658.93	15814.32
52	Half yearly maintenance of 2500 KVAR CAPACITOR BANK INCLUDING SERIES REACTOR	Each	12	1763.48	21161.76
53	Yearly maintenance of 2500 KVAR CAPACITOR BANK INCLUDING SERIES REACTOR	Each	12	2645.22	31742.64
54	Quarterly Maintenance of 25 kV Neutral Current Transformer	Each	36	457.17	16458.12
55	Yearly Maintenance of 25 kV Neutral Current Transformer	Each	12	914.35	10972.20
56	Fortnightly battery & battery charger maintenance of TSS	Each	288	436.13	125605.44
57	Yearly battery & battery charger maintenance of TSS	Each	12	10571.41	126856.92
58	Half Yearly maintenance of Earthing station	Each	464	167.11	77539.04
59	Yearly maintenance of Earthing station	Each	464	167.11	77539.04
60	Yearly Buried Rail Connection	Each	6	17625.33	105751.98
61	Half Yearly Thermal Imaging of Equipment connector	Each	1500	436.13	654195.00
62	Yearly Maintenance of Earth Screen Conductor	Each	6	1652.08	9912.48
63	Yearly maintenance of Cable Trench Cleaning	Each	6	8807.93	52847.58
64	Reclamation of DCP(5kG,10 kG & 25 kG),CO2(9kG) &	Each	12	69.43	833.16

	form type fire extinguisher.				
65	Refilling of DCP(5kG,10 kG & 25 kG),CO2(9kG) & form type fire extinguisher.	Each	12	565.54	6786.48
	Schedule-6 Total				**7703955.50**

Schedule 7: SP/SSPs/ATS Maintenance:

S.No	Description of Work	Unit	Total Qty.	Rate (Rs)	Total Amount(Rs.)
1	Monthly Maintenance of 9 MVA Auto Transformer	Each	360	1317.41	474267.60
2	Half Yearly Maintenance of 9 MVA Auto Transformer	Each	36	1762.12	63436.32
3	Yearly Maintenance of 9 MVA Auto Transformer	Each	36	2755.24	99188.64
4	Monthly Maintenance of 25 kV DP Interrupter	Each	980	334.21	327525.80
5	Half Yearly Maintenance of 25 kV DP Interrupter	Each	98	658.93	64575.14
6	Yearly Maintenance of 25 kV DP Interrupter	Each	98	1317.87	129151.26
7	Monthly Maintenance of 25 kV DP Isolator	Each	1600	655.63	1049008.00
8	Half Yearly Maintenance of 25 kV DP Isolator	Each	160	1104.55	176728.00
9	Yearly Maintenance of 25 kV DP Isolator	Each	160	1652.08	264332.80
10	Quarterly Maintenance of 25 kV Potential Transformer	Each	136	436.13	59313.68
11	Half Yearly Maintenance of 25 kV Potential Transformer	Each	68	659.15	44822.20
12	Yearly Maintenance of 25 kV Potential Transformer	Each	68	881.74	59958.32
13	Monthly Maintenance of 42 kV Lightning Arrester	Each	1440	333.97	480916.80
14	Quarterly Maintenance of 42 kV Lightning Arrester	Each	360	302.66	108957.60
15	Half Yearly Maintenance of 42 kV Lightning Arrester	Each	180	547.53	98555.40
16	Yearly Maintenance of 42 kV Lightning Arrester	Each	180	496.19	89314.20
17	Quarterly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer	Each	56	334.20	18715.20

18	Half Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer	Each	28	658.93	18450.04
19	Yearly Maintenance of 25kV/240V, 10kVA LT Auxiliary Transformer	Each	28	1763.48	49377.44
20	Fortnightly battery & battery charger maintenance at SPs/SSPs.	Each	672	436.13	293079.36
21	Yearly Maintenance of Battery AND Battery Charger.	Each	28	10571.41	295999.48
22	Half Yearly maintenance of Earthing station.	Each	740	167.11	123661.40
23	Yearly maintenance of Earthing station.	Each	420	167.11	70186.20
24	Yearly Buried Rail Connection.	Each	18	17625.33	317255.94
25	Monthly Maintenance of 25 kV SSP Interrupter	Each	40	334.21	13368.40
26	Half Yearly Maintenance of 25 kV SSP Interrupter	Each	8	658.93	5271.44
27	Yearly Maintenance of 25 kV SSP Interrupter	Each	4	1317.87	5271.48
28	Half Yearly Thermal Imaging of Equipment connector	Each	720	436.13	314013.60
29	Yearly Maintenance of Earth Screen Conductor	Each	56	1652.08	92516.48
30	Yearly maintenance of Cable Trench Cleaning	Each	14	3526.97	49377.58
31	Reclamation of DCP(5kG,10 kG & 25 kG),CO2(9kG) & form type fire extinguisher.	Each	14	69.43	972.02
32	Refilling of DCP(5kG,10 kG & 25 kG),CO2(9kG) & form type fire extinguisher.	Each	14	565.54	7917.56
	Schedule-7 Total				**5265485.38**

Schedule 8: Panels & Gantry Bus Bar insulator other Maintenance:

S.No	Description of Work	Unit	Total Qty.	Rate (Rs)	Total Amount(Rs.)
1	Monthly panel maintenance in TSS	Each	72	2724.46	196161.12
2	Monthly panel maintenance in SP/SSP	Each	168	1362.23	228854.64
3	Half yearly Cross gantry or any others Gantry Bus Bar maintenance of TSS	Each	12	15775.91	189310.92

4	Half yearly Cross gantry or any others Gantry Bus Bar maintenance of of SP/SSPs	Each	28	10898.86	305168.08
5	Removal and re-errection of PSI Equipment	Each	50	5671.86	283593.00
6	Supply & Erection of Caution Board	Each	100	304.39	30439.00
7	Supply and spreading of ballast/Pebbles/Gravels in Switching Stations/TSS yard	CUM	375	1370.24	513840.00
8	Reinforce concrete for cable trench & cover	Sqm.	325	1318.84	428623.00
9	Supply and repaininting of PSI Equipment like Transformer CT ,PT ,LA BM, CB, AT as per site requirement with water proof gray enamled paint by apprved brand i.e. Asian Berger etc. as per IS 2932 or latest	Sqm.	325	38.76	12597.00
10	Supply and repaininting of PSI assets ie. Fencing Panels, FencingUP right, barbared wire, Tubular pole at TSS/SP/SSP with Aluminum Paint i.e. Asian Berger etc. as per IS 2339 or latest	Sqm.	325	35.40	11505.00
11	Supply and erection of Earth Pit cover & Box	Each	150	900.01	135001.50
12	Provision of Shock Treatment Chart	Each	24	863.95	20734.80
13	Drilling of holes in mast/ rails with contractror own labour and T&P complete.	Each	190	37.40	7106.00
14	Removal of Wild vegetation in TSS/SP/SSPs	Sq. m	23700	8.87	210219.00
15	Supply and erection of earth leads 75 x 8 mm mild steel flat laid in the ground or exposed as per site requirement	Mtr	325	258.26	83934.50
16	Supply and erection of earth leads 50 x6 mm mild steel flat laid in the ground or exposed as per site	Mtr	475	143.58	68200.50
17	Supply and erection of 8 SWG GI Wire for earthing.	Mtr	600	37.58	22548.00
	Schedule-8 Total				**2747836.06**

Signature of Tenderer for CGM/PRYJ(E)

Schedule 9: Break down attention					
S.No	**Description of Work**	**Unit**	**Total Qty.**	**Rate (Rs)**	**Total Amount(Rs.)**
1	Breakdown attention of PSI equipments at TSS/SP/SSPs	Hrs	480	685.12	328857.60
2	Maintenance of 25 KV dropout fuse AT TSS/SP/SSP	Each	720	1147.94	826516.80
3	Manning of SP/SSP in case of Emergency	Man Days	100	1354.40	135440.00
	Schedule-9 Total				**1290814.40**
Schedule 10: Additional PSI maintenance Activity					
S.No	**Description of Work**	**Unit**	**Total Qty.**	**Rate (Rs)**	**Total Amount(Rs.)**
1	Dismantling, supply, erection & commissioning of LA, CT, PT, CB & BM in case of break down/bursting of the equipment- Rate as per Appendix-B	Lump Sum		2619763.00	2619763.00
	Schedule-10 Total				2619763.00
Schedule 11: Maintenance of Traction Sub Stations /SCPs (Optional)					
S.No	**Description of Work**	**Unit**	**Total Qty.**	**Rate (Rs)**	**Total Amount(Rs.)**
1	Maintenance of Traction Sub Stations/SCPs (Optional) Note: Rate Schedules are available in Tender Document 'Appendix-C'	Lump Sum		**1223230.00**	**1223230.00**
	Schedule-11 Total				**1223230.00**
	Grand Total PART: B (Sum of Schedule 7 to 10)				**2,08,51,084.34**

Signature of Tenderer

for CGM/PRYJ(E)

Appendix-B

SN	Description of Work	Unit	Rate
1	Supply of Lightening Arrester- 42 kV	Each	44,440.36
2	Erection of Lightening Arrester- 42 kV	Each	911.46
3	Supply of Lightening Arrester- 120 kV	Each	2,71,655.21
4	Erection of Lightening Arrester- 120 kV	Each	1,909.21
5	Supply of CT- 132 kV	Each	4,64,254.29
6	Erection of CT- 132 kV	Each	2,695.01
7	Supply of CT- 25 kV	Each	1,29,856.92
8	Erection of CT- 25 kV	Each	1,112.83
9	Supply of PT- 25 kV	Each	1,23,234.47
10	Erection of PT- 25 kV	Each	1,302.08
11	Supply of PT- 132 kV	Each	3,19,735.32
12	Erection of PT- 132 kV	Each	17,743.13
13	Supply of CB- 25 kV SP	Each	7,15,113.97
14	Erection of CB- 25 kV SP	Each	8,460.51
15	Supply of Isolator 25 kV DP with Insulators	Each	1,49,949.91
16	Erection of of Isolator 25 kV DP	Each	4,775.30
17	Supply of of Isolator 25 kV SP	Each	82,912.33
18	Erection of of Isolator 25 kV SP	Each	4,775.30
19	Supply and erection Earth Electrodes	Each	6,166.73
20	**Supply and erection of all types of galvanised Steel Structures, Small Parts Steel etc**	MT	1,57,021.99
21	Erection of all types of galvanisedSteel Structures, Small Parts Steel etc	MT	5,276.47
	25 kV Outdoor Double Pole VCB type VSE 5/20 DP/Single POLE VCB Type VSE 5/20 Make: ALIND		-
22	Tripping Coil	Each	14,534.87
23	Closing COIL	Each	14,534.87
24	Spring Charging Motor With latch	Each	65,104.09

25	Auxiliary Switch (8NC+8NC) with crank	Each	34,520.31
26	Motor Limit Switch (3No+3No) with Crank	Each	17,411.56
27	Local/Remote Selector Switch	Each	11,809.58
28	**25 kV Outdoor Double Pole VI Type VSE 5/8 DP/Single POLE VI TYPE VSE 5/8 Make: ALIND**		-
29	Tripping Coil	Each	14,534.87
30	Closing COIL	Each	14,534.87
31	Supply of 132 kV support insulator	Each	56,666.30
32	Erection of 132 kV support insulator	Each	902.37
33	Supply of 25 kV support insulator	Each	6,926.78
34	Erection of 25 kV support insulator	Each	260.41
35	Supply 28.62 mm Dia ACSR conductor	Mtr	1,545.85
36	Erection of ACSR conductor	Mtr	28.77
37	Supply of 19/2.5 mm Gavanised steel stranded earth wire including termination	Mtr	396.69
38	Erection of 19/2.5 mm Gavanised steel stranded earth wire including termination	Mtr	19.69
39	Supply of 50 mm dia aluminum tubular busbar including including connectors	Mtr	2,233.23
40	Erection of 50 mm dia aluminum tubular busbar including including connectors	Mtr	89.33
41	Battery set for TSS- 400Ah	Set	11,10,560.51
42	Battery set for SP SSP and AT 120Ah	Set	4,14,334.04

Appendix C

S.No	Description of Work	Unit	Rate
1	Oil Filtration for power Transformer: Streamline Oil filtration work & Conservator tank	Litres	3.93
2	Oil Filtration for power Transformer :Oil to be drained from main tank and to be stored in separate Containers	Litres	1.06
3	Oil Filtration for power Transformer: Refilling of oil from container to Main Tank after filtration.	Litres	1.06
4	Bushings Oil leakage attention in Transformer: Streamline Oil filtration work & Conservator tank	Litres	3.93
5	Bushings Oil leakage attention in Transformer: Oil to be drained from main tank and to be stored in separate Containers	Litres	1.06
6	Bushings Oil leakage attention in Transformer: Refilling of oil from container to Main Tank after filtration.	Litres	1.06
7	Bushings Oil leakage attention in Transformer: Leakage	Job	11688.03

	attention to OLTC tapping Gear and new Gasket O-ring changing work		
8	Bushings Oil leakage attention in Transformer: Leakage attention of HV Bushings - 3 Nos and bottom Flange and its related works	Job	15207.39
9	Bushings Oil leakage attention in Transformer:Leakage attention of LV Bushing CT Box and replacement of new gasket and its related works	Job	6375.28
10	Bushings Oil leakage attention in Transformer:Leakage attention of HV inspection covers, Pipe line Gasket attention and replacement and its related works	Job	11688.03
11	Bushings Oil leakage attention in Transformer: Rental Charges for Cranes	Day	6970.06
12	Bushings Oil leakage attention in Transformer:Transport charges for oil filtration van up & down, Toll	Trip	14003.47
13	Bushings Oil leakage attention in Transformer:Transport Charges for empty barrels vehicle up & down, Toll	Trip	21543.8
14	Bushings Oil leakage attention in Transformer: Supply of Grade-1 New gasket (6mm and 10mm)	Set	14875.67
15	Bushings Oil leakage attention in Transformer:Oil leakage attention and overhauling of TAP Changer Streamline Oil filtration work & Conservator tank	Litres	2.27
16	Bushings Oil leakage attention in Transformer:Oil to be drained from main tank and to be stored in separate Containers	Litres	0.63
17	Bushings Oil leakage attention in Transformer:Refilling of oil from container to Main Tank after filtration.	Litres	0.63
18	Oil Leakage attention and overhauling of TAP changer: Leakage attention to OLTC tapping gear and new Gasket O ring changing work	Job	5702.77
19	Oil Leakage attention and overhauling of TAP changer: Rental and Transportation charges for oil barrels for storing Transformer oil	Job	8237.33
20	Oil Leakage attention and overhauling of TAP changer Transformer oilTransformer oilTransportation charges for oil filtration van up & down	Trip	4562.22
21	Calibration of Measuring instruments [Will be paid based on the submission of proof of bill of calibrated instruments in the NABL accredited labs]	LS	53698.41

MISCELLANEOUS Electrical Manning and Testing

Schedule-12

Schedule 01: MISCELLANEOUS OHE/PSI/OCC Manning for Electrical Work, Operator, Housekeeping and Regular Foot Patrolling in the section.

S.No	Description of Work	Unit	Total Qty.	Rate (Rs)	Total Amount(Rs.)
1	2	3	4	5	6

1	Manning of TSS (Gandhion TSS) (Skilled person for maintaining registers,operation of equipments and monitoring PSI equipment) (Total 01 TSS Location*03 shift=03 Person) (Total 03 Person (8*3=24 Hour shift).(Class B Salary)	Man Month	72	27826.76	2003526.72
2	Manning of TSS (Chandaipur and Deoria TSS) and DDU rack siding (Skilled person for maintaining registers,operation of equipments and monitoring PSI equipment) (Total 02 TSS & 01 DDU rack siding=03 Location*03 shift=09 Person) (Total 09 Person+16% reliever=11 Person (8*3=24 Hour shift). Releiver for both SN.1 and SN.2. (Class C Salary)	Man Month	264	26572.02	7015013.28
3	Regular Housekeeping of TSS (Gandhion TSS) and 02 Stores (KCNN & UNDN) +TW Maintainer (Unskilled person at 01 No.TSS and 01IMD+01 ISMD+01TW (KCNN)=total 04) (08 Hour shift only)(Class B Salary)	Man Month	96	23799.16	2284719.36
4	Regular Housekeeping of TSS (Chandaipur and Deoria TSS) and Stores (DAPN & DDUN) +TW Maintainer (Unskilled person at 02 No.TSS and 01 IMD+01 ISMD+01TW=total 05) (08 Hour shift only) (Class C Salary)	Man Month	120	19263.46	2311615.20
5	Data Entry Operator Cum Store Maintainer at IMD/ISMD (Skilled Person at 01 KCNN IMD & 01UNDN IMSD= Total 02) (08 Hour shift only) (Class B Salary)	Man Month	48	27826.76	1335684.48
6	Data Entry Operator Cum Store Maintainer at IMD/ISMD (Skilled Person at 01 DDUN IMD & 01 DAPN ISMD= Total 02) (08 Hour shift only)(Class C Salary)	Man Month	48	26572.02	1275456.96
7	Manning of OCC Building (Skilled person for Electrical Maintennace works, maintaining registers and operation of equipments) (03 Person 8*3=24 Hour shift and one perosn for general shift of 08 hour only and also as a reliever for item 7 and 8) (Class B Salary). 01 skilled person in General shift for Electrical Maintennace works (08 Hour shift only) Total 05	Man Month	120	27826.76	3339211.20

	Person				
8	Manning of OCC Building (Unskilled person for General Electrical Maintennace works, maintaining registers and operation of equipments) (Total 03 Person 8*3=24 Hour shift) (Class B Salary)	Man Month	72	23799.16	1713539.52
9	Regular Foot Patrolling Skilled Person for 01 IMD KCNN & 01 IMSD UNDN = 04 Person i.e 02/Location (08 Hour shift only) (Person having Knowledge of OHE/PSI Equipments and competent to attend the fault, insulator cleaning and other miscellaneous OHE/PSI Work during Power and traffic block in supervision of DFCCIL Official) (During Foot patrolling Person will carry Operating rod+Hammer+Flag+Spiner/Wrenches) Per day 6-8 TKM Foot patrolling. (Class B Salary)	Man Month	96	27826.76	2671368.96
10	Regular Foot Patrolling Skilled Person for 01 IMD DDUN & 01 ISMD DAPN = 04 Person i.e 02/Location (08 Hour shift only) (Person having Knowledge of OHE/PSI Equipments and competent to attend the fault, insulator cleaning and other miscellaneous OHE/PSI Work during Power and traffic block in supervision of DFCCIL Official) (During Foot patrolling Person will carry Operating rod+Hammer+Flag+Spiner/Wrenches) Per day 6-8 TKM Foot patrolling.(Class C Salary)	Man Month	96	26572.02	2550913.92
	Schedule-12 Total				**26501049.60**

Note: - Bidder should not quote the rate below the advertised value. Bidder Quoting rates below the advertised value will be disqualified. Bidder may advise to go as per circular issued by office of Chief Labour commissioner ('C) New Delhi 26.09.2023 and Structure as per DFCCIL HQ/HR/3/Outsource Pol./9/201602199 dated 25.07.2017. Bidder will have to pay the salary as per the DFCCIL HQ/HR/3/Outsource Pol./9/201602199 dated 25.07.2017 salary structure and Revised rate as per office of Chief Labour commissioner ('C) New Delhi. Bidder is advised to quote the rate accordingly.

Schedule 13: Testing of equipment at TSS/SP/SP

S.No	Description of Work	Unit	Total Qty.	Rate (Rs)	Total Amount(Rs.)
1	Charges for a team Testing & Commissioning (1 Sr Engg & 1 Asst Engg) with conventional testing kit(Appendix-1)	Per Days	120	7080	849600
2	Charges for Tan Delta kit	Per Days	24	20060	481440
3	Charges for CT Analyser kit	Per Days	36	16520	594720
4	Moblization Lumsum for Indivisual line items	Lot	4	17700	70800
5	Accomodation Charges	Per Days	180	2360	424800
	Schedule-13 Total (including 18%GST)				**24,21,360.00**
Note: - Engineer will perform every test under supervision of DFCCIL with the help of Conventional Testing kit, TAN Delta Kit, CT Analyzer etc. Payment will be made to contractor after submission of final Report to DFCCIL.					
	Grand Total of Misc. Electrical manning& testing (Sum of Sch. 12 to 13)				**2,89,22,409.60**

Offer sheet

Offer to be filled by tenderer(s) in below table

NAME OF WORK:- Maintenance of 2x25 kV OHE/PSI and MiscellaneousOHE/PSI/OCC Manning and Testing of PSI equipment in New Deen Dayal Upadhaya to New Karchana section of DFCCIL including Cheoki link line, Iradatganj link line, Chunar link line and Jeonathpur link line connection to Indian Railways and MUNPL link line connection to NTPC for a period of 24 (Twenty-Four) months under CGM PRYJ(E) Unit.

Col.1	Col.2	Column 2	Column 3	Column 4
S. N.	Item	Description of Work	EstimatedRate	Offered Rate in % Below, Above & At Par On EstimatedRate
1	OHE	Schedule 01: Regular Maintenance Activity	39094861.02	
2		Schedule 02 - Emergency & Other maintenance activities	878160.00	
3		Schedule -03 Foundation items	613145.60	
4		Schedule -04 Additional OHE work	1042831.47	
5		Schedule-05 Additional OHE items	4168372.42	
6	PSI	Schedule 06 Maintenance of Traction Sub Stations:	7703955.50	
7		Schedule 07 SP/SSPs/ATS/PP Maintenance :	5265485.38	
8		Schedule 08 -Panels & Gantry Bus Bar insulator other Maintenance:	2747836.06	
9		Schedule 09 - Break down attention	1290814.40	
10		Schedule 10 - Additional PSI maintenance Activity	2619763.00	
11		Schedule 11: Maintenance of Traction Sub Stations /SCPs (Optional)	1223230.00	
12	Misc	**Schedule-12:MISCELLANEOUS OHE/PSI/OCC Manning for Electrical Work, Operator, Housekeeping and Regular Foot Patrolling in the section ***	26501049.60	

13		Schedule 13:Testing of equipment at TSS/SP/SP	**24,21,360.00**	
		Total amount in Rs.	**9,55,70,864.45**	
Note: 1. Offered rate shall be quoted in % below, above & at par in numbers as well as in words.				
2. Rate is inclusive of GST .				

Quoting of rates

1. Tenderer should quote the rate for each schedule of items in above table.
2. ***Tenderer should not quote the rate below for schedule no.12 otherwise tender will be rejected.**
3. Tenderer must sign the following certificate.

I/We offer and agree to execute the above work at rate uploaded online at www.ireps.gov.in through digital Signature.

Signature of tenderer with seal

End of Document

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