

SOUTH WESTERN RAILWAY

HUBBALLI DIVISION ELECTRICAL BRANCH

TENDER DOCUMENT

for

Name of Work: Escorting, operating and trip maintenances A - Check, B - Check & C - Check of 450 to 500 kVA, 750 V KIRLOSKAR OIL ENGINES LTD make DG sets fitted in power cars of EOG/HOG trains including need based repairs / maintenance of engines and alternators for a period of Two years under Hubli division.

TENDER No: HE-02-2026-27SL01

(E-Tendering via IREPS only) (<https://ireps.gov.in>)

(Single OEM tender, Single Packet System)

SOUTH WESTERN RAILWAY

ELECTRICAL BRANCH

HUBBALLI DIVISION

LAST DATE & TIME FOR SUBMISSION OF TENDER	01.07.2026 UP TO 11.00 HRS
DATE & TIME OF OPENING OF TENDER	01.07.2026 AT 11.30 HRS
APPROX. COST OF THE WORK	Rs. 9,33,06,015.52
COMPLETION PERIOD OF THE WORK	24 MONTHS
BID SECURITY	Rs. 18,66,100.00

(TENDER FORMS NOT TRANSFERABLE)

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Chapter I – Regulations for tenders and contracts

- 1.** The Tenderers are advised to carefully read this tender Document (Chapter I to III) in conjunction with Indian Railways Standard General Conditions of Contract- April 2022 with latest amendments and correction slips before participating in this Tender. Any changes in the GCC issued by Railway Board from time to time will be applicable during the currency of the contract. This tender shall be governed by Indian Railways Standard General Conditions of Contract-April 2022 with latest amendments and correction slips.
- 2.** These Instructions to Tenderers shall be read in conjunction with the Standard General Conditions of Contract which are referred to herein and shall be subject to modifications additions or suppression by Special Conditions of Contract and/or Special Specifications, if any, annexed to the Tender Forms.
- 3.** The Tender document consists of Chapter I to III. Bidders are advised to go through all chapters of the Tender Document and the conditions and instructions laid down in Chapter-I to III are binding on the contractor.
- 4. Applicability:** These instructions and conditions of contract shall be applicable for all the tenders and contracts of Railways for execution of ‘Works’ as defined in GFR-2017.
- 5. Order of Precedence of Documents:** In a contract agreement, in case of any difference, contradiction, discrepancy, with regard to conditions of tender/contract, specifications, drawings, Bill(s) of Quantities etc., forming part of the tender/contract, the following shall be the order of precedence:
 - i. Letter of Award/Acceptance(LOA)
 - ii. Bill(s) of Quantities
 - iii. Special Conditions of Contract
 - iv. Technical Specifications as given in tender documents
 - v. Drawings
 - vi. Indian Railways Standard General Conditions of Contract updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.
 - vii. IR Specifications/Guidelines updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.
 - viii. Relevant B.I.S. Codes updated with correction slips issued up to date of inviting tender or as otherwise specified in the tender documents.

6. Interpretation: These Instructions to Tenderers shall be read in conjunction with the Standard General Conditions of Contract which are referred to herein and shall be subject to modifications additions or suppression by Special Conditions of Contract and/or Special Specifications, if any, annexed to the Tender Forms.

7. Scope of work in brief:

The scope of work includes Escorting of power cars as well as LSLRDs, operating and trip maintenances (A – Check), periodical B - Check & C - Check maintenance of 450 to 500 kVA, 750 V KIRLOSKAR make DG sets fitted in power cars of EOG/HOG trains including need based repairs / maintenance of engines and alternators and connected items / works for a period of Two years under BGM, VSG & UBL Depots of Hubli division or any other depot(s) which may come up during the contract period.

8. Executive in charge: Senior Divisional Electrical Engineer/Hubballi Division

9. Stores depot where materials are to be collected: SSEs/E/TL&AC at UBL, BGM & VSG or any other depot(s) which may come up during the contract period.

10. Locations for Execution of Work: TL & AC Depots at UBL, VSG & BGM or any other depot(s) which may come up during the contract period under Hubballi division of SWR.

11. Corrigendum Notice on IREPS: Railway may modify the tender document by issuing online corrigendum through "www.ireps.gov.in" 15 days prior to the tender closing date. For the purpose of CORRIGENDUM in the tender, NIT period is split as under:

(a) ADVERTISEMENT PERIOD: The time during which all information pertaining to tender shall be available but offers cannot be submitted.

(b) OFFER SUBMISSION PERIOD: 15 days prior to opening of tender, during which Tenderers can submit their offer.”

12. Bid Security: Bid security shall be as per GCC-2022 with ACS No. 2 & 5

(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:

Sl No	Value of the Work	Bid Security
1	For All works	2% of the estimated cost of the work

(a) Subject to exemptions provided under Para 5(1) (a) of Part-1 (ITT) of GCC, the tender must be accompanied by a Bid Security as mentioned in tender documents, failing which the tender shall be summarily rejected.

Notes:

(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 'Start-ups' shall be exempted from payment of Bid Security as detailed above.

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

(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 here-in-before provided, be returned to them, but the Railway 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 before closing date for submission of bids. (i.e. excluding the last date 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. Bank Guarantee Shall be in favour of Senior Divisional Finance Manager, Hubballi Division, South Western Railway and envelope as above shall be addressed to: Sr.Divisional Electrical Engineer, DRM office building, South Western Railway, Hubballi Division-580020.

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.

13. Joint Venture (JV) In Works Tenders: Participation of Joint Venture firms is applicable only in tenders having value more than Rupees 10 Crores.

14. Public Procurement Policy Order–2017:

This tender complies with PUBLIC PROCUREMENT POLICY ORDER-2017 with latest revisions. Please enter the percentage of local content in the material being offered. Please enter 0 for fully imported items, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in PUBLIC PROCUREMENT POLICY ORDER-2017 with latest revisions. Provisions of make in India Policy 2017 issued by Govt of India, DPIIT, as amended from time to time shall be followed.

Bidders are required to Up load self-certificate by Class-I/Class-II local suppliers at the time of tender in regard to meeting the Minimum Local Content requirement as per accordance with Para-9(a) of Public Procurement (Preference to Make in India) Order 2017 with latest revisions.

The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in PUBLIC PROCUREMENT POLICY ORDER-2017 with latest revisions. Provisions of make in India Policy 2017 issued by Govt of India, DPIIT, as amended from time to time shall be followed.

Definition: Definition of terms are as per Public Procurement (Preference to Make in India) Order 2017 with latest revisions.

Minimum Local Content: The ‘Local content’ required to categorize a supplier as Class-I local supplier is minimum 50%. For Class-II local supplier, the local content requirement is minimum 20%. Nodal ministry/department may prescribe only a higher percentage of Minimum local content requirements to categorize a supplier as class-1 local supplier / class- II local supplier. For the items for which nodal ministry / department has not prescribed higher minimum local content notification under the order, it shall be 50% and 20% for class-1 local supplier and class-II local supplier respectively.

Local content means the amount of value added in India which shall unless otherwise prescribed by the Nodal ministry, be the value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as proportion of the total value, in percent.

15. Execution of Contract Documents: The successful Tenderer(s) shall be required to execute an agreement with the President of India acting through the Senior Divisional Electrical Engineer/UBL, S.W. Railway for carrying out the work according to the Standard General Conditions of Contract, Special Conditions / Specifications annexed to the tender and Standard Specifications (Works and Materials) of Railway as amended/corrected up to latest correction slips, mentioned in tender form (First Sheet).

Chapter-II: Instructions to Tenderers

1. Mandatory documents: The following documents are to be uploaded mandatorily without which the *bid will be summarily rejected*.

S N	Description	Clause No.
1	Technical Eligibility Criteria: Not applicable. Exempted for being a Single OEM Works tender	As per GCC-2022 with latest amendments and correction slips.
1.a	Definition Of Similar Work : Not applicable. Exempted for being a Single OEM Works tender	
2	Financial Eligibility Criteria: Not applicable. Exempted for being a Single OEM Works tender	As per GCC-2022 with latest amendments and correction slips.
3	Electrical License as detailed in Chapter-III, Special conditions of Contract.	Chapter-III, Special conditions of Contract.
4	<u>In addition to Annexure V, in case of other than company/ proprietary firm, annexure-V (A) shall also be submitted by each member of a partnership firm/ Joint Venture (JV) / Hindu United Family (HUF)/ Limited liability partnership (LLP) etc., as the case may be.</u> Non submission of above certificate(s) by the bidder shall result in summarily rejection of his/their bid. It shall be mandatorily incumbent upon the tenderer to identify state and submit the supporting documents duly self attested/digitally signed by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document.	As per latest format issued vide advance correction slips to IRGCC (Latest format enclosed)

5	<p>Power of Attorney: Power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person, specifically authorizing him/them to sign the tender, submit the tender and further to deal with the Tender/ Contract up to the stage of signing the agreement except in case where such specific person is authorized for above purposes through a provision made in the partnership deed / Memorandum of Understanding /Article of Association/ Board resolution, failing which tender shall be summarily rejected. This is to be submitted by the tenderer whether sole proprietor / a company or a partnership firm / joint venture (JV) / registered society / registered trust / HUF / LLP etc. if they want to act through agent or individual partner(s). Note: Mandatory for whom it is applicable.</p>	Para No. 15 of GCC Tender form Second sheet
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Bid Security:

Subject to exemptions provided under para 5(1) (a) of Part-1 (ITT) of GCC, the tender must be accompanied by a Bid Security as mentioned in tender documents, failing which the tender shall be **summarily rejected**.

2. Forms of Tenders

The following forms as per GCC-2022 with latest amendments and correction slips shall be uploaded by the tenderers.

(a) Tender Form (First Sheet) as per Annexure-I of GCC

TENDER FORM

Tender No. HE-02-2026-27SL01

Name of Work : Escorting, operating and trip maintenances A - Check, B - Check & C - Check of 450 to 500 kVA, 750 V KIRLOSKAR make DG sets fitted in power cars as well as Escorting of LSLRDs of EOG/HOG trains including need based repairs / maintenance of engines and alternators for a period of Two years under Hubli division.

To
The President of India

Acting through the Senior Divisional Electrical Engineer (Genl.Services),
S.W.Railway

1. 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 60 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 S.W. Railway, at the rates quoted in the attached bill(s) of quantities and hereby bind myself/ourselves to complete the work in all respects within 24 Months from the date of issue of letter of acceptance of the tender.
2. I/We also hereby agree to abide by the Indian 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 Railway 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 ₹ 18,66,100.00 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 Railway 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. I/We am/are a Start-up firm registered by Department of Industrial Policy And Promotion (DIPP) and my registration number is valid up to..... 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:

Signature of Tenderer(s)

Date-----

Address of the Tenderer(s)

APPENDIX TO THE FORM OF TENDER

	Condition Of Contract Clause No.	
i.	Amount of Bank Guarantee as Performance Security	5% of the Contract value
ii.	Latest date for commencement of the works	Date given in LOA or Employer's Notice to Proceed
iii.	Contract Period from the date of commencement of work	Two Years
iv.	'Defects Liability Period' for the whole of the Works	Defect Liability period is not applicable as the work being AMC work by OEM
v.	Insurance for workers/ employees	All of the contractor's employees shall have to be covered under ESI and ECA of Special conditions of contract.
vi.	Penalty for poor quality of work	As per penalty clause.
vii.	Penalty for non-completion of work	As per penalty clause.
viii.	If any theft case occurred by contractors employee	As decided by competent authority
	Signature of authorized signatory on behalf of Tenderer	

Date:.....

Name:.....

Address:.....Place:.....

(b) **Annexure - VI B of GCC**

Reference-Para 10.2 &17.15.2 of Tender Form (Second Sheet) of Annexure-I of ITT of GCC

Each Bidder or each member of a JV must fill in this form

separately: 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)

Undertaking for Truthfulness/ Correctness of the documents submitted/uploaded by the tenderer along with the tender

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 ofas per the Tender No: Of (..... Railway), 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 papers 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 Railway Administration 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 upon me/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 certify that I/we the tenderer(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.
8. I/we understand that if the contents of the certificates submitted by us are found to be Forged /false at any time during process for evaluation of tenders, it shall lead to forfeiture of the Bid Security and may also lead to any other action provided in the contract including banning of business for a period of up to two years. Further, I/we (insert name of the tenderer) **_____ and all my/our constituents understand that my/our offer shall be summarily rejected.

9. I/we also understand that if the contents of the certificate submitted by us are found to be false/forged at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of Bid Security/Security Deposit and Performance guarantee and may also lead to any other action provided in the contract including banning of business for a period of up to two year.

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 by the competent authority is enclosed)

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.*

This certificate is to be given by each member of JV or partnership firm/LLP/etc.

(On Company's Letter Head)

1. DECLARATION REGARDING ASSOCIATION OF RLY.OFFICER(S) OR RETIRED RLY. OFFICER(S) WITH TENDERER(S)

Sl. No.	Name	Position with the tenderer	Tenderer If working in Rly. on the date of tendering, designation & place of posting	Date of retirement	Position at retirement	Particulars of permission taken for associating with the tenderer

2. Declaration:

A Bidder or contractor being an individual on the list of approved Contractors, have a relative(s) or in the case of partnership firm or company of contractors one or more of his/her shareholder(s) or a relative(s) of the shareholder(s) employed in gazette capacity in any department of Indian Railway.

(Full details : _____)

Signature of the Authorized person of the
Firm/ bidder with seal & Date

Undertaking

We hereby declare that any Ex-railway employee or director or retired manager of the Gazetted rank or any other Gazetted Railway officer has not associated with M/s_____. We further declare that No relative of myself (Individual contractor)/share holders/ Relative of share holders (partnership firm) employed in gazette capacity in any department of Indian Railway.

Signature of the Authorized person of the

Firm/ bidder with seal & Date

CHAPTER – III

SPECIAL CONDITIONS OF CONTRACT

1.0 Scope of work :

The scope of work involves – Comprehensive Maintenance and Escorting of power cars of UBL division fitted with DA sets of **CUMMINS/KIRLOSKAR/GREAVES make** and operation of LSLRD / Power car in EOG /HOG mode for a period of **Two years**.

The guidelines issued by the Railway Board including conditions, schedules, directives & Annexures for the maintenance and escorting of power cars vide Letter No. 2006/Elect(G)/138/1Pt dated 03.06.2025 are attached to the tender documents of the NIT and shall invariably form part of the contract agreement. The conditions specified in the Railway Board guidelines dated 03.06.2025, along with any latest amendments/correction slips issued by the Railway Board during the currency of the contract agreement, shall take precedence over any other conditions specified therein in the event of any dispute.

The scope includes maintenance and operation of warranty / out of warranty DA sets in the power cars. The scope of work shall include maintenance and operation of the entire electrical, mechanical installations / power distribution system in the power car and HOG operation in the Power car.

Each power car is normally equipped with two DA sets and few power cars are fitted with a single DA set in the underframe. Power car feeds electrical supply to all the coaches on the train either through End on Generation (EOG) mode or Head on generation (HOG) mode. DG sets fitted in the power car consist of Diesel engine, radiator with fan, alternator, ventilation fans, Power panel and associated switch gears. Further power car consists of power distribution panel, control panel for HOG operation, transformer, Batteries, battery charger, inter vehicle couplers, smoke detector, Power contactors, various relays, sensors etc., All the equipments of the power car associated with DA set working for extending the power supply to the rake, are part of the scope of the contract and CONTRACTOR shall ensure for proper working of all these equipment associated with the DA set.

a) CONTRACTOR is considered to be fully equipped with required manpower, tools, metering equipment and technical know-how along with the latest technological up-gradation and development in this field.

b) Firm shall carry out A-check, B-Check, C-Check of Diesel Engines and D1 schedule, D2 schedule & D3 schedule for power cars & LSLRDs including breakdown attention.

c) Operation of Power car in HOG / EOG mode as well as operation of LSLRD and extending electrical supply to all the coaches on the train while escorting the train including attachment & detachment of IVC couplers and other associated works.

1.1 CONTRACTOR is to be fully equipped with skilled manpower with technical expertise in the field of maintenance, operation and troubleshooting of DG sets, electrical panel, HOG operation of power cars (including troubleshooting) and carrying out prescribed maintenance schedules as per OEM/RDSO guidelines for their trouble free working.

The maintenance is to be carried out during the stabling period in UBL Division. The schedule activities shall be carried out in conformity with the latest instructions issued by Railway Board and all the spares to be replaced as recommended by OEMs & RDSO from time to time. All the must change items as prescribed by OEM/RDSO should be replaced during A, B & C checks as well as during D1, D2 & D3 schedules. **Material such as Kits for B & C check schedules, Lube oil and other condition based spares which are available with Railway shall be utilized for carrying out the schedule and maintenance activity. Costs of labour for such schedule maintenance activities are deemed to be included in the respective items of tender schedule.**

Once the material (B check & C check kits) with Railway is exhausted, Railway shall opt to provide these materials supplied through available Rate Contract with such OEMs or the CONTRACTOR shall supply the material as per the accepted schedule rates.

1.2 DG sets which are under warranty period, repairs/replacement of failed equipment will be done by the OEMs at free of cost for the items covered under warranty.

1.3 CONTRACTOR shall arrange for rectification of minor defects in Power Cars at various service centres over Indian Railway network enroute on Journey of the train or at secondary maintenance, PFTR in other stations.

1.4 The above repair and replacement is to be done based on the joint inspections of both CONTRACTOR's representative and representative of Railways. If in the joint inspection such repair and replacement is on account of failure in maintenance/faulty workmanship by the CONTRACTOR, in which case all such repair and replacement shall be executed by CONTRACTOR only on his own cost. Otherwise, payment will be made as per accepted schedule of rates. The decision of Sr.DEE/G/UBL whether the cause of repair/failure is due to the CONTRACTOR or not, is final and binding on the CONTRACTOR. If the item / component is not covered under the Rate Contract, either Railway will provide the material or CONTRACTOR will be asked to supply such spares, payment will be made as a non schedule item for which payment shall be made as per the running pricelist of OEM for such items. Such material shall be supplied within 07 days of confirmation from Railway authorities to reduce downtime of the power car.

1.5 The contract shall be comprehensive in nature and Service / Labour involved for fault diagnosis, troubleshooting and repair attention of the DA set and its associated equipment is part of the contract and included in the contract schedule.

Complete service portion in both engine and electrical items for schedules shall be of comprehensive nature for doing regular periodic schedules and for replacement of optional items. Consumables like cleaning agents, cotton waste, packing for side body filters etc. required as part of service of engine & electrical items etc shall be considered as part of scope of the work.

1.6 Every effort has been made by the Railways to cover all the items required for executing the work. These items might have either been covered explicitly or implicitly in the specification, scope of work and tender schedules, the tenderer shall however, provide free of cost all such items that may be required for proper execution, commissioning and performance of the equipment supplied and wiring installations carried out by them whether they are mentioned explicitly or implicitly in the specification or not. No extra claim whatsoever will be entertained by the Railways for such items provided by the contractor for proper execution or for ensuring satisfactory performance of the installations provided by them under this contract.

2.0 Time allotted for B & C check Schedules:

Schedule activities such as Trip schedule maintenance, B check, C check shall be carried out and completed within the stipulated pit timings i.e., up to 3 hours, 6 hours and 8 hours respectively from the time of handing over the power car at sick line or any other suitable location.

3.0 ESCORTING AND OPERATION OF POWER CARS

3.1 Duties of escorting staff for operation of Power car

3.1.1. Escorting staff will report for duty to the nominated SSE in-charge to take charge of power cars one hour prior to the scheduled departure of the train. The nominated escorting staff should switch ON DA set and extend power supply in the rake for pre-cooling of coaches one hour prior to the departure of the train. The actual working hours of the escorting staff shall be calculated from one hour before the scheduled departure of the train from the source station (Primary / secondary stations) and one hour after the actual arrival on both from primary stations or secondary / PFTR stations at the other end.

Escorting staff shall check the working condition of all Diesel Alternator set, associated equipment and under frame safety except Air-conditioning system and note down the parameters of all the equipment. If any abnormality is noticed, the same shall be informed immediately to the in-charge of the power car / rake and make best efforts to get the fault rectified by nominated maintenance staff before scheduled time of departure. Any fault noticed by the escorting staff at the time of taking over of charge shall never be overlooked by him and must be reported to the nominated maintenance staff of the power car / Rake supervisor. The escorting staff should never allow any fault on his own and should not start the journey with fault noticed by him at the time of taking over of charge unless it is allowed by the Railway's written Authority (Power car / Rake Supervisor etc.).

The escorting staff must ensure the availability & functioning of fire safety equipment provided in the power car including the recommended number of fire extinguishers with valid expiry date and as well as smoke detector & fire suppression system. In case of any deficiency, the same shall be made good by bringing to the notice of the Railway in-charge supervisor before departure. Further, a proforma (in the approved format) containing the important inventory of power car shall be jointly signed by Contractual escorting staff and nominated depot staff before commencement of each trip.

3.1.2 After departure of train, Escorting contract staff will regularly monitor the readings of the Diesel Alternator set of Power Cars to ensure that they are working and record the prescribed format as per instructions of SSE nominated.

Escorting staff shall switch on both the DA sets within 1 hour of start of the journey to ensure healthy working of the DA set by changing the load at available slot and record the event with readings in trip log sheet.

Subsequently, if everything is normal, he will take rounds **every half an hour** in the Engine room and observe proper working of the Diesel Alternator set of the Power Cars. Similarly, in case of HOG operation of Power car, readings to be monitored from the control panel and record the parameters in the Log book and in the round trip report after every **one hour**.

In case of any abnormality in any of the Power Cars, the same shall be corrected immediately. Such enroute failure / attention given shall be informed to the primary and secondary depot SSE.

3.1.3. For each trip from originating station to destination station & back to originating station, proper log book & Round trip report of Power car must be filled and maintained. The log book contains various readings for both DA sets stated as under:-

- a) Alternator Voltage, Current, Power and Frequency.
- b) Condition of Ventilation fans.
- c) Battery Voltage and current
- d) Panel room temperature
- e) Engine parameters i.e., Lube oil pressure, Temperature, Fuel oil pressure, water temperature & RPM, DEF level & parameters etc.
- f) Feeder Distribution Set-A & Set-B
- g) Electrical units (KWH), Average Load, Maximum Load, Power Factor etc.
- h) DA set working hours - DA set start time (running hours & time), DA set stop time (running hours & time).
- i) Fuelling of Power Cars - Stock Balance, Last Balance, Refilling, Consumed & Refilling at outstation.
- j) Inventory of spare coolant/distilled water/DEF available in stock on power car for use in exigency.

- k) Connection and Disconnection of IV coupler of power cars with Electric Loco/coaches shall be done as & when required in liaison with loco pilot or concerned Railway representative.

3.1.4. Reading must be taken on **hourly basis** and record in the log book & as well as in the Round trip report of Power Car during the Power Car in service from originating station to destination station & back to originating station.

3.1.5. During EOG / HOG operation, working Power car either in HOG or EOG mode of operation, shall not be left unmanned under any circumstances by the escorting staff.

3.1.6. Contract staff must coordinate with the Railway escorting in-charge/supervisor during escorting duty, overall supervision will be of the Railway escorting in-charge/supervisor. Further, the contract staff should cooperate with the Railway officials, if boarded for inspection purposes.

3.1.7. The escorting staff must be alert to notice any abnormal sound, noise, smell etc. during their rounds. If any abnormality is observed, first try to solve the problem to the extent possible & subsequently note down the same in the log book & Round Trip report of Power Car and inform Electrical / C&W control & Base Depot. If any overheating/smoke etc is noticed, Diesel Alternator set of that Power car shall be switched OFF immediately. The SSE of primary depot, rake supervisor and on board electrical staff be informed and the problem be examined.

3.1.8. Escorting staff will ensure that control panel, safety equipment & feeders of power cars are properly in working and will also ensure that there should not be any unauthorized material inside switch board cabinet and also that it is not opened by any unauthorized person other than the authorized staff on board.

3.1.9. Escorting staff should check under-frame equipment of the power car to ensure condition in enroute at scheduled stoppage stations.

3.1.10. Escorting staff shall ensure HSD fuel to full tank during start of the journey at primary and secondary station. In the event of any deficiency, the same shall be reported to the respective Electrical Control and nominated Railway Supervisor.

Escorting staff will keep a close watch on fuel consumption and fuel balance in the tanks. If diesel fuelling is required at enroute or the secondary end, he will inform the same well in time to onboard electrical in-charge as well as electrical control. The electrical in-charge will give the necessary memo and electrical control will give a message to the concerned fuel point depot / Division for necessary arrangements to top up the fuel. Escorting staff shall maintain a record of all enroute fueling stations and alert well in advance for planning fueling of power cars. Alert shall be made ahead of minimum 3 fuel stations on the safer side.

3.1.11. In case of enroute equipment of Diesel Alternator set failure, he will try to safely rectify the same during journey & if it is not possible to attend during journey and it is necessary to replace any equipment at secondary end, the escorting staff will replace the equipment within lie over period in consultation with the primary as well as secondary maintenance Railway authorities. Contractor shall arrange for requisite spare material at identified secondary station to meet the exigency.

3.1.12. All the tools etc shall be provided by the CONTRACTOR to the escorting staff. Any non availability of tool as noticed by Railway authorities, suitable penalty will be levied.

3.1.13. If maintenance / repair at roof of the power car under OHE is required, it must be done in consultation with the primary as well as secondary maintenance Railway authorities and disconnection of OHE must be ensured and authority from Railway representative for the same be taken before climbing over the roof of the power car.

3.1.14. On arrival of the train on platform at primary depot, CONTRACTOR staff shall check the power car thoroughly in presence of on duty rake / maintenance supervisor / nominated supervisor for arrival. All deficiencies should be noted properly in the log book & round trip report of power cars and all the booking / deficiencies noticed must be recorded in the round trip proforma and submitted to the electrical coaching depot duly signed on arrival at Primary depot under acknowledgement.

3.1.15. In the event of any accident / disaster noticed by the escorting staff, he/ they shall immediately contact the train superintendent / guard and he shall be ready for any type of assistance required. Accident details should be informed to electrical control immediately after noticing such incidents.

3.2 DUTIES OF ESCORTING STAFF AT THE SECONDARY / TERMINAL END :-

3.2.1. Contract escorting staff should inform the Primary depot regarding the arrival status of the power car at secondary end. Power car arrival report duly signed by himself will be submitted timely to SSE in charge at secondary end. Any issues encountered enroute shall be informed to the primary depot in-charge and the same to be informed to the secondary depot in-charge in advance and a written memo on arrival at secondary depot.

3.2.2. He will report to electrical control the working status of equipment of all power car observed / noticed during the journey.

3.2.3. If any major abnormality is noticed during the journey, he will immediately inform the same to the control / depot officer in advance for necessary assistance at secondary end. However, the escorting staff shall take initiatives on his part in getting them attended timely.

3.2.4. The escorting staff shall follow the instructions of Secondary depot officers. The DA set parameters and all other equipment performance shall be monitored and recorded in the log book and in the round trip report. In case of any abnormality is noticed, the same shall

immediately be informed to the secondary in-charge of the rake as well as the primary depot and make best efforts to rectify the fault within the specified time of maintenance, if required.

The escorting staff should be available in the power cars & LSLRDs at least one hour before the scheduled departure to extend supply in the rake for pre-cooling. He will note down the parameters of all equipment of the power cars and if any abnormality is noticed, the same shall immediately be informed to the secondary in charge of the rake as well as Electrical control and make best efforts to rectify the fault within the specified time of maintenance, if required.

3.2.5 If a power car with a different DA set make is attached at secondary stations, CONTRACTOR shall arrange for escorting the power car temporarily, in case of such exigency.

3.2.6. After departure of the train from secondary end, departure status and working of Diesel Alternator in the Power Cars must be informed to Electrical Control including HSD fuel status.

3.3. Duties of Escorting Staff at the time of Emergency (Disaster Management in Indian Railways)

3.3.1. Fire in the Train:

- Disconnect the electric supply of the affected coach.
- Use fire extinguisher equipment as far as possible to extinguish fire.
- Inspect the lighting system in the coach and provide lighting in the dark coach.
- Provide lighting on accident spots as per available spare capacity in the train.
- Take actions cautiously to help accident prone passengers as per circumstances.
- Help to draw out accident affected persons / dead bodies.

3.3.2. Derailment or collision or Level Crossing accident:-

- Inspection lighting system in the coach and provide lighting in the dark coaches.
- Provide light at the accident spot as per available spare capacity in the train.
- Take actions cautiously to help accident prone passengers as per circumstances / requirements.
- Help to draw out accident affected persons / dead bodies.

3.3.3. Cyclone or storm or Flood :

- Disconnect the electric supply of the affected coach.
- Inspect lighting system in vehicles and provide light in the dark coaches.
- Provide light at the accident spot as per available spare capacity in the train.
- Take action cautiously to help accident prone passengers as per circumstances / requirements.
- Help to draw out accident affected persons / dead bodies.

3.3.4. Reported bomb in Train :

- Immediately isolate the coach in which the bomb has been reported with assistance from C&W staff/Division.
- Immediately check lights in all the coaches including non-AC coaches and provide light in dark coaches.
- Immediately isolate the power cars in case of Rajdhani / Shatabdi trains.
- Help the passengers in moving out from the coach.
- Open/ break the emergency window of affected coach.
- Take necessary actions as a man of common prudence will take not only to help the stranded passengers but also to arrange such helps as would be demanded by the circumstances.

3.3.5. Explosion of bomb in a train

- Immediately isolate the coach/ coaches electrically. Use fire extinguisher to extinguish fire.
- Immediately check lights in all the coaches and provide light in dark coaches. Help in extricating the trapped passengers / bodies.
- Open emergency / break the window of affected coach.
- Inform the passenger of other coaches to evacuate to avoid the possibility of casualty due to bomb explosion in other coaches.
- Take such necessary actions as a man of common prudence will take not only to help the stranded passengers but also to arrange such helps as would be demanded by the circumstances.

3.3.6 Explosion of bomb is reported in a fixed installation

- Shall immediately inform the Electrical control through Walkie Talkie or Telephone about the presence of bomb to arrange assistance.
- While communicating the incidence to ASM/Control definitely indicate the requirement of fire brigade.
- Use fire extinguisher to extinguish fire to the extent possible.
- Isolate the electrical equipment/ fitting in the vicinity of affected area immediately to avoid spread of fire before the main supply gets affected and get switched off.
- Help in extricating the trapped occupants/ dead bodies if any. Provide adequate lighting at accident site.
- Take such necessary actions as a man of common prudence will take not only to help the stranded passengers but also to arrange such helps as would be demanded by the circumstances.

3.3.7 Operation of Fire Extinguishers

- Update knowledge on all type of fire extinguisher types and operating them.
- Do not become panic when coach catches fire.
- Remove the seal & clamp of the fire extinguishers.
- Find out the base of the fire.
- Hold the nozzle and aim towards near to the base of the fire.
- Hit the operating knob and ensure that the powder is sprayed properly.
- Ensure the fire is totally extinguished and it is cooled.
- After extinguishing fire, isolate the fired equipment from the circuit.

4.0 Special Condition of the Contract:

4.1 The Contract is for maintenance and operation of DG sets provided in power cars which is used to feed the power supply requirement of the entire rake of the train. The output voltage of the alternator is fed to the individual coaches in two different feeders coupled from coach to coach with IV couplers. The entire electrical system as well as the DG set is protected by various safety relays to ensure that there is uninterrupted power supply and also safety of the passengers on trains is taken care off. Similarly LSLRD coach is provided with a control panel and associated switchgear for feeding electrical supply to all the coaches in the train. Hence tenderer may study the system and working of the rake before submitting their offer so that there is no confusion at a later stage.

4.2 CONTRACTOR shall deploy adequate skilled man power for maintenance / breakdown attention round the clock. Maintenance schedules of DG sets should be carried out as per the schedules recommended by OEM/RDSO from time to time. Railway reserves right to verify the skill of the staff deployed any time.

4.3 The A, B & C checks should be rigorously followed as per the time schedule and all the must change items should invariably be replaced during the maintenance schedule.

4.4 Only genuine spares to be used as replacement and a copy of original invoice for the material procured shall be submitted to the depot supervisor/ADEE/DEE/Sr.DEE.

4.5 Contract shall be comprehensive in nature and CONTRACTOR shall attend to the various failures / breakdowns arising during the contract period. **Material such as Kits** (must change items) **for B & C** check schedules, Lube oil and other condition based spares which are available with Railway shall be utilized for carrying out the schedule and maintenance activity. Costs of labour for such schedule maintenance activities are deemed to be included in the respective items of tender schedule.

Once the material (B check & C check kits) with Railway is exhausted, Railway shall opt to provide these materials supplied through available Rate Contract with such OEMs or the CONTRACTOR shall supply the material as per the accepted schedule rates.

Any other items or accessories required during schedule maintenance or repair activity and not included under the schedule for need based spares, shall be supplied and replaced by the CONTRACTOR. Payment for these items shall be made, only for the supply portion as per the prevailing Rate contract between Railways and OEM and for items not covered even under the rate contract, payment for the supply portion shall be made as per the price list of OEM / original invoice. The replacement (labour) cost of such items shall be deemed to be considered as covered as part of comprehensive contract.

4.6 The equipment to be maintained are Diesel Alternator set with associated switch gears, power panel along with associated safety relays, alternators, ACBs, contactors, ventilator fans and all the associated equipment connected with DG set. All the safety relays/devices should be kept in working order. Safety relays/devices should never be bypassed under any circumstances.

4.7 The Power car should be maintained neat and clean and there should be no spillage of diesel/Lube oil in the power car. Whenever there is leakage this should be brought to the notice of the Railway depot in-charge and should be arrested immediately.

4.8 The CONTRACTOR shall provide and maintain the log book for the maintenance carried out in the depot and should be recorded in the log book.

4.9 The required diesel oil will be arranged by Railways from time to time. The escorting operator shall co-ordinate with Electrical control and SSE in-charge for fuelling of power cars. The escorting operator shall also verify and acknowledge the filling of Diesel Power cars and accountal in the log book shall be entered accordingly.

4.10 Railway shall provide space for storing of material and T & P items, free of cost at the nearest location in the respective depot / station area.

4.11 If the Primary Maintenance of any train of a particular depot is shifted to any other depot within the UBL division, the CONTRACTOR shall have to carry out the work at the shifted location also.

4.12 The maintenance of Power Car and escorting of Power car and LSLRD shall be carried out by same agency. Maintenance (A, B/M1, C/M2+M3) and Escorting works to be executed by respective OEMs.

4.13 OEM can get the work done through their authorized dealers for Escorting and A, B & C checks. D and E checks have to be carried out by OEMS only. Only OEM will participate in Railway tenders of DA set maintenance and escorting. Full responsibility regarding execution of work will be of OEM only and billing will also be done in name of OEM.

4.14 Training to be imparted to all maintenance and escorting staff mandatorily by respective OEMs. Training should be imparted to work on 750 V systems also. After completion of training, competency certificate to be issued by OEMs with a validity of 6 months. The

training of escorting staff is included in the scope of work and cost of such provision is deemed to be included in the quoted rates.

4.15 Training of Fire fighting system such as FDSS, Fire Alarm & detection system, Fire extinguishers etc. and safety to be provided to all maintenance and Escorting staff by Zonal Railways before inducting them for service. Competency certificate to be issued by depot-in-charge with validity of 6 months.

4.16 For monitoring of escorting staff, Escorting app has been developed by CRIS. Escorting App should be mandatorily used by all Escorting staff. Zonal Railways to provide training to all escorting staff for its use.

5.0 Qualification of CONTRACTOR's staff: CONTRACTOR shall submit the following documents to the SSE/in-charge of the concerned depot, pertaining to the staff before commencement of the contract for verification and shall renew the documents as and when the staff composition is altered. These documents shall be submitted by the CONTRACTOR before commencement of the contract and within 15 days from the date of issue of LOA.

- a. Skilled staff should have passed minimum ITI in Electrical / Air-conditioning / Refrigeration / Diesel / Electronics / wireman or equivalent trade after matriculation and have minimum one year working experience in maintenance and operation of DA sets. Supervisor shall be a diploma holder with 3 years experience or an engineering graduate with a minimum 1 year working experience. The experience shall preferably be with operation and maintenance of DG sets. Attested copies of Qualification and Experience certificates to be submitted by the contractor.

The maintenance and escorting staff proposed for deployment shall be trained personnel from OEM and a certificate indicating period of training & successful completion shall be submitted before offering for deployment. Contractor shall also have adequate trained buffer spare of trained personnel for use in exigency.

- b. The proposed personnel for deployment shall be offered for personal interview by nominated officer for verification and permission for deployment.
- c. Age of the staff deputed by the CONTRACTOR should be more than 18 years & less than 55 years.
- d. Medical Fitness certificate of staff issued by a doctor not below the rank of a Registered medical practitioner. The staff shall be healthy, without any disability, with normal eyesight with or without spectacle, free from BP/Diabetes (controlled by drugs) and any contagious / infection of diseases etc.
- e. Police verification of staff regarding their character and antecedents should be submitted before engaging them for the work and shall not be older than 3 months from the date of LOA.

6.0 Deployment of staff:

CONTRACTOR shall deploy adequate staff for maintenance activities including breakdown attention in the depots and escorting staff for operation of Power car. Payment shall be made for actual schedule quantities executed.

CONTRACTOR has to deploy one supervisor for each depot who shall be the over all in charge and he should personally monitor in general shift and shall be available 24X7 on phone to concerned depot in charge supervisors for the entire contract period to carry out the work at depots (i.e. UBL, VSG, BGM etc.). Supervisor should be a Graduate in Mechanical or Electrical Engg. and should have past experience more than 3 years in power car maintenance and preferably trained by respective OEM.

CONTRACTOR shall deploy **at least one skilled staff** (Minimum ITI holder) for trip inspection in each of the power car being maintained in the primary depot in the given pit slot, who shall remain in the power car during the period of pit maintenance and operate power car for testing and extending supply to the coaches as per the requirement during maintenance. The allowed time of trip maintenance / A – check is 3 hrs per DA.

For B check schedule and C check schedule, **at least one skilled and one semi skilled staff** shall be deployed. The skilled staff shall be minimum ITI certificate holder in respective field.

For escorting and operation of power cars, 01 No. Skilled staff should be deployed per power car or as per the operational requirements of the train service. The skilled staff shall be minimum ITI certificate holder in technical trade. The conditions specified in the RB letter No. 2006/Elect(G)/138/1pt dated 03.06.2025 for escorting, minimum wages, working hours, technical qualification & additional requirements of escorting staff etc, will be forming a part of the agreement and the letter is attached with the tender documents of NIT.

For maintenance of records and daily position of power car maintenance in the prescribed format (format as approved by Railway) issued by the consignee supervisor, firm has to deploy one semi-skilled person for DATA entry (with minimum above intermediate qualification and in possession of certificate of working with computer with office suite software) in day time every day including Sunday/Weekends/Holidays between 9:00 hrs to 17:00 hrs for each depot having holding of more than 10 power cars equipped with DA set of respective make. In case, agency / Contractor fails to deploy the manpower, suitable penalty will be imposed. The person deputed shall also follow and work as per the instructions of the nominated Railway depot in-charge.

Above mentioned deployment is minimum requirement only and CONTRACTOR should deploy adequate staff as warranted for maintenance and repair attentions.

CONTRACTOR should ensure payment of at least minimum wages to all the staff engaged against the contract.

6.1 Place of work for Maintenance:

AC depots at UBL, VSG and BGM and any other coaching depot to come up subsequently in UBL division. CONTRACTOR may also be required to carry out any of the specified maintenance schedules or breakdown attention at any other stations of UBL division and also during POH of the Power Car at Mysuru workshop / Hubballi workshop as required. Escorting

duties shall be performed on all regular as well special trains maintained primarily at any of existing / new coaching depots over UBL division of SWR.

In case of enroute failures, CONTRACTOR shall arrange staff from the nearest regional office for failure attention in quickest possible time.

7.0 List of all staff to be engaged:

List shall include the names of staff who shall be deputed on regular basis and also shall not be changed in normal course. However, in case of sickness or unavoidable circumstances the list of spare staff who would be deputed in lieu of the regular staff shall also be given in advance. No new staff shall be allowed for deployment either for maintenance or escorting in any case without prior permission from the SSE in charge of the respective depots.

8.0 Officer In-charge Maintenance schedules:-

- i) Senior Divisional Electrical Engineer /General Service/Hubballi Division
- ii) Divisional Electrical Engineer or Assistant Divisional Electrical Engineer

9.0 Nominated Supervisors:-

SSE/AC UBL, VSG and BGM as nominated by Sr.DEE/G/UBL

10.0 Duration of Contract Period:

The contract shall be in force for a period of 2 years. The actual date of commencement of the contract period will start within 15 days from the date of issue of letter of acceptance. The actual date of commencement of work may be advanced to less than 15 days period also based on mutual agreement between the Railways and the CONTRACTOR during the period between LOA and commencement of the work. CONTRACTOR should make available, all the infrastructure for maintenance, staff recruitment / training etc.,

No payment should be claimed by the CONTRACTOR for this period. The payment will be made only after the commencement of actual work as per the scope of work. If during the course of contract, if the administration feels that it is not necessary to continue the contract due to administrative reasons, the contract stands foreclosed with immediate effect without assigning any reasons.

11.0 Industrial Regulations : CONTRACTOR shall comply with all safety rules, industrial and labour regulations and Railway will not be responsible for any injury caused to CONTRACTOR's men while performing duties or in case of their negligence during working. It shall be the sole responsibility of the CONTRACTOR to get their employees covered under Security Insurance at their own expense. CONTRACTOR should ensure payment of minimum wages to all the staff engaged against the contract. Payment should be made through ECS mode only Date of payments of wages to workers by the Contract must be as follows: a) For employees less than 1000, Payment shall be made before expiry of the seventh (7th) day after

the last day of wage b) For employees more than 1000, Payment shall be made before expiry of the Tenth (10th) day after the last day of wage Contractor should submit through respective depots an undertaking for payment of wages to all the contractual staff on roll, to the office of Sr.DEE/G/SBC on or before 15th of every month.

12.0 Identity Card: All outsourced staff must have an Identity Card issued by CONTRACTOR and authenticated by Railways. Uniform & PPE required for the contractual staff shall be provided by the contractor at his own cost. QR based identity card should be arranged by the contractor at his own cost with the following details (to be displayed on scanning QR code)

Name :-

Aadhaar No:-

Medical fitness certificate & date of validity:-

Police verification date & validity:-

Unit of deployment:-

Name of Contractor:-

Contract Agt No:-

13.0 Correspondence with the CONTRACTOR - The supervisor nominated by the CONTRACTOR is authorized for all contract work related correspondence and he has to take / accept any official document issued by the railway representative (In charge supervisor/ shift supervisor) to him duly acknowledging. In case if he denies to take/accept the official document it will be deemed as accepted by the firm by default.

14.0 Training & competency certificate:

Training to be imparted to all maintenance and escorting staff mandatorily by respective OEMs. Training should be imparted to work on 750 V systems also. After completion of training, competency certificate to be issued by OEMs with a validity of 6 months. Contractor shall also have adequate trained buffer spare of trained personnel for use in exigency.

The Railway representative/s nominated by Sr.DEE/G/UBL will check the competency of each staff and only those people who are found suitable will be permitted to carry out duties. It must be ensured that no staff will be deployed by the CONTRACTOR without proper training. Training record of the training shall also be kept with SSE/incharge of primary maintenance depot. The staff shall also be trained on operation of fire safety items kept on board trains and shall also be trained on the availability of emergency supply provision in train coaches including spare material.

Training of Fire fighting system such as FDSS, Fire Alarm & detection system, Fire extinguishers etc. and safety to be provided to all maintenance and escorting staff by SSE incharge before inducting them for service. Competency certificate to be issued by depot-in-charge with validity of 6 months.

15.0 Advertisement: The CONTRACTOR's staff shall not carry or display or exhibit any kind of advertisement on his person or in the coach. Logo of the CONTRACTOR/firm can be displayed on the uniform / badge of the CONTRACTOR's staff.

16.0 Tools & Plants: The minimum Tools & plants the contractor shall supply is indicated in Annexure separately. He can also supplement any special tools & plants required in addition to the list indicated to improve attention of DA set. CONTRACTOR shall also arrange additional tools as warranted for ensuring reliability of DA sets as advised by Sr.DEE/G/UBL.

17.0 Transportation: Transportation of material to carry out work shall be borne by the CONTRACTOR.

18.0 Indemnity : CONTRACTOR shall furnish an indemnity bond for an amount equivalent to the cost of materials collected by CONTRACTOR from Railway for repair / reconditioning or any other purpose during the currency of contract. The Indemnity Bond is required for any losses, damage to Railway materials arising out in consequence to the operation on his part.

The indemnity bond shall be executed on a non-judicial stamp paper of Rs.200/-certified by an Advocate/ Notary and shall be signed by the authorized signatory of the CONTRACTOR.

19.0 Responsibilities of Parties:

19.1 Contractor:

i) The supervisor / Service Engineer of the contractor shall report to the Railway supervisor on duty and commence maintenance work as soon as the power car is placed in the maintenance pit line after getting clearance from the supervisor. Placement of the rakes should be monitored by the contractor's supervisor / staff. Contractor has to deploy required manpower as per placement schedule of rake or as per actual requirement at site, in consultation with SSE incharge.

ii) CONTRACTOR should ensure that the maintenance schedules and breakdown failures are attended in time and proper coordination with SSE in-charge in this regard also to be ensured.

iii) CONTRACTOR shall keep all the necessary tools, metering equipment/adequate materials, in the Firm's premises at the station of maintenance nearest to the maintenance depot.

iv) All the works pertaining to A, B & C checks and breakdown attention shall be carried out on the stable conditions on the washing line/Pit line/IOH Shed/Nominated place. Maintenance should not be carried out when power cars are on platform except in emergencies.

v) The service engineer nominated for the repair and maintenance shall observe all safety and security rules prevailing at the place of the work.

vi) Before appointing the service staff, firm should check thoroughly their character and antecedents of the person. Frequent changes of the service staff should not be done, Firm's service Engineers should wear proper uniform with company label and necessary identity card

(even if temporary) for their entry on the platform and other Railway premises. However this Identity Card is not a travel authority. ID Card to be issued by the CONTRACTOR.

vii) The CONTRACTOR's staff working in the Railway installations/coaches should be covered under group insurance /ESIC by the CONTRACTOR.

viii) The contractor and his staff working at site should follow necessary safety precautions and Railway safe working practices while working in Railway Premises. Railway will not be at any time responsible for any accident/injury occurring to the labour employed by him for executing this work. The contractor shall wholly be responsible and shall see that proper attention and medical treatment is given to the labour employed by him. The contractor shall be responsible for any claim arising out of the injury to his labour or otherwise in the course of employment under any statute. The contractor shall also indemnify Railways against any suits arising in this regard.

ix) The CONTRACTOR shall depute their service personnel for the maintenance schedules prescribed in the contract along with the breakdown calls at the base stations and other. Some trains are maintained at night and hence staff to be planned and arranged accordingly for maintenance.

x) The Firm shall depute sufficient skilled technicians/service engineers to carry out the maintenance schedules along with the breakdown calls at the nominated stations.

xi) CONTRACTOR has to provide mobile phones with working SIM cards at his own cost for Escorting staff for easy communication and accessibility. **The mobile phone provided to the escorting staff should have the compatibility of installation of Railway related Apps like IR Electrical Escorting or any other Apps for easy communication.**

xii) The arrangement for the stay of the contractor's staff shall be made by contractor at his own cost and means at the originating/Secondary stations. No separate payment shall be made for this purpose.

xiii) Materials used for repair / replacement:

All the materials used for repair / replacement shall be of RDSO / OEM approved make which shall be repaired / purchased from OEMs or their authorized dealers.

For proof of repair/purchase, original delivery challan / invoice from OEM or their authorized dealers shall be submitted. In case of purchase from an authorized dealer, a copy of authorized dealership certificate shall be submitted.

xiv) CONTRACTOR has to provide prescribed registers to maintain activities of schedules /minor repair/ major repairs and register for details released / replaced schedule items. The format of these register shall get approved from Sr.DEE/G/UBL before commencement of the work, In case, CONTRACTOR fails to deploy the manpower, suitable penalty will be imposed.

- xv) CONTRACTOR has to maintain attendance register as per prescribed format given by the Consignee supervisor after issuing the LOA with the approval of Sr.DEE/G/UBL. This register will be in custody of consignee / nominated supervisors separately at UBL, VSG, BGM coaching depots.
- xiii) All the log sheets, registers and other records to be maintained, shall be printed at CONTRACTOR's own cost after the formats are approved by Sr.DEE/G/UBL.
- xiv) Contractor shall arrange for food, boarding and lodging facilities at primary and secondary station at his own cost for his nominated staff.
- xv) Contractor shall arrange for supply of food to his staff on duty and to ensure that the nominated staff shall not desert their work place on that pretext.
- xvi) Contractor shall be responsible to ensure that the escorting staff shall report to on board Railway officials during any enroute accident/disaster/exigency situation.
- xvii) Contractor shall maintain the enroute Specific Fuel Consumption for every DA set and submit the record to Railway authorities on monthly basis.
- xviii) The load test of the Power car shall be conducted after every maintenance schedule as per Railway Board guidelines issued vide letter Nos 2024/Elect/(G)/114/1/PC dated 24.09.2024, 97/Elect(G)/114/I/PC-IV dated 14.11.2023, EL/0.6.2/PC/Main dated 14.02.2024 & No 2006/Elect(G)/138/1pt Dated 03.06.2025. Copies of these letters forming part of RB letter No. 2006/Elect(G)/138/1pt dated 03.06.2025 forming part of the agreement is enclosed separately in the tender documents of NIT.
- xix) The scheduled maintenance activities & escorting of power cars, Relay settings & SOP for operation of power car / LSLRD and duties of escorting staff will be strictly in adherence to the guidelines issued by RB vide letter Nos EL/0.6.2/PC/Main dated 14.02.2024, 2024/Elect(G)/114/1 dated 09.05.2025 & No. 2006/Elect (G)/138/1pt dated 03.06.2025 as enclosed separately in the tender documents of NIT.

19.2 RAILWAY:

- i) CONTRACTOR shall be permitted to avail the existing infrastructure facilities in Pit lines / Sick lines for maintenance of Power Cars. If any additional facilities are required, CONTRACTOR shall arrange at its own without any cost to Railways.
- iii) Arrange for the disposal in a safe and lawful manner of all effluent, waste products and used items resulting from the operation and maintenance of the installation without any limitations; such as oil, antifreeze, filters and other consumable items as per the instructions of the depot in-charges.
- iv) Arrange to provide fuel (HSD oil) of right grade for the power cars at stations / depots nominated for fueling of power cars of trains primarily maintained at UBL division.

- v) Travel authority for escorting staff will be issued by the Railway Administration (Supervisor on duty/JE on duty /SSE on duty) to the contractor's staff to and fro the originating station and destination station. The contractor shall ensure that the travel authority is used exclusively in connection with Railway work.
- vi) Signing of service reports by authorized railway representative immediately after completion of service.
- vii) Deputing alternate escorting staff to duty on default of contractor staff failure to reporting against penalty mentioned in penalty clause.
- viii) Railway will provide initial operational training on the safety features available on the train/coaches including emergency preparedness and disaster management to the contractor staff for the period as decided by Sr.DEE/G.
- ix) Railway to provide complete rake for load test of the power car/DA set at pit line during every A schedule maintenance as per Railway Board guidelines.
- x) Training of Fire fighting system such as FDSS, Fire Alarm & detection system, Fire extinguishers etc. and safety to be provided to all maintenance and escorting staff by SSE incharge before inducting them for service. Competency certificate to be issued by depot-in-charge with validity of 6 months.
- xi) Railway to provide training to all escorting staff for using Escorting app which is developed by CRIS for monitoring of escorting staff,.
- xii) Railway to provide complete rake / load bank for load test of the power car/DA set at pitline during every trip schedule maintenance as per Railway Board guidelines.
- xiii) Railways should have a proforma for relay setting / checking of make wise DA set which should be jointly signed by contractor and Railways supervisor after maintenance. Relay setting for all three OEMs has been issued vide RDSO letter EL/0.6.2/PC/Main dtd. 14.02.2024.

20.0 WARRANTY

Warranty shall be 12 months from the date of erection and applicable only for the major spares used in unscheduled maintenance which will not include consumable items like gasket, air filter, lube oil filter, fuel filter element, Rubber parts and hoses etc. Failure during warranty period shall be rectified / replaced at free of cost.

21.0 Safety Provision of carrying out works:

- i) The contractor shall take all precautionary measures in order to ensure protection of his own personnel moving about or working on the Railway premises and shall have to conform to the rules and regulations of the South Western Railway.

- ii) The works must be carried out carefully in such a way that they do not hinder the railways operation except as agreed to by the Railways.
- iii) The contractors' employees and workers shall not for any reason operate any appliances of Railway installations concerning the safety of train movements, but they should notify the appropriate railway staff whenever necessary, who will then take necessary steps.
- iv) The Contractor shall abide by the Indian Electricity Act and the Indian Electricity Rules as amended from time to time.
- v) If at any time, the Indian Railways find the safety arrangements inadequate or insufficient, the contractor shall take immediate corrective action as directed by the Railways representative at site.
- vi) Necessary personal safety equipments as considered adequate by the Engineer in charge shall be kept available for the use of the persons employed at the site and maintained in a condition suitable for immediate use and the contractor should take adequate steps to ensure proper use of equipments by those concerned.

22.0 Ownership of Rejected / Old / Released Components:

The ownership of the released materials shall be of railway administration except for the items which are replaced by the OEM free of cost. Released items shall be handed over to concerned supervisory in-charge under acknowledgement for proper accountal equivalent to the items/spares being replaced.

Items replaced for under warranty failures will be of OEMs.

23.0 PAYMENT TERMS

a) Maintenance of Power Cars:

Payment shall be made for quantity of A, B and C check schedule maintenance carried out in the period, CMC of DA sets and associated equipment in the power car and escorting duties of the power cars for which bill is claimed along with the schedule items operated in the given period.

b) Escorting / operation of Power cars:

Each train fitted with 2 Power cars or with one LSLRD and a power car. CONTRACTOR shall deploy one person each for power car as well as LSLRD. In case of power car having DA sets of two different make, Railway administration shall decide, which of the CONTRACTOR has to deploy the staff for operation of DA set and decision of Sr.DEE/G/UBL shall be final and binding on the contractors of different make.

In such cases, escorting staff shall take care of both DA set irrespective of make of the DA set. The Payment for escorting of power cars is applicable for the actual journey hours completed by each of the train only irrespective of the composition of power cars on the train.

- c) Payment shall be claimed by the CONTRACTOR on quarterly basis.
- d) The unit rate quoted by the tenderer and accepted by the Railways shall hold good till the CONTRACT period / extended CONTRACT period and no additional individual claim will be admissible on account of increase of rates of material and labour etc. Unit rate shall be in Rupees. Unit of measurement shall be in the Metric system.
- e) The Firm/contractor will be allowed payment at 100% against the work undertaken by them.
- f) Payment will be made as per the finance procedures of Railway Administration.
- g) Bill shall be submitted by the CONTRACTOR along with supporting documents including site reports, proof for payment of wages etc which will be certified by SSE concerned and forwarded to Sr.DEE/G/UBL office for arranging payment.
- g) While submitting the bill, CONTRACTOR shall certify the following.
 - i) Deployment of staff for performing duties as per the terms of the contract.
 - ii) Minimum wages paid to the contract staff through ECS & paid towards EPF/ESI of his staff.
 - iii) No complaint of any misbehavior, theft etc is reported against any staff deployed during the period of the bill.
- h) Sr.DEE/G/UBL shall be the bill passing officer and Sr.DFM/UBL shall be the paying authority.
 - i) Contractor to give consent in a mandate form for receipt of payment through ECS/EFT.
- j) As per central Board of indirect Taxes and customs (CBIC) notification No. 50/2018-central tax dtd 13 September 2018 and Railway board letter dtd.No.2018/AC-II/I/46 dtd.17.8.2018 TDS @ 2% (i.e 2% IGST) or any statutory recoveries will be deducted from the bills.
- k) Conservancy charges: As per Railway Board letter No. F(X)I/95/I/1 Dated:07.09.2021, "Conservancy cess charges" will be deducted at the rates given below from the contractor's bills based on the average number of labourers/workmen employed per day by the contractor for the work.

Average No of labourers/workmen employed per day	Conservancy cess charges to be recovered per month
1 to 5	Rs. 159/-
6 to 10	Rs.312/-
11 to 25	Rs.785/-
26 to 50	Rs.1,143/-
51 to 100	Rs.1,534/-
101 to 200	Rs.1,926/-
201 to 300	Rs.2,318/-
301 to 750	Rs.2,676/-
751 to 1500	Rs.5,382/-
1501 to 3000	Rs.10,768/-
3000 to over	Rs.21,508/-

Conservancy charges are applicable as amended from time to time.

24.0 Penalties:

- a) Contractor has to ensure that all the staff deputed for escorting duty for any trip should be available in nominated power car/LSLRD during the entire period of that trip and should not leave the power car at enroute stations. In case the staff desert Power car/LSLRD or absconds from the duty before conclusion of the round trip, the recovery for the entire round trip at two times the rate for that staff or amount equal to the value of the damaged item resulted due to deserting the Power car/LSLRD, whichever is maximum or both shall be recovered from the Contractor's bills. The amount of recovery shall be decided by Railway Authority.**
- b) It should be ensured that both the DG sets of power cars are sent in working conditions from Primary Maintenance depot, before departure of the train. Whenever it is noticed that any one DG set in the Power Car is sent in defective condition a penalty of Rupees 20,000/- (Rupees Twenty thousand) per DA set will recovered for each incidence.**
- c) The Contractor has to ensure timely schedules of DA set and other power car assemblies as per mentioned in scope of work within the stipulated maintenance time as advised by Railway representative at washing line/Platform/sick line, failing for which a token penalty sum of Rs. 10000/- (Rs Ten Thousand) per engine for delay of per week) or part thereof will be deducted from bill of contractor.**
- d) Failure of any kind during train services which is found to be negligence and bad workmanship of contractor's staff.**
 - (i) Any detention up to one hour or part thereof due to negligence and bad workmanship of escorting staff/ enroute failure.**
 - (ii) Detention of more than one hour and parts thereof will attract penalty at double the rate.**

For clause (i) a token penalty of Rs 10,000/- (Rs Ten thousand) per failure power car will be imposed and for clause (ii) a penalty of Rs 25,000/- (Rs Twenty Five thousand only) and part thereof will be imposed.
- e) Failure to inform to Electric control/Railway escorting supervisor for timely fueling in the power car, will attract a penalty of ₹5,000 per onward/return trip. Escorting staff should inform Electrical control if 750 litres fuels are left in Diesel tank.**
- f) Unscheduled DVS Power Car to be repaired within 24 hours of placement, otherwise a penalty of Rs. 10,000/- per day per case will be levied. In case of major breakdown which could not be attended the approximate time for fitment/PDC shall be jointly agreed between contractor & Railway and if firm does not comply to PDC then/thereafter a penalty of 10000/day shall be levied.**
- g) A log book will be maintained jointly i.e. in between Railway's representatives and contractor's representative for the contractor's staff deputed in the trains covered under this contract. The log book will be signed daily by both the representatives verified by SSE/on duty. Failure to maintain the log book will attract a penalty of 1000/- (One thousand).**

- h) Contractor will ensure that their staff boards the train/Power Car/LSLRD. If needed contractor can keep spare staff at his own cost to ensure 100% boarding the power cars by their staff.**
- (i) In case contractor's staff does/do not turn up on duty before one hour from the schedule departure of the train, a penalty of 10,000/-(Ten thousand) will be imposed for each instance. Reporting time shall be monitored with a GPS enabled biometric attendance (procured by the contractor).**
- (ii) In case the contractor has failed to provide one or more staff in a particular train the sum of penalty as above shall be imposed proportionate to the no. of staff, contractor failed to provide for the respective trip. Payment shall be made proportionately only to the no. of staff provided by the contractor for that particular trip.**
- i) In case, if the contractor's staff is found without uniform or identity card or name badges, a token sum of penalty of one round trip payment or Rs 500/- (Rs Five hundred only) whichever is higher per defaulting staff for that train shall be recovered from the contractor's bill.**
- j) In case of contract staff found in intoxication mood/disregard/misbehaviour with passenger or railway officials, an amount of 1000/- (One thousand) per occasion shall be recovered in-addition to non-payment of wages for the respective onward/return trip.**
- k) In case of contractor staff is found carrying any irrelevant / un authorized parcels or unauthorized person travelling in the power car/LSLRD against Railway norms a penalty of 5000/- (Five thousand) per occasion shall be recovered and appropriate action will be taken as per railway norms.**
- l) In case of contract staff involved in any illegal theft activities or damage to railway properties a penalty equivalent to the material cost shall be recovered and legal action as per relevant Railway act will be initiated.**
- m) A penalty of 1000/-(One thousand) for failure to maintain prescribed tools or PPE**

25.0 Service Requirements for executing the work:

All the maintenance activities shall be carried out under direct supervision of a Railway Supervising official. Work done service reports shall be signed by the CONTRACTOR's representative and railway nominated supervisor, immediately after work is done. The contractor should prepare service report and log book format jointly with the Railway nominated supervisor and got approved from the “Senior Divisional Electrical Engineer” / “Divisional Electrical Engineer” / “Assistant Divisional Electrical Engineer” before commencement of the work.

26. PRICE VARIATION CLAUSE

The Price Variation Clause (PVC) of General Conditions of Contract (GCC) shall not apply to this Contract. Accepted rates holds good till the CONTRACT period / extended CONTRACT period and no additional claim is applicable under price variation.

TOOLS, MACHINES & PLANT REQUIRED :

- i) Filter cleaning arrangmt with high capacity blower/ air compressor with adjustable pressure
- ii) Vacuum cleaner Industrial Type
- iii) Water Jet machine with adjustable pressure for radiator/side body filter cleaning
- iv) Miscellaneous Tools

S.No.	Name of tool	Qty
1	Combination plier insulated with thick CA sleeve with joint cutter length 205 mm	1 no. with each staff on train
2	Insulated Nose Plier 6"	1 no. with each staff on train
3	DE and Ring Spanner set of sizes 6/7, 8/9, 10/11, 12/13, 14/15, 16/17, 18/19, 20/22, 21/23, 24/26, 25/27	1 no. with each staff on train
4	Set of T-spanner of sizes 8, 10, 11, 13, 15, 17	1 no. with each staff on train
5	Adjustable spanner length 255 mm	1 no. with each staff on train
6	Adjustable filter wrench for removing lube oil, fuel filters	1 no. with each staff on train
7	Torque wrench (with capacity upto 500 Nm) (only primary maint)	1 no. with each staff on train
8	Panel Key Square type 1/4" size suitable for opening of SBC panels	1 no. with each staff on train
9	Insulated wire stripper and cutter 16 Sqmm	1 no. with each staff on train
10	Pipe Wrench 300 mm	1 no. with each staff on train
11	Hydrometer (only primary Maint)	1 no. with each staff on train
12	Hand Torch/flashlight	1 no. with each staff on train
13	Crimping tool (only primary Maint)	1 no. with each staff on train
14	Cable stripper (only primary Maint)	1 no. with each staff on train
15	Screw Driver Set with neon bulb	1 no. with each staff on train
16	Contactless Line Tester with Voltage Range upto 1000V AC	1 no. with each staff on train

And other tools deemed necessary for carrying out the maintenance and troubleshooting shall be arranged by the contractor

ELECTRICAL TESTING TOOLS

SNO	Description	Specification	Quantity
1	Digital Clamp Meter	Voltage : 1000V AC/DC Current : 1000A AC/DC Class III 1000 V probes along with resistance, continuity and other standard features	1 no. with each staff on train

2	Digital Insulation Resistance Tester	Test voltage : 50 V, 100 V 250 V, 500 V and 1000 V	1 no.
3	Infrared Thermometer	Temp range -40 to 800 Deg C Response time (95%) <500msec , Resolution : 0.1 Deg C	1 no. with each staff on train

(SCHEDULE OF RATES)

Sl No	Description of items of work	Unit	Qty	Rate	Amount
SW-01 : Trip shedule and "A" Check for KIRLOSKAR make power cars.					
1	Trip schedule maintenance, "A" check for under warranty / out of warranty CPCB-I/II/IV compliant power cars of M/s KIRLOSKAR OIL ENGINES LTD make all as per detailed scope and specifications. Notes: (i) For record purpose, the UNIT for each scheduled maintenance / A-check done will be measured as each "JOB". (ii) The quoted rate is inclusive of GST and any other taxes as applicable.	Job	5000	2589.77	12948850.00
2	Manning and operation of M/s KIRLOSKAR make on-warranty / out of warranty power cars of EOG / HOG trains fitted with 450 to 500 KVA, 750 V DG sets while on run escorted by 01 No x Skilled mechanic / technician for each power car comprising two DG Sets or LSLRD all as per detailed scope and specifications. Note: The quoted rate is inclusive of GST, ESI & EPF for the employees as applicable.	Man-Hour	201968	214.42	43305978.56
SW-01 Total Rs.					56254828.56
SW-02 : Labour / SERVICE Charges for "B" check & "C" Check of KIRLOSKAR make power cars					
1	Labour only for B-check for under warranty / out of warranty CPCB-I/II/IV compliant power cars of M/s KIRLOSKAR OIL ENGINES LTD make all as per detailed scope and specifications. Notes: (i) For record purpose, the UNIT for each scheduled maintenance / B-check done will be measured as each "JOB". (ii) The quoted rate is inclusive of GST and any other taxes as applicable. (iii) B- Check kits will be measured and paid separately under appropriate items of this schedule.	Job	135	9832.62	1327403.70
2	Labour only for C-check for under warranty / out of warranty CPCB-I/II/IV compliant power cars of M/s KIRLOSKAR make all as per detailed scope and specifications. Notes: (i) For record purpose, the UNIT for each scheduled maintenance / B-check done will be measured as each "JOB". (ii) The quoted rate is inclusive of GST and any other taxes as applicable. (iii) C- Check kits will be measured and paid separately under appropriate items of this schedule.	Job	58	12108.30	702281.40
SW-02 Total Rs.					2029685.10

SW-03: Supply of "B" check & "C" Check kits for KIRLOSKAR make CPCB - I & II compliant power cars.
Notes:- (1) The list of spares and rates included in this schedule items are based on the existing Rate Contract.
(2) Quoted percentage that is "Above" the schedule cost is NOT allowed for this schedule.
(3) Bidding unit (Quoted percentage) will be considered only as either "Below" or "Par" on the schedule cost (i.e. on SW-03) and this condition incorporated is non-negotiable.

1	Supply of "B" Check kit for KIRLOSKAR engines of Model Nos DV0.9019, DV0.9027 comprising the list of materials as per PL No. 33630392 enclosed at Annexure-"I" of the RC No. RCF/RateContract/DAspares/ Kirloskar/ 02241164 dated 20.08.2024 and all as specified in the detailed specifications.				
(i)	For 1st Year	Set	15	51917.25	778758.75
(ii)	For 2nd year	Set	15	54513.11	817696.65
2	Supply of "B" Check kit for KIRLOSKAR engines of Model No DV0.9026 comprising the list of materials as per PL No. 33630392 enclosed at Annexure-"I" of the RC No. RCF/RateContract/DAspares/Kirloskar/ 02241164 dated 20.08.2024 and all as specified in the detailed specifications.				
(i)	For 1st Year	Set	40	50379.00	2015160.00
(ii)	For 2nd year	Set	40	52898.00	2115920.00
3	Supply of "C" Check kit for KIRLOSKAR engines of Model No DV0.9019 comprising the list of materials as per PL No. 33630409 enclosed at Annexure-"II" of the RC No. RCF/Rate Contract/DAspares/Kirloskar/ 02241164 dated 20.08.2024 and all as specified in the detailed specifications.				
(i)	For 1st Year	Set	3	63321.00	189963.00
(ii)	For 2nd year	Set	3	66487.00	199461.00
4	Supply of "C" Check kit for KIRLOSKAR engines of Model No DV0.9027 comprising the list of materials as per PL No. 33630409 enclosed at Annexure-"II" of the RC No. RCF/RateContract/DAspares/Kirloskar/ 02241164 dated 20.08.2024 and all as specified in the detailed specifications.				
(i)	For 1st Year	Set	4	65211.00	260844.00
(ii)	For 2nd year	Set	4	68472.00	273888.00

5.	Supply of "C" Check kit for KIRLOSKAR engines of Model No DV0.9026 comprising the list of materials as per PL No. 33630409 enclosed at Annexure-"II" of the RC No. RCF/RateContract/DAspares/Kirloskar/ 02241164 dated 20.08.2024 and all as specified in the detailed specifications.				
(i)	For 1st Year	Set	18	63421.00	1141578.00
(ii)	For 2nd year	Set	18	66592.00	1198656.00
SW-03 Total Rs.					89,91,925.40
SW- 04: Supply of "B" check & "C" Check kits for CPCB-IV compliant KIRLOSKAR make power cars.					
1	Supply of "B" Check kit for KIRLOSKAR engines of CPCB-IV compliant engine Nos DV8.9313 (CPCB-IV) comprising all necessary materials as per the list enclosed and all as specified in the detailed specifications.	Set	25	101675.50	2541887.50
2	Supply of "C" Check kit for KIRLOSKAR engines of CPCB-IV compliant engine Nos DV8.9313 (CPCB-IV) comprising all necessary materials as per the list enclosed and all as specified in the detailed specifications.	Set	10	109037.50	1090375.00
SW-04 Total Rs.					3632262.50
SW- 05 : Condition basis spares / consumables /repairs during "B" check, "C" Check & Breakdowns of KIRLOSKAR make Engines.					
Notes:-					
(1) The list of spares and rates included in this schedule item are based on the existing Rate Contract. (2) Quoted percentage that is "Above" the schedule cost is NOT allowed for this schedule.					
(3) Bidding unit (Quoted percentage) will be considered as either "Below" or "Par" on the schedule cost (i.e. on SW-05) and this condition incorporated is non-negotiable.					
1	Supply and provision of conditional spares for CPCB I & II compliant KIRLOSKAR Engines as per the spare parts with rates (RC Rates) enclosed at Annexure-"A" of the tender schedules attached with tender booklet and all as specified in the detailed specifications. . (Pegging cost @40% on Rs. 4691966.86 for 09 Nos Engines).	Lump sum	1	16891080.73	16891080.73
SW-05 Total Rs.					16891080.73

SW-06 : Service charges for Minor repairs & Major overhauling of KIRLOSKAR make Engines.

1	Labour charges for carrying out MINOR repairs / replacement of condition basis spares (For Breakdown repair works involved beyond the scope of "B" check & "C" checks.) i.e on-site repairs including repairs involving dismantling of cylinder head, tappet assembly, grinding & machining, replacement of inlet / exhaust valves, head gasket, tappets, rocker arm assy, camshaft assembly, etc, including all connected items of work. Note: (i) All external works on the engine including replacement of spares which do not require dismantling of cylinder head / tappet assembly are not covered under the scope of this item. (ii) Fixing charges for conditional spare parts which do not require dismantling of cylinder head / tappet assembly are deemed to be included in the overall cost quoted by the bidder. (iii) Quoted rate is inclusive of GST and any other applicable taxes.	Job	6	55000.00	330000.00
2	Labour charges for carrying out MAJOR repairs / overhauling / replacement of condition basis spares or any new NS items (For Breakdown repair works involved beyond the scope of "B" check, "C" checks and MINOR Repairs.) i.e repairs carried out at OEM workshop including repairs involving dismantling of engine block including pistons, liners, connecting rods, crank shaft etc, and all other connected items of works. Note: (i) The quoted rate is inclusive of loading, unloading, transportation from site to OEM workshop and back, re-assembling, testing and commissioning of the engine at site. (ii) Quoted rate is inclusive of GST and any other applicable taxes.	Job	2	320000.00	640000.00
SW-06 Total Rs.					9,70,000.00

SW-07 : Maintenance of 500 KVA alternator, control & distribution system, panel filter & ventilation /exhaust fan and radiator, radiator fan & motor etc.

1	Supply, Fixing & Commissioning of Cladding work for turbo charger exhaust manifold, turbo charger and connection flexible exhaust for silencer. The exhaust pipe lines shall be the thermally insulated and cladded with aluminium sheet and firmly secured so as to ensure that there is no excessive heat in the engine room. Supply, fitment & commissioning of new cladding with material (provision of aluminium steel of 28 SWG and Glass Wool) for Cladding work as per the site requirement per engine.	Job	8	38808.00	310464.00
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2	Maintenance of Alternator, Side body filter, Starting Battery, Battery Charger, Self starter motor, Power panel, Control panel, Radiator, Radiator pipe line, Radiator chamber, Radiator motor & starter, Roof exhaust fans and motor, Cables and trenches, Fuel tank, safety system of car as per D2 check guideline. Frequency - Same as B check for Engine.	Job	135	1794.87	242307.45
3	Maintenance of Alternator, Side body filter, Starting Battery, Battery Charger, Self-starter motor, Power Panel, Control panel, Radiator, Radiator pipeline, Radiator chamber, Radiator motor & starter, Roof exhaust fans and motor, Cables and trenches, Fuel tank, safety system of power car as per D3 check guideline. Frequency - Same as C check for Engine.	Job	58	2393.16	138803.28
SW-07 Total Rs.					6,91,574.73
SW- 08 : Supply and provision of Alternator spares on conditional basis					
1	Supply and provision of Alternator spares on condition basis of KEC, KEL, CGL, Stamford, leroyssommer or any specified makes as directed as per spare parts / service list with rates enclosed as Annexure "B" of the tender schedule attached with the Tender booklet. (Pegging cost @50% on the cumulative amount i.e. Rs.33,03,037.10).	Lump sum	1	1651518.55	1651518.55
SW- 08 Total Rs.					16,51,518.55
SW- 09 : Supply of spares and servicing of motors & ACBs (for DG set) & Misc Items for Electrical Works required on conditional basis.					
1	Supply and servicing of motors & ACBs (for DG set) required on condition basis as per the spare parts / service list with rates enclosed at Annexure "C" of the tender schedule attached with the Tender booklet. (Pegging cost @ 50% on the cumulative amount i.e. on Rs. 23,08,819.14).	Lump sum	1	1154409.57	1154409.57
2	Supply and servicing of control switch gears, panel boards, metering devices, relays, contactors, re-wingding of rotors etc required on condition basis as per the spare parts / service list with rates enclosed at Annexure "D" of the tender schedule attached with the Tender Booklet (Pegging cost @ 100% on the cumulative amount i.e. on Rs. 10,38,730.38).	Lump sum	1	1038730.38	1038730.38
SW-09 Total Rs.					21,93,139.95
GRAND TOTAL (SW-01 + SW-02 + SW-03 + SW-04 + SW-05+ SW-06 + SW-07 + SW- 08 + SW- 09) Rs.					9,33,06,015.52

Notes:-

1. The rates are inclusive of all the taxes.
2. The Bidder has to quote only at par/ below/ above in (%) on the Schedules except SW-03 & SW-05.
3. **The Bidder has to quote only at Par or Below in % on the Schedules SW-03 & SW-05. The items & rates covered in these schedules are as per the prevailing Rate Contract applicable. As such, no percentage above the tender schedule amount will be accepted and no any deviations on rates will be allowed / entertained by the Railways.**
4. Rate is inclusive of prevalent percentage of GST.
5. This rate schedule is for reference only. Rates are to be quoted at IREPS window and duly signed digitally.
6. Documentary evidence/proof of Payment of GST at prevailing rates, if applicable and paid by the contractor, shall be submitted by them. In case the bill for payment is not supported by documentary evidence/proof of having paid GST, then the tax shall be deducted at prevailing rate.
7. The bidder should offer all the materials for inspection before execution of work and inspection will be done by the authorized Railway Representative.
8. The work should be done as prescribed / provided by the bidder as per the specifications. However, any necessary modification / Alterations of the items/ work as per site conditions / requirement should be done, as desired by Railways.
9. The Annexures “A”, “B”, “C” & “D” of the tender schedule attached with the Tender Booklet in support of items covered under Schedules SW-05, SW-08 & SW-09 will invariably form a part of the contract agreement. The work done amount will be based on the cost of individual items covered in the Annexures including the quoted percentage by the bidder.

SW-05 (Item No.1) : Costed schedule for Spares/Consumables/Repairs for KOEL make Engines on conditional basis as per requirement

SN	Item (Part no.)	Description	Qty	Unit	Basic rate	GST %	Unit Price Inclusive of GST (Rs.) FY 2024-25	Unit Price Inclusive of GST(Rs.) FY 2025-26	Unit Price Inclusive of GST(Rs.) FY 2026-27	Remarks
1	DV0.001. 10.0.00	CRANK CASE SUB- ASSEMBLY	1	Nos	530706.25	28	679304.00	713269.20	748932.66	Rates as per existing Rate contract concluded by RCF Kapurthala
2	DV0.040. 540.0.PR	FUEL PUMP (CAM BOX TYPE)	1	Nos	384622.03	18	453854.00	476546.70	500374.03	
3	DV0.014. 50.0.00	LUB OIL COOLER HEADER ASSY	1	Nos	82190.63	28	105204.01	110464.21	115987.42	
4	DV0.027. 12.0.PR	LUCAS STARTER 9,0KW SM50 SERIES FOR DV ENGINE	1	Nos	70712.50	28	90512.00	95037.60	99789.48	
5	DV0.999. 33.0.SP	EXCITER STATOR	1	Nos	61744.07	18	72858.00	76500.90	80325.95	
6	DV0.032. 98.0.00	RIGHT BANK T'CHARGER: DV10	1	Nos	61613.56	18	72704.00	76339.20	80156.16	
7	DV0.032. 97.0.00	RIGHT BANK T'CHARGER: DV10	1	Nos	61593.22	18	72680.00	76314.00	80129.70	
8	DV0.807. 34.0.PR	TUBULAR LEAD ACID BATTERY 8V 290AH RDSO APPROVED IS:7624 COMPLIANT MAKE : EXIDE / MICROTEX / CELTEK	1	Nos	56693.75	28	72568.00	76196.40	80006.22	
9	DV0.007. 70.0.00	CYL HEAD SUB ASSEMBLY (WITH . SPRING & VALVE)	1	Nos	34295.31	28	43898.00	46092.90	48397.54	
10	DV0.030. 09.0.00	DAMPER	1	Nos	33741.41	28	43189.00	45348.46	47615.88	
11	DV0.026. 50.0.00	FLYWHEEL	1	Nos	32530.51	18	38386.00	40305.30	42320.57	
12	DV0.010. 20.0.00	DOUBLE GEAR ASSLY (CRANK GEAR AND CAM GEAR)	1	Nos	20646.88	28	26428.01	27749.41	29136.88	
13	DV0.040. 01.0.00	0440 008 090 FEED PUMP	1	Nos	19556.25	28	25032.00	26283.60	27597.78	
14	DV8.1172 .03.0.PR	ENGINE PLUG HEATER FOR DV SERIES	1	Nos	17743.22	18	20937.00	21983.85	23083.04	
15	DV0.040. 19.0.00	CONTROL ROD/CONTROL RACK	1	Nos	17212.71	18	20311.00	21326.55	22392.88	
16	DV8.010. 70.0.PR	DOUBLE GEAR ASSLY	1	Nos	16669.49	18	19670.00	20653.50	21686.17	
17	DV8.003. 13.0.PR	CRANK SHAFT GEAR	1	Nos	13763.56	18	16241.00	17053.05	17905.70	
18	DV8.040. 22.0.00	F 002 F80 002 BOSCH PF33 PUMP WITH DUAL HELIX ELEMENT (DWG NO E 041 268000)	1	Nos	12836.72	28	16431.00	17252.55	18115.18	
19	DV0.807. 02.0.PR	BELT GUARD	1	Nos	8050.78	28	10305.00	10820.25	11361.26	
20	DV0.033. 75.0.00	MAIN AIR PIPE (HORIZONTAL CAC OUT)	1	Nos	10340.63	28	13236.01	13897.81	14592.70	
21	DV0.020. 01.0.00	FO02 H22 027 FUEL FILTER FOR DV10	1	Nos	10110.17	18	11930.00	12526.50	13152.83	

22	DV0.861. 14.0.PR	EXHAUST TEMP SENSOR (K THERMO- COUPLE WITH OMEGA MAKE SOCKET - OSTW - K F ADJUSTABLE FITTING : M14x1.5) MAKE : RADIX (Modified Non Grounded Sensor required)	1	Nos	10200.85	18	12037.00	12638.85	13270.80
23	DV8.004. 03.0.PR	CAM GEAR (FINISH)	1	Nos	9120.34	18	10762.00	11300.10	11865.11
24	DV0.024. 25.0.00	EXHAUST MANIFOLD 24, (LH. 2 PORT)	1	Nos	8173.44	28	10462.00	10985.10	11534.36
25	DV0.808. 145.0.PR	FLEXIBLE INLET FUEL PIPE-1 FROM FILTER OUTLET TO ENGINE INLET	1	Nos	9055.08	18	10684.99	11219.24	11780.21
26	DV0.024. 24.0.00	EXHAUST MANIFOLD (L.H. 3 PORT)	1	Nos	7498.44	28	9598.00	10077.90	10581.80
27	DV0.024. 26.0.00	EXHAUST MANIFOLD (R.H 3PORT)	1	Nos	7196.88	28	9212.01	9672.61	10156.24
28	DV0.024. 27.0.00	EXHAUST MANIFOLD(RH. 2 PORT)	1	Nos	6914.06	28	8850.00	9292.50	9757.12
29	DV0.033. 61.0.00	MAIN AIR PIPE (HORIZONTAL CAC INLET) LM 25	1	Nos	6985.16	28	8941.00	9388.06	9857.46
30	DV0.003. 12.0.00	CRANK PULLEY	1	Nos	6160.94	28	7886.00	8280.30	8694.32
31	DV0.040. 05.0.00	GOVERNOR END BEARING (SKF NO.21306 CC)	1	Nos	6645.76	18	7842.00	8234.10	8645.80
32	DV0.014. 10.0.00	LUB OIL FILTER HEADER ASSY (WITH ADAPTOR & CORE PLUG)	1	Nos	5586.72	28	7151.00	7508.55	7883.98
33	DV8.019. 03.0.PR	FUELPUMP GEAR (FINISH)	1	Nos	6052.54	18	7142.00	7499.10	7874.05
34	DV0.014. 39.0.00	LUB OIL COOLER COVER (MACHINING)	1	Nos	6237.29	18	7360.00	7728.00	8114.40
35	DV0.023. 09.0.00	INLET MANIFOLD (RH / LH) 3 PORT	1	Nos	5457.81	28	6986.00	7335.30	7702.06
36	DV0.023. 08.0.00	INLET MANIFOLD (RH / LH) 2 PORT	1	Nos	5066.41	28	6485.00	6809.26	7149.72
37	DV0.014. 05.0.00	FILTER HEADER	1	Nos	4908.59	28	6283.00	6597.14	6927.00
38	B.547.4.0 0.003	BEARING C/R KIR DV10 STD	1	Nos	4815.25	18	5682.00	5966.09	6264.40
39	DV0.033. 88.0.00	CAC HOSE (HOT SIDE)	1	Nos	4214.41	18	4973.00	5221.65	5482.74
40	DV8.011. 10.0.PR	SUB ASSLY OF INTERMEDIATE GEAR & BUSH	1	Nos	3997.46	18	4717.00	4952.85	5200.50
41	DV8.032. 18.0.00	TURBO ADAPTOR (RH.FROM F.W. END)	1	Nos	3336.72	28	4271.00	4484.55	4708.78
42	DV0.034. 02.0.00	ENGINE MTG. FOOT (ON GEAR CASING CUM BELL HSG)	1	Nos	3293.75	28	4216.00	4426.80	4648.14
43	DV0.020. 03.0.00	FUEL FILTER CARTRIDGE	1	Nos	3519.49	18	4153.00	4360.65	4578.68
44	DV8.032. 33.0.00	TURBO ADAPTOR (LH FROM G.E.)	1	Nos	3157.81	28	4042.00	4244.10	4456.30
45	DVO.012. 01.0.00	QIL SEAL HOUSING	1	Nos	2787.50	28	3568.00	3746.40	3933.72
46	DV0.040. 06.0.00	INTERMEDIATE SUPPORT BEARING FOR CAM SHAFT	1	Nos	2996.61	18	3536.00	3712.80	3898.44

47	DV0.014. 08.0.00	SUCTION TUBE (WITH FLANGED ENDS)	1	Nos	2753.13	28	3524.01	3700.21	3885.22
48	S.547.5.00 .703	BEARING C/R BUSH KIR DV10 STD UB	1	Nos	2675.42	18	3157.00	3314.85	3480.59
49	DV0.040. 14.0.00	GOVERNOR MTG. PLATE	1	Nos	2580.47	28	3303.00	3468.15	3641.56
50	DV0.046. 01.0.00	BREATHHER PLATE	1	Nos	2130.47	28	2727.00	2863.35	3006.52
51	DV0.040. 115.0.00	GEAR MOUNTING FLANGE (HUB)	1	Nos	2215.63	28	2836.01	2977.81	3126.70
52	DV0.040. 04.0.00	DRIVE END BEARING (SKF NO. NU2207 ECP)	1	Nos	2176.27	18	2568.00	2696.40	2831.22
53	DV0.010. 25.0.PR	DOUBLE GEAR SUPPORT	1	Nos	1854.69	28	2374.00	2492.70	2617.34
54	DV0.040. 30.0.00	ROLLER TAPPET ASSLY.	1	Nos	1756.25	28	2248.00	2360.40	2478.42
55	DV0.043. 10.0.00	SUCTION TUBE (SUB ASSY)	1	Nos	1822.66	28	2333.00	2449.66	2572.14
56	DV8.033. 35.0.00	TURBO COMPRESSOR OUT PIPE (RH VIEW FROM FWE)	1	Nos	1831.36	18	2161.00	2269.06	2382.51
57	DV8.033. 34.0.00	TURBO COMPRESSOR OUTPIPE (LH VIEW FROM FWE)	1	Nos	1904.24	18	2247.00	2359.35	2477.32
58	DV0.023. 11.0.00	EXPANSION BELLOW FOR INLET MANIFOLD	1	Nos	1704.69	28	2182.00	2291.10	2405.66
59	DV0.040. 08.0.00	OIL SEAL HOUSING	1	Nos	1579.69	28	2022.00	2123.10	2229.26
60	DV0.019. 11.0.00	FUEL PUMP CAP	1	Nos	1541.41	28	1973.00	2071.66	2175.24
61	DV0.041. 16.0.00	OIL FILLING PIPE	1	Nos	1521.88	28	1948.01	2045.41	2147.68
62	DV0.042. 10.0.00	DELIVERY TUBE (SUB ASSLY)	1	Nos	1468.75	28	1880.00	1974.00	2072.70
63	DV2.032. 43.0.PR	"TURBO DRAIN PIPE (RH) (FROM FLYWHEEL END)	1	Nos	1366.41	28	1749.00	1836.46	1928.28
64	DV2.032. 44.0.PR	TURBO DRAIN PIPE (LH) (FROM FLYWHEEL END)	1	Nos	1366.41	28	1749.00	1836.46	1928.28
65	DV0.041. 42.0.00	CENTRIFUGE ADAPTOR	1	Nos	1318.75	28	1688.00	1772.40	1861.02
66	DV0.868. 07.0.00	P.T.800/415V 5VA CLASS - 1	1	Nos	1286.44	18	1518.00	1593.90	1673.59
67	DV0.011. 03.0.00	INTERMEDIATE GEAR SUPPORT (BETWEEN CAM AND FUE PUMP GEAR)	1	Nos	1094.53	28	1401.00	1471.05	1544.60
68	DV0.040. 85.0.00	LINKAGE ASSLY FOR GOVERNOR	1	Nos	1125.42	18	1328.00	1394.40	1464.12
69	DV0.016. 21.0.00	WATER PUMP PULLEY (115 PCD)	1	Nos	1078.91	28	1381.00	1450.06	1522.56
70	DV0.012. 22.0.PR	OIL SEAL PUYLLEY END	1	Nos	1087.29	18	1283.00	1347.15	1414.51
71	DV8.024. 21.0.00	SUPPORT FOR EXHAUST ELBOW LH SIDE	1	Nos	897.66	28	1149.00	1206.46	1266.78
72	DV8.024. 22.0.00	SUPPORT FOR EXHAUST ELBOW RH SIDE	1	Nos	897.66	28	1149.00	1206.46	1266.78
73	DV0.022. 76.0.00	FUEL PIPE FOR NOZZLE LEAK OFF (FLEXIBLE)	1	Nos	882.03	28	1129.00	1185.45	1244.72
74	DV0.044. 14.0.00	CHARGINGALTERNAT OR BRACKET	1	Nos	878.13	28	1124.01	1180.21	1239.22

75	DV0.007. 33.0.00	NOZZLE CLAMP	1	Nos	789.06	28	1010.00	1060.50	1113.52
76	DV0.001. 50.0.00	RELIEF VALVE ASSLY.	1	Nos	751.56	28	962.00	1010.10	1060.60
77	DV0.044. 08.0.00	ALTERNATOR PULLEY	1	Nos	758.59	28	971.00	1019.54	1070.52
78	DV0.046. 02.0.00	BREATHER ADAPTOR	1	Nos	741.41	28	949.00	996.46	1046.28
79	DV0.041. 46.0.00	OIL INLET PIPE (FROM CRANKCASE TO CENTRIFUGE FILTER)	1	Nos	608.47	18	717.99	753.89	791.59
80	DV0.014. 07.0.00	THREADED ADAPTOR FOR HEADER	1	Nos	548.44	28	702.00	737.10	773.96
81	DV0.033. 63.0.00	FUEL FILTER MOUTING BRACKET	1	Nos	535.94	28	686.00	720.30	756.32
82	DV0.025. 05.0.00	SOCKET HEAD SCREW, (M12 X 165)	1	Nos	516.95	18	610.00	640.50	672.53
83	DV0.025. 21.0.PR	MUD SLINGER_FWE	1	Nos	475.78	28	609.00	639.45	671.42
84	DV0.040. 116.0.00	FLAT SEAL FOR OIL SEAL HOUSING	1	Nos	516.95	18	610.00	640.50	672.53
85	DV0.042. 09.0.00	RUBBER BUSH (FOR OIL DELIVERY TUBE)	1	Nos	465.25	18	549.00	576.44	605.27
86	DV0.023. 14.0.01	RUBBER BUSH	1	Nos	460.17	18	543.00	570.15	598.66
87	DV0.023. 12.0.00	AIR PIPE CLAMP (BOTTOM)	1	Nos	424.22	28	543.00	570.15	598.66
88	DV8.032. 05.0.00	BRACKET FOR TURBO ADAPTOR RH FROM GE	1	Nos	417.97	28	535.00	561.75	589.84
89	DV0.004. 14.0.00	THRUST PLATE FOR CAMSHAFT (17.3 mm THICK)	1	Nos	397.66	28	509.00	534.46	561.18
90	DV0.025. 19.0.PR	DEFLECTOR FOR FLYWHEEL END	1	Nos	379.69	28	486.00	510.30	535.82
91	DV0.024. 06.0.00	JONT (BET EXH MANI AND ADAPTOR)	1	Nos	408.47	18	481.99	506.09	531.40
92	DV8.033. 67.0.PR	V BAND CLAMP	1	Nos	400.85	18	473.00	496.65	521.49
93	DV0.001. 05.0.00	NOZZLE BODY (FOR OIL SPARY NOZZLE)	1	Nos	383.59	28	491.00	515.54	541.32
94	DV0.004. 03.0.00	THRUST PLATE FOR CAMSHAFT	1	Nos	327.34	28	419.00	439.94	461.94
95	DV0.004. 13.0.00	THRUST PLATE FOR CAMSHAFT (17.5 mm THICK)	1	Nos	327.34	28	419.00	439.94	461.94
96	DV0.023. 13.0.00	AIR PIPE CLAMP (TOP)	1	Nos	339.84	28	435.00	456.74	479.58
97	DV0.044. 12.0.00	SWIVEL PIECE	1	Nos	287.50	28	368.00	386.40	405.72
98	DV0.022. 06.0.00	ELBOW CONNECTION (M16X1.5)	1	Nos	287.50	28	368.00	386.40	405.72
99	DV0.040. 07.0.00	OIL SEAL FOR DRIVE END	1	Nos	288.14	18	340.01	357.01	374.86
100	34.032.60. 0.00	O F VALVE ASSLY	1	Nos	267.80	18	316.00	331.80	348.39
101	4H.132.02 .0.00	ADAPTOR (TURBOCHARGER SIDE)	1	Nos	275.42	18	325.00	341.25	358.31
102	DV0.010. 03.0.00	RETAINER PATE (FOR GEAR SUPPORT)	1	Nos	259.38	28	332.01	348.61	366.04
103	DV0.023. 06.0.00	COVER PLATE (FOR INLET MANIFOLD)	1	Nos	225.00	28	288.00	302.40	317.52
104	DV0.044. 11.0.00	STURD FOR ALTERNATOR	1	Nos	243.22	18	287.00	301.35	316.42

105	2H.035.10 .000	DRAIN PLUG ASSEMBLY	1	Nos	153.91	28	197.00	206.86	217.20
106	DV0.001. 33.0.00	SETTING SCREW (FOR RELIEF VALVE)	1	Nos	156.25	28	200.00	210.00	220.50
107	DV0.017. 80.0.00	DIPSTICK	1	Nos	149.22	28	191.00	200.55	210.58
108	DV0.002. 02.0.00	O RING (FOR CY LINER)	1	Nos	166.10	18	196.00	205.80	216.09
109	DV0.018. 01.000	TAPPET	1	Nos	141.41	28	181.00	190.06	199.56
110	4H.031.30 .0.00	CLAMP ASSEMBLY (WITHOUT RUBBER SLEEVE)	1	Nos	126.56	28	162.00	170.10	178.60
111	DV8.050. 05.0.00	BREATHER HOSE	1	Nos	144.07	18	170.00	178.50	187.43
112	DV0.040. 98.0.00	JOINT FOR GOVERNOR MOUNTING PLATE	1	Nos	133.90	18	158.00	165.90	174.20
113	50.010.10. 110	STUD	1	Nos	130.51	18	154.00	161.70	169.79
114	50.076.16. 0.50,	SOCKET HEAD SCREW - (DIN912 M16X50 -12.5)	1	Nos	133.90	18	158.00	165.90	174.20
115	P2.039.07. 0.00	CAP ASSLY. (LOCKABLE)	1	Nos	130.51	18	154.00	161.70	169.79
116	F6.377.06. 0.00	O RING FOR TURBO OUTLET	1	Nos	133.90	18	158.00	165.90	174.20
117	DV0.046. 09.0.00	'O' RING	1	Nos	121.19	18	143.00	150.15	157.66
118	DV0.012. 03.0.00	JOINT (FOR OIL SEAL HOUSING)	1	Nos	126.27	18	149.00	156.45	164.27
119	DV0.001. 31.0.00	SPRING	1	Nos	120.34	18	142.00	149.10	156.56
120	DV0.040. 11.0.00	LOCKING NUT FOR GEAR MTG FLANGE	1	Nos	109.38	28	140.01	147.01	154.36
121	DV0.040. 91.0.00	HELICOIL (M14X1.5X14 mm LONG)	1	Nos	119.49	18	141.00	148.05	155.45
122	49.120.04. 0.00	JOINT FOR TURBO INLET	1	Nos	113.28	28	145.00	152.25	159.86
123	DV0.0182 0.0.00	ASSLY PUSH ROD COVER TUBE	1	Nos	111.86	18	131.99	138.59	145.52
124	50.076.16. 090.	ALLEN SCREW	1	Nos	100.00	18	118.00	123.90	130.10
125	DV0.0013 2.0.00	PLUNGER (FOR RELIEF VALVE)	1	Nos	88.28	28	113.00	118.65	124.58
126	50.610.30. 000.	CORE PLUG HEXAGONAL SOCKET HEAD (DIN - 908)	1	Nos	90.68	18	107.00	112.35	117.97
127	DV0.041. 15.0.00	ADAPTOR FOR CENTRIFUGE FILTER	1	Nos	95.76	18	113.00	118.65	124.58
128	DV0.041. 17.0.00	O' RING FOR OIL FILLING PIPE	1	Nos	86.44	18	102.00	107.10	112.45
129	50.610.27. 000.	CORE PLUG(M27X2) HEXAGONAL SOCKET HEAD (DIN 908)	1	Nos	81.36	18	96.00	100.81	105.85
130	DV0.069. 04.0.00	ADAPTOR { FOR FUEL PIPE)	1	Nos	81.36	18	96.00	100.81	105.85
131	DV0.007. 82.9.00	VALVE GUIDE - SEMI FINISH	1	Nos	71.09	28	91.00	95.54	100.32
132	DV0.001. 81.0.00	GROMMET SUPPORT WASHER 20.2	1	Nos	66.41	28	85.00	89.26	93.72
133	DV0.016. 09.0.00	JOINT - BETWEEN WATER PUMP HSG AND HEADER .	1	Nos	68.75	28	88.00	92.40	97.02
134	DV0.045. 30.0.00	CLAMP ASSLY FOR LEAK OFF PIPE & H.P.PIPE	1	Nos	63.28	28	81.00	85.05	89.30

135	DV0.031. 21.0.00	CLIP (FOR BREATHER PIPE)	1	Nos	68.75	28	88.00	92.40	97.02
136	DV8.032. 34.0.00	SPACER (FOR TURBO ADAPTOR)	1	Nos	64.84	28	83.00	87.14	91.50
137	DV0.033. 11.0.00	JOINT (BETWEEN MAIN AIR PIPE HORIZONTAL & VERTICAL)	1	Nos	71.19	18	84.00	88.20	92.61
138	DV0.033. 94.0.PR	RUBBER SLEEVE FOR AIR INLET PIPE FROM CAC	1	Nos	64.06	28	82.00	86.10	90.40
139	DV0.014. 14.0.00	O RING (67 DIA) FOR L.O. HEADER	1	Nos	62.71	18	74.00	77.70	81.58
140	DV0.027. 03.0.00	SPECIALSTUD (FOR STARTER)	1	Nos	62.71	18	74.00	77.70	81.58
141	DV0.014. 13.0.00	O RING (58 DIA) FOR L.O. HEADER	1	Nos	57.63	18	68.00	71.40	74.97
142	DV0.001. 16.0.00	CORE PLUG HEX.SOCKET (M24X2)	1	Nos	57.63	18	68.00	71.40	74.97
143	DV0.040. 48.0.00	CORE PLUG FOR FUEL PUMP (BOTTOM SIDE)	1	Nos	53.13	28	68.01	71.41	74.98
144	34.011.06. 0.00	RUBBER BUSH (TOP)	1	Nos	61.86	18	72.99	76.64	80.48
145	04.574.07. 0.00	CLIP FOR LUB OIL INLET PIPE	1	Nos	50.00	28	64.00	67.20	70.56
146	50.401.08. 012.	DOWEL	1	Nos	48.31	18	57.01	59.86	62.85
147	DV0.033. 13.0.00	JOINT (BET.MAIN AIR PIPE HOR+VER)	1	Nos	52.54	18	62.00	65.10	68.35
148	50.610.20. 000.	CORE PLUG HEXAGONAL SOCKET HEAD(DIN 908)	1	Nos	47.46	18	56.00	58.80	61.74
149	50.907.04. 000.	WORM DRIVE HOSE CLIP (25 MM)	1	Nos	45.76	18	54.00	56.70	59.53
150	T4.122.29 .0.00	STUD (M10X70)	1	Nos	44.07	18	52.00	54.60	57.33
151	DV0.033. 14.0.00	JOINT (BET.BEND TO AIR PIPE)	1	Nos	43.22	18	51.00	53.55	56.23
152	DV0.001. 22.0.00	GROMMET FOR 22DIA FERRULE	1	Nos	40.68	18	48.00	50.40	52.92
153	50.502.62. 000.	CIRCLIP INTERNAL - 62 MM	1	Nos	37.29	18	44.00	46.20	48.51
154	DV0.017. 07.0.00	O RING FOR DIPSTICK PLUG	1	Nos	37.29	18	44.00	46.20	48.51
155	DV0.032. 12.0.00	CLAMPING SPACER	1	Nos	38.98	18	46.00	48.30	50.71
156	DV0.042. 05.0.00	O RING (DIA. 36) FOR LUB.OIL DELIVERY TUBE	1	Nos	40.68	18	48.00	50.40	52.92
157	DV2.032. 41.0.00	SPACER 1.0.11X0.D.20X15L	1	Nos	38.14	18	45.01	47.26	49.62
158	DV0.075. 06.0.00	PLASTIC CAP (CAC OUTLET)	1	Nos	38.14	18	45.01	47.26	49.62
159	DV0.024. 08.0.00	JOINT (BET.EXH. MANI. AND EXPA. BELLOW)	1	Nos	38.98	18	46.00	48.30	50.71
160	DV0.030. 12.0.PR	ANGLE STRIP (FOR TAPPET FITTING)	1	Nos	38.14	18	45.01	47.26	49.62
161	DV0.014. 12.0.00	O RING (38 DIA) FOR L.O. HEADER	1	Nos	35.59	18	42.00	44.10	46.30
162	DV0.018. 23.0.00	RUBBER BUSH (BOTTOM)	1	Nos	38.14	18	45.01	47.26	49.62
163	3H.905.16 .0.00	RUBBER SLEEVE 27 DIA	1	Nos	33.90	18	40.00	42.00	44.10
164	50.602.14. 000.	PLUG (M14X1.5)	1	Nos	36.72	28	47.00	49.35	51.82

165	50.907.07.000.	WORM DRIVE HOSE CLIP (41 MM)	1	Nos	34.75	18	41.01	43.06	45.21
166	T4.122.33 0.00	STUD (M10 X 30)	1	Nos	32.20	18	38.00	39.90	41.89
167	3H.905.15 .0.00	RUBBER SLEEVE 16 DIA	1	Nos	30.51	18	36.00	37.80	39.69
168	50.011.10.040.	SOCKET HEAD SCREW - M10X1.5X40-8.8	1	Nos	29.66	18	35.00	36.75	38.59
169	DV0.040.53.0.00	STUD FOR PUMP MOUNTING	1	Nos	29.66	18	35.00	36.75	38.59
170	DV0.007.09.0.00	CORE PLUG (DIA 32 MM)	1	Nos	26.56	28	34.00	35.70	37.48
171	DV0.044.04.0.00	DOWEL BUSH (FOR ALT.MTG. BRACKET)	1	Nos	29.66	18	35.00	36.75	38.59
172	DV0.001.25.0.00	DISH PLUG (80 DIA)	1	Nos	29.66	18	35.00	36.75	38.59
173	03.107.05.0.00	SPACER (9X20X21L)	1	Nos	25.00	28	32.00	33.60	35.28
174	DV0.042.07.0.00	CLAMP (FOR OIL DELIVERY TUBE)	1	Nos	25.78	28	33.00	34.65	36.38
175	4H.031.07 .0.00	RUBBER SLEEVE	1	Nos	26.27	18	31.00	32.55	34.18
176	50.610.14.000.	CORE PLUG- 176 HEXAGONAL SOCKET HEAD (DIN-908)	1	Nos	26.27	18	31.00	32.55	34.18
177	DV0.041.04.0.00	GASKET (JOINT BETWEEN CENTRIFUGAL ADAPTOR AND FILTER)	1	Nos	27.97	18	33.00	34.65	36.39
178	T4.122.32 .0.00	STUD (M10X25)	1	Nos	27.97	18	33.00	34.65	36.39
179	3H.905.02 .0.00	CLIP 25 DIA FOR FLEXIBLE PIPE	1	Nos	22.66	28	29.00	30.46	31.98
180	T4.122.48 .0.00	STUD M10X40L (FOR HIGH TEMP.)	1	Nos	24.58	18	29.00	30.45	31.98
181	DV0.023.02.0.00	JOINT (MAIN AIR PIPE TO INLET MANIFOLD)	1	Nos	24.58	18	29.00	30.45	31.98
182	DV0.040.09.0.00	O RING FOR OIL SEAL HOUSING	1	Nos	24.58	18	29.00	30.45	31.98
183	02.024.04.0.00	SPRING	1	Nos	21.19	18	25.00	26.25	27.57
184	50.401.08.025.	DOWEL PIN 8X25	1	Nos	18.75	28	24.00	25.20	26.46
185	DV0.042.08.0.00	STRAP (FOR OIL DELIVERY TUBE)	1	Nos	17.97	28	23.00	24.15	25.36
186	50.401.08.016.	DOWEL PIN	1	Nos	18.75	28	24.00	25.20	26.46
187	DV0.014: 16.0.00	JOINT (FOR WATER PUMP SUCTION)	1	Nos	18.75	28	24.00	25.20	26.46
188	50.401.10.030.	DOWEL PIN	1	Nos	18.75	28	24.00	25.20	26.46
189	F6.001.58.0.00	SEALING CAP.(40 DIN 443)	1	Nos	18.75	28	24.00	25.20	26.46
190	DV0.023.03.0.00	JOINT (BET.INLET 190 MANIFOLD AND CYL HEAD)	1	Nos	21.19	18	25.00	26.25	27.57
191	50.501.30.000.	CIRCLIP EXTERNAL - 30 MM	1	Nos	18.64	18	22.00	23.09	24.25
192	34.036.50.0.00	PERFORATED DISC	1	Nos	18.64	18	22.00	23.09	24.25
193	50.006.14.000.	NUT-M14X2-GR8.8	1	Nos	18.64	18	22.00	23.09	24.25
194	DV0.001.27.0.00	PLUG (CRANKCASE OIL HOLE)	1	Nos	18.64	18	22.00	23.09	24.25

195	DV0.007. 36.0.00	OIL METERING PLUG (FOR ROCKER SUPPORT)	1	Nos	18.64	18	22.00	23.09	24.25
196	DV0.007. 34.0.00	BUTTON (FOR NOZZLE CLAMP)	1	Nos	15.63	28	20.01	21.01	22.06
197	50.011.08. 025.	SOCKET HEAD SCREW M8X1.25X25- 8.8	1	Nos	16.95	18	20.00	21.00	22.05
198	DV0.007. 03.0.00	CORE PLUG (20 MM DIA)	1	Nos	15.63	28	20.01	21.01	22.06
199	3H.905.05 .0.00	RUBBER SLEEVE FOR TEMP.SWITCH / SENSOR	1	Nos	16.10	18	19.00	19.95	20.95
200	50.080.08. 000.	NUT (SS)-M8x1.25	1	Nos	16.10	18	19.00	19.95	20.95
201	DV0.001. 21.0.00	GROMMET FOR 12 DIA FERRULE	1	Nos	15.25	18	18.00	18.89	19.84
202	F6.024.47. 0.00	O - RING FOR DRAIN PLUG	1	Nos	15.25	18	18.00	18.89	19.84
203	DV0.042. 03.0.00	JOINT (FOR DELIVERY TUBE FLANGE)	1	Nos	15.25	18	18.00	18.89	19.84
204	DV0.043. 05.0.00	JOINT (FOR SUCTION TUBE FLANGE)	1	Nos	15.25	18	18.00	18.89	19.84
205	DV0.046. 03.0.00	O RING FOR BREATHER PLATE	1	Nos	15.25	18	18.00	18.89	19.84
206	T1.001.12 .0.00	DOWEL DIA 18 (FEW)	1	Nos	12.50	28	16.00	16.80	17.64
207	DV0.046. 04.0.00	JOINT (BET. BREATER PLATE & ADAPTER)	1	Nos	13.28	28	17.00	17.85	18.74
208	DV0.001. 24.0.00	FERRULE (2201A)	1	Nos	13.28	28	17.00	17.85	18.74
209	34.011.02. 0.00	CUP FOR PR TUBE	1	Nos	13.56	18	16.00	16.80	17.64
210	T4.122.41 .0.00	NUT - M10X1.5 - GRADE 10	1	Nos	13.56	18	16.00	16.80	17.64
211	DV0.014. 17.0.00	GASKET (LUB. OIL HEADER)	1	Nos	13.56	18	16.00	16.80	17.64
212	50.010.08. 040.	STUD - M8X1.25X40 - 8.8	1	Nos	11.02	18	13.00	13.65	14.34
213	50.006.10. 000.	NUT-M10X15-GR.8	1	Nos	11.02	18	13.00	13.65	14.34
214	50.006.12. 000.	NUT - M12X1.75 - GR8	1	Nos	11.02	18	13.00	13.65	14.34
215	50.006.08. 000.	NUT- M8X1.25 - GR.8	1	Nos	11.02	18	13.00	13.65	14.34
216	DV0.001. 23.0.00	FERRULE (12DIA)	1	Nos	10.94	28	14.00	14.70	15.44
217	34.001.35. 0.00	PRECOATED PLUG (FOR OIL GALLERY)	1	Nos	10.94	28	14.00	14.70	15.44
218	50.011.06. 016	SOCKET HEAD SCREW - M6X1X16-8.8	1	Nos	9.32	18	11.00	11.55	12.12
219	DV0.032. 06.0.00	JOINT (FOR FLANGE) FOR T/CLUB OIL OUTLET PIPE	1	Nos	11.02	18	13.00	13.65	14.34
220	10.027.02. 0.00	LEAD SEAL : (5945010300)	1	Nos	8.59	28	11.00	11.54	12.12
221	50.401.07. 012.	DOWEL PIN	1	Nos	8.59	28	11.00	11.54	12.12
222	50.011.08. 035.	SOCKET HEAD SCREW - M8X1.25X35 - 8.8	1	Nos	8.47	18	9.99	10.49	11.02
223	34.001.23. 0.00	DOWEL FOR GEAR CASING	1	Nos	7.03	28	9.00	9.45	9.92
224	02.036.03. 0.00	RUBBER SLEEVE	1	Nos	8.47	18	9.99	10.49	11.02

225	4H.781.11 .000	NYLON NUT FOR JCB LOGING (M8X1.25)	1	Nos	8.47	18	9.99	10.49	11.02
226	4H.132.27 .000	JOINT FOR ADAPTOR (TURBO SIDE)	1	Nos	7.03	28	9.00	9.45	9.92
227	T4.122.39 .000	NUT - M8X1.25- GRADE 10	1	Nos	5.08	18	5.99	6.29	6.61
228	08.021.02. 0.00	JOINT FOR FEED PUMP	1	Nos	4.69	28	6.00	6.30	6.62
229	10.046.02. 0.00	P K DRIVE SCREW 1/8"X3/8" (RIVET)	1	Nos	2.34	28	3.00	3.14	3.30
230	DV0.999. 40.0.5P	RADIATOR MOTOR	1	Nos	135243.75	28	173112.00	181767.60	190855.98
231	DV0.999. 73.0.5P	VENTILATION BLOWER MOTOR	1	Nos	49013.56	18	57836.00	60727.80	63764.19
232	DV0.858. 05.0.00	GENSET CONTROLLER KG 745 TYPE-DSE 7320 MK II (7320-A3)	1	Nos	39488.14	18	46596.01	48925.81	51372.10
233	DV0.918. 70.0.PR	ENGINE WIRING HARNESS ASSEMBLY FOR DV10 ENGINE (WITH PKC CONDUIT &T)	1	Nos	40958.47	18	48330.99	50747.54	53284.92
234	DV0.921. 10.0.PR	GENSET PANEL TO REMOTE PANEL HARNESS	1	Nos	20507.63	18	24199.00	25408.95	26679.40
235	DV0.921. 20.0.PR	ENGINE CONTROL ALTERNATOR C.T.HARNESS	1	Nos	7387.29	18	8717.00	9152.85	9610.49
236	DV0.921. 30.0.PR	REMOTE PANEL TO RAILWAY MAIN PANEL HARNESS	1	Nos	10752.54	18	12688.00	13322.40	13988.52
237	DV0.921. 40.0.PR	GENSET PANEL TO EXPANSION MODULE- DSE2157 COMMUNICATION HARNESS	1	Nos	17155.08	18	20242.99	21255.14	22317.90
238	DV0.918. 80.0.PR	WIRING HARNESS FOR TEMP. SENSOR CONN.	1	Nos	16631.36	18	19625.00	20606.26	21636.57
239	DV0.808. 216.0.PR	CLAMP FOR ENGINE HARNESS	1	Nos	141.41	28	181.00	190.06	199.56
240	DV0.808. 224.0.PR	DIGITAL FUEL FLOW METER	1	Nos	76974.58	18	90830.00	95371.50	100140.08
241	DV0.806. 96.0.PR	KENT FUEL FLOW METER	1	Nos	76716.95	18	90526.00	95052.30	99804.92
242	DV0.807. 111.0.00	EXPANSION MODULE DG ROOM	1	Nos	37161.02	18	43850.00	46042.50	48344.63
243	02.991.33. 0.00	EXPANSION MODULE PANEL ROOM	1	Nos	19678.81	18	23221.00	24382.05	25601.15
244	DV0.861. 14.0.PR	RADIX SENSOR	1	Nos	10200.85	18	12037.00	12638.85	13270.80
245	DV0.921. 70.0.PR	PIG TAIL	1	Nos	1512.71	18	1785.00	1874.25	1967.96
246	F6.863.17. 0.00	RELAY BOARD 2.5 CHANEL UL MAKE 40 AMP & 24 VDC	1	Nos	2253.39	18	2659.00	2791.95	2931.55
247	2H.855.02 .000	MCB SINGLE POLE 32 AMP	1	Nos	482.20	18	569.00	597.45	627.32
248	F6.860.11. 0.00	RELAY 24 VDC100A BAGLA MAKE	1	Nos	465.25	18	549.00	576.44	605.27
249	6H.880.41 .000	ON/OFF SELECTOR SWITCH	1	Nos	633.05	18	747.00	784.35	823.57
250	6H.880.43 .000	EMG. STOP WITH NC ELEMENT	1	Nos	393.22	18	464.00	487.20	511.56
251	2H.881.05 .000	1 AMP SINGLE POLE MCB	1	Nos	1086.44	18	1282.00	1346.10	1413.40

252	06.M801.17.0.00	6A 1 POLE MCB	1	Nos	474.58	18	560.00	588.00	617.40
253	4H.1062.11.0.00	120 OHM 1/4 WATT MFR TYPE RESISTANCE	1	Nos	18.64	18	22.00	23.09	24.25
254	DV0.808.46.0.PR	AVM FOR RAIDATOR BACK SIDE	1	Nos	937.29	18	1106.00	1161.30	1219.37
255	F6.537.02.0.00	STARTER RING	1	Nos	3049.15	18	3598.00	3777.90	3966.79
256	DV0.014.01.0.00	DIL COOLER	1	Nos	29021.09	28	37147.00	39004.34	40954.56
257	F6.741.26.0.PR	DUAL O/P MPU MAKE-UNITECH	1	Nos	2467.80	18	2912.00	3057.60	3210.48
258	DV0.998.13.0.SP	METERING CT ASSEMBLY	1	Nos	17163.56	18	20253.00	21265.65	22328.93
259	DV0.998.16.0.SP	DIODE ASSEMBLY	1	Nos	28207.63	18	33285.00	34949.25	36696.72
260	DV0.998.17.0.SP	METERING CT NEUTRAL	1	Nos	4509.32	18	5321.00	5587.05	5866.40
261	DV0.998.19.0.SP	FUSE F1	1	Nos	5700.85	18	6727.00	7063.35	7416.52
262	DV0.998.20.0.SP	BRIDGE RECTIFIER DIODE	1	Nos	17803.39	18	21008.00	22058.40	23161.32
263	DV0.998.23.0.SP	CONTACTOR (K3) 24V	1	Nos	23803.39	18	28088.00	29492.40	30967.02
264	DV0.998.24.0.SP	FUSE F2	1	Nos	5700.85	18	6727.00	7063.35	7416.52
265	DV0.998.01.0.SP	AVR	1	Nos	253561.86	18	299202.99	314163.14	329871.30
266	DV0.998.02.0.SP	Compounding Transformer	1	Nos	104100.00	18	122838.00	128979.90	135428.90
267	DV0.998.05.0.SP	Rheostat	1	Nos	18275.42	18	21565.00	22643.25	23775.41
268	DV0.998.08.0.SP	Relay 1 (K1)	1	Nos	26808.47	18	31633.99	33215.69	34876.48
269	DV0.998.09.0.SP	Relay 2 (K2)	1	Nos	28631.36	18	33785.00	35474.26	37247.97
270	2H.881.07.0.PR	0.5 AMP SINGLE Pole MCB	1	Nos	1115.25	18	1316.00	1381.79	1450.88
271	02.974.37.0.00	SINGLE POLE MCB 10A	1	Nos	446.61	18	527.00	553.35	581.02
272	4H.5460.58.0.00	MCB 1POLE 4 AMPS	1	Nos	751.69	18	886.99	931.34	977.91
273	4H.5460.56.0.00	MCB 1POLE 20 AMPS	1	Nos	446.61	18	527.00	553.35	581.02
274	3H.5960.33.0.00	MCB 2POLE 2 AMPS	1	Set	1754.24	18	2070.00	2173.50	2282.18
275	DV0.999.33.0.SP	Exciter Stator	1	Nos	61744.07	18	72858.00	76500.90	80325.95
276	DV0.801.37.0.SP	OVER VOLTAGE PROTECTION UNIT	1	Nos	130511.86	18	154003.99	161704.19	169789.40
277	DV0.027.13.0.PR	STARTER RDSO	1	Nos	95361.72	28	122063.00	128166.15	134574.46
278	DV0.861.13.0.PR	DG COMPARTMENT TEMP SENSOR	1	Nos	10610.17	18	12520.00	13146.00	13803.30
279	DV0.807.48.0.PR	AIR FLOW PADDLE SWITCH	1	Nos	26926.56	28	34466.00	36189.30	37998.76
280	4H.508.08.0.00	TEMPERATURE SENSOR TFW FOR 4K1080TAE (122.1kW@ 2500RPM) CEV3 (PARTNO : 0 281 002 209 653)	1	Nos	1034.75	18	1221.01	1282.06	1346.16
281	DV0.861.12.0.PR	FRESH AIR IN TEMPRATURE SENSOR (TYPE: RTD WITH Ms 3102R 10SL - 3P CONNECTOR ADJUSTABLE	1	Nos	8000.00	18	9440.00	9912.00	10407.60

		FITTING: M14X1.5) MAKE: RADIX							
282	DV0.861. 13.0.PR	DG COMPARTMENT(COACH) TEMPERATURE SENSOR	1	Nos	10610.17	18	12520.00	13146.00	13803.30
283	DV0.861. 14.0.PR	EXHAUST TEMPERATURE SENSOR (K- THERMOCOUPLE WITH OMEGA MAKE SOCKET-OSTW-K-F ADJUSTABLE FITTING:M14x1.5), MAKE: RADIX	1	Nos	10200.85	18	12037.00	12638.85	13270.80
284	3H.153.21 .0.00	RADIATOR DRAIN VALVE	1	Nos	414.41	18	489.00	513.45	539.13
285	DV0.998. 33.0.SP	RADIATOR FAN FOR 5029 MODEL	1	Nos	45846.09	28	58683.00	61617.14	64698.00
286	DV0.998. 35.0.SP	RADIATOR FAN FOR 504550465047 MODEL	1	Nos	48082.03	28	61545.00	64622.25	67853.36
287	DV0.016. 60.0.00	WATER PUMP ASSEMBLY	1	Nos	15306.25	28	19592.00	20571.60	21600.18
288	DV0.061. 18.0.PR	AVM FOR 500KVA RDSO PROJECT	1	Nos	7703.39	18	9090.00	9544.50	10021.73
289	DV0.807. 03.0.PR	AVM OF RADIATOR FOR 500KVA RDSO PROJECT	1	Nos	7318.64	18	8636.00	9067.79	9521.18
290	48.213.08. 0.00	ANTI VIBRATION	1	Nos	324.58	18	383.00	402.15	422.26
291	DV0.025. 18.0.00	OIL SEAL FLYWHEEL END	1	Nos	1172.03	18	1383.00	1452.15	1524.75
292	DV0.807. 261.0.SP	POWER CAR GENSET COUPLING RUBBER ELEMENT	1	Nos	51660.17	18	60959.00	64006.95	67207.30
293	DV8.032. 31.0.00	LEFT BANK TURBOCHARGER (VIEWED FROM FLYWHEEL) FOR DV8 ENGINE	1	Nos	51782.20	18	61103.00	64158.15	67366.05
294	DV8.032. 32.0.00	RIGHT BANK TURBOCHARGER VIEWED FROM FLYWHEEL) FOR DV8 ENGINE	1	Nos	50277.97	18	59328.00	62294.40	65409.13
295	DV2.050. 13.0.PR	MECHANICAL INJECTOR WITH SIDE FUEL ENTRY	1	Set	16319.53	28	20889.00	21933.45	23030.12
296	DV2.008. 10.0.00/ DV2.050. 01.0.00	INJECTOR ASSLY	1	Set	7200.78	28	9217.00	9677.85	10161.74
297	DV0.016. 08.0.00	BELTV SECTION (BX 58 - PITCH LENGTH 1520)	1	Set	3051.69	18	3600.99	3781.04	3970.10
298	DV8.007. 18.0.PR	BRIDGE FOR ROCKER LEVER	1	Nos	443.75	28	568.00	596.40	626.22
299	DV0.007. 60.0.00	ASSLY. ROCKER LEVER	1	Set	4233.59	28	5419.00	5689.94	5974.44
300	02.022.28. 0.00	VALVE CLLET (3- GROOVE)	1	Nos	15.63	28	20.01	21.01	22.06

301	82.170.50. 0.50	GENSER ALTERNATOR DE/NDE BEARING GREASE FOR POWER CAR APPLICATION.	1	Nos	3474.58	18	4100.00	4305.00	4520.25	
	TOTAL Rs.							4577528.65	4806405.08	
	AVERAGE OF 2025-26 & 2026-27 TOTAL Rs.							4691966.868		
Total Cost of conditional spares for CPCB I & II Diesel Engines with pegging cost of 40% for 09 Engines (for 2 years) Rs.								16891080.73		

ANNEXURE - "B"**SW-08: Supply and provision of Alternator spares on conditional basis**

S No	Description	Quantity	Unit	Rate	Amount
1	Supply and provision of KEC make AVR	1	Each	115334	115334
2	Supply and provision of RRA kit KEC make	1	Each	23656.6	23656.6
3	Supply and provision of CG make AVR-UVR (750V) Part No.361260013	1	Each	16170.7	16170.7
4	Supply and provision of RRA kit (diode board assembly) of CG make. Part No.60092495	1	Each	14851.5	14851.5
5	Supply and provision of KEL make AVR unit	1	Each	30755.5	30755.5
6	Supply and provision of RRA kit (diode board assembly) of KEL make.	1	Each	13299.8	13299.8
7	Supply and provision of KEC make Compounding transformer with 'H' & 'D' windings	1	Each	151293	151293
8	Supply and provision of KEC make 3Ø Bridge rectifier, 25 Amps 1600 p14	1	Each	28278.7	28278.7
9	Supply and provision of KEC make Control transformer 415/18V-0V-18V, 0-25V, 5VA	1	Each	23289.7	23289.7
10	Supply and provision of CG make OVR	2	Each	14852.7	29705.3
11	Supply and provision of KEL make OVR	1	Each	45779.3	45779.3
12	Supply and provision of KEC make OVR	1	Each	76354.3	76354.3
13	Supply and provision of AVR of Stamford make(MX321)	8	Each	60749.9	486000
14	MDL (Modular) OVM (Over Voltage Module) 3 Ph suitable for Stamford make Alternator of 500 KVA 750 V LHB power car DA set.	8	Each	169205	1353639
15	Isolation Transformer / BRKITASY for 500 kVA 750 V 3-phase alternator in LHB power car	8	Each	34808.8	278471
16	Supply and provision of AVR of Leroy Somer make alternator fitted in KOEL make DA set. AVR SD-02 (Nidec part no. AG418087)	1	Each	280845	280845
17	Diode assembly (NIDEC PART NO. AG418099) (RRA) for 500 kVA 750 V Leroy Somer make alternator in KOEL make DA set	1	Each	35037.7	35037.7
Amount Rs.					3002761
Add MV @ 10% on the previous LOA rates Rs.					300276.10
Total Rs.					3303037.10
Pegging cost @ 50% of total amount Rs.					16,51,518.55

Note : (i) The quantities of the above items are indicative but not exhaustive. The quantities may be changed During the course of execution (due to operating constraint).

SW-09 (1) : Supply and servicing of motors & ACBs (for DG set) required on conditional basis

SN	Description	Qty	Rate	Amount
1(a)	Charges for Repair and rewinding of 30 KW/40 HP, 1470 RPM, AC induction foot mounted motor of 3 phase 415 V, 50 Hz, ABB make, 54 A, A x 200 m with F class insulation, providing fiber glass lead wires, Varnishing and baking providing lugs, providing final finishing varnish bectol red complete cleaning, greasing, fitting, testing, commissioning after repairs and painting etc., complete.	5	34951.03	174755.17
(b)	DE/NDE (both sides) sides bearing opening hydraulic machine and re-fixing (OIL both type) oil including servicing for 40 HP motor.	5	2628.71	13143.55
(c)	Replacement of new bearing (DE/NDE) sides for 40HP motor.	5	4365.53	21827.64
2(a)	Charges for Repair and rewinding of 5.5kw/7.5HP, 1440 RPM, AC induction foot mounted motor of 3phase 415V, 50 Hz, ABB make, 10.2A, Hx132SMC4 with F class insulation, providing fiber glass lead wires, Varnishing and baking providing lugs, providing final finishing varnish bectol red complete cleaning, greasing, fitting, testing, commissioning and painting etc., complete.	5	8394.68	41973.43
(b)	DE/NDE (both sides) sides bearing opening hydraulic machine and re-fixing (OIL bath type) oil including servicing for 7.5HP motor.	5	1679.15	8395.76
(c)	Replacement of new bearing (DE/NDE) sides for 7.5HP motor	5	2410.89	12054.46
3	Yearly Servicing/ overhauling of 800A ACB'S of ABB Make	78	5364.70	418446.97
4	Yearly Servicing/ overhauling of 800A ACB'S of L&T Make	78	4701.63	366726.93
5	Servicing/ overhauling of Self starter motor of Lucas TVS Make / REIL make	5	1126.59	5632.96
6	Rewinding, Servicing/ overhauling of Self starter motor of Lucas TVS Make / REIL make	5	17907.37	89536.86
7	Rewinding of 500KVA alternators includes Main stator winding, and necessary servicing to Exciter stator, Exciter rotor, Main rotor etc.- Notes: (i) The cost of this item is inclusive of taking down the alternator from DG set assembly carefully, loading / unloading, transportation from site to authorized workshop and back. (ii) The winding wires and insulation used shall be of identical size / insulation class as per the existing original winding materials. Re-winding shall be carried out on all winding coils of the alternator stator and the old retrieved materials will be the property of the contractor. Contractor should quote his rates considering the above factors. (iii) Scope of repairs / re-winding for all motors / alternators includes final testing and commissioning of equipment after the repairs to the entire satisfaction of the Engr-in-Charge.	5	189286.5	946432.75
			Amount Rs.	2098926.49
			Add MV @ 10% on the previous LOA rates Rs.	209892.65
			Total Rs.	23,08,819.14
			Pegging Cost @ 50% Rs.	11,54,409.57

SW-09 (2) : Misc. Items for Electrical Works required on conditional basis

Sl No	Description	Qty	Rate	Amount
01	Multi-function meter with user programmable, CT/PT, ratio 5A or 01 A CT, Input voltage 100-600V, L-L, Aux supply 12-48V DC, 3 line 4 digits LCD / LED, size 96 x 96mm flush mounting as per RCF spec NoEDTS-103, REV-D, AM-4	1	5057.78	5057.78
02	Under voltage release 220V -240V 50H CAT NO YU-1SDA038312R1 FOR ABB make ACB model SACE - E2	1	6613.17	6613.17
03	Under voltage release type - MV, 240V AC CAT No SL92720B000, Suitable for L&T MAKE ACB Model No CN-CS-800C	1	4431.90	4431.90
04	3 Pole fixed type manual drawn thermal magnetic, DN1, 800A ACB CAT NO.SL95482 L&T Make, Model No.CN-CS800C	1	83698.79	83698.79
05	Fully automatic star delta starter in sheet steel enclosure with contactors, timers with MBCP Range 45-63A 3 Phase 415 V AC as per RCF Spec No.EDTS114, REV-B	1	41196.75	41196.75
06	Set of voltmeter DC 0-40V Size 72X72 mm and ammeter DC 0-75A, FSD-75 MV Size 72X72 mm for starter battery charger	1	975.72	975.72
07	Set of 3 line digital display AC frequency meter I/P 0-800 V, 45-65 HZ, Aux supply 12-48 V DC and 3 line digital display AC ammeter input 1\5A, Aux supply 12-48 V DC size 96X96 mm as per RCF Spec No EDTS 103 REV D, AM-4 or latest.	1	4913.26	4913.26
08	1NC Add ON Block as SIEMENS Part No. 3TX4001-2A	1	166.24	166.24
09	Push button RED with element 1NC as per SIEMENS part No. 3SB 5000- 0AC01+3SB5400-0C	1	166.24	166.24
10	Push button green with element 1NO as per SIEMENS part No 3SB 5000-0AE01+3SB5400-0B	1	166.24	166.24
11	PR 121/ P-LSIG Release, 3P/4P, W(MP), 1SDA058195R1, suitable for ABB MAKE ACB 1250A, 3P	1	40815.14	40815.14
12	Neutral contactor 40 A with 3 poles in panel and coil voltage 440V as per RCF spec No EDTS 103 REV D, AM-4	1	11419.45	11419.45
13	Motor protection circuit breaker, 3 pole 63A rated voltage 415 V tripping range 40-63 A for radiator motor as per RCF spec No. EDTS 114/REV B or latest	1	16478.70	16478.70
14	Feeder over load relay for feeder 1 & 2 for power car as per RCF spec No. EDTS 103, REV-D, AM-4 or latest.	1	20155.98	20155.98
15	Earth leakage relay for feeder and alternator for power car as per RCF spec No. EDTS 103, REV-D, AM- 4 or latest	1	10263.05	10263.05
16	Feeder contactor 3 POLE, 630 A 3 PH, 1 KV, Control voltage 440 V plus or minus 10%, 50 HZ with 4NO + 4NC Make ABB model AF 750-30-11 with aux contacts as per RCF spec No. EDTS 103, REV-D, AM-4 or latest	1	100462.25	100462.25

17	Contactora coil set 250-500 V AC 50/60 HZ, suitable for ABB make contactor AF750-30-11 part No. ZAF- 750-71 order code 1SFN 156170R7106	1	51842.86	51842.86
18	ABB make contactor kit suitable for contactor type AF750-30-11, contact kit type ZL750	1	62445.60	62445.60
19	Uitenic timer star delta of SIEMENS make order No. 3RP1576-1NP30-8K for star delta starter for power car	1	2464.58	2464.58
20	Earth fault release type EF1(10%, 20% In) CAT No. SL913400000 suitable for L&T make ACB model No. CN-CS- 800C	1	4087.87	4087.87
21	Digital voltmeter with LED display size 96X96 mm 0-800V AC , CL1, Aux supply 12-48-V AC/DC 4 digit 3 line for power car as per RCF spec No. EDTS 103, REV-D, AM-4 or latest	1	2000.52	2000.52
22	Contactora 12 A, 3 P, 1 NO + 1 NC, 415 V AC SIEMENS part No. 3TF3110-0AP0 for power car as per EDTS 114 REV B	1	1034.98	1034.98
23	Contactora 32 A, 3 P, 1 NO + 1 NC, 415 V AC SIEMENS part No. 3TF3400-0AP0 for power car as per EDTS 114 REV B	1	2312.80	2312.80
24	Contactora 50 A, 3 P, 1 NO + 1 NC, 415 V AC for power car as per EDTS 114 REV B	1	3793.73	3793.73
25	Auxiliary contactora with diode for S2 K08, S2K09, ABB Make Model No. TKC6-22Z-F RC7/127 24V DC for power car as per RCF spec No. EDTS103, REV-D, AM-4 or latest	1	8094.80	8094.80
26	Auxiliary contactora with diode for S2 K15, S2K18, ABB make Model No. TKC44E RC7/127 24V DC for power car as per RCF spec No. EDTS103, REV-D , AM-4 or latest	1	8195.99	8195.99
27	Auxiliary contactora with diode for S2 K16, S2K19, ABB make model No. TCB 7-30-71, RC7/127 24V DC for power car as per RCF spec No. EDTS103, REV-D , AM-4 or latest	1	7039.59	7039.59
28	Auxiliary contactora with diode for SIEMENS part No.3RH 2131-1BB4024V DC for power car as per RCF spec No. EDTS103, REV-D , AM-4 or latest	1	1630.52	1630.52
29	Alternator / feeder earth leakage relay	1	4373.88	4373.88
30	Under voltage relay	1	4373.88	4373.88
31	Motor protection circuit breaker, 3 Pole 16 A ventilation motor SIEMENS part No. 3VU1340- 0ML00 as per RCF spec No. EDTS 114/REV B or latest	1	4481.05	4481.05
32	HRC fuse 6 A, 80 KA, 500 V AC, NS type conforming to IS-13703	1	39.03	39.03
33	HRC fuse 10 A, 80 KA, 500 V AC, NS type conforming to IS-13703	1	48.05	48.05
34	Plant selector switch as per SALZER (L&T) MODEL No.16A-S16- 61121-B03-TDYR 16 A, 440 AC, 4 Pole,4 position, 4 way NO OFF rotary switch	1	855.74	855.74
35	DC isolating switch 25 A, 110 V DC, 2 pole ON /OFF as per SALZER (L&T) model No. 61198CEB03FHYR	1	516.05	516.05

36	Contactora 3 pole, 24 V DC, 50 A suitable for starter battery charging control panel in power car as per RCF spec No. EDTS - 116, REV A or latest	1	8673.00	8673.00
37	Starting battery charger 24 V DC, 50 A conforming to RCF spec No. EDTS- 106 or latest for power car	1	34402.90	34402.90
38	Emergency push button non-illuminated stay put mushroom actuator with 1 NO + INC	1	361.38	361.38
39	Material and labour for dismantling, taking down the main rotor of the alternator, 500 KVA capacity, any make, transportation to workshop, cutting and removing the old short-circuited rotor winding and providing new winding using double insulated resin taped copper strip of identical size / shape as per the existing and providing H-class insulation, sleeves, leads, tape, baking varnishing, epoxy gel etc, complete including re-assembling, testing and commissioning all as specified.	1	396480.00	396480.00
40	Material and labour for dismantling, taking down the Exciter rotor of the alternator, 500 KVA capacity, any make, transportation to workshop, cutting and removing the old short-circuited rotor winding and providing new winding using copper wire/strip of identical size / shape as per the existing and providing F-class insulation, sleeves, leads, tape, baking varnishing, epoxy gel etc, complete including re-assembling, testing and commissioning all as specified.	1	26196.00	26196.00
Amount Rs.				9,82,725.44
Add MV @ 10% on only to the previous LOA rates (on Rs. 5,60,049.44 i.e. from SI Nos 01 to 38) Rs.				56004.94
Total Rs.				10,38,730.38
Pegging Cost @ 100% Rs.				10,38,730.38

LIST OF PARTS IN "B" CHECK & "C" CHECK SCHEDULE KITS**KOEL Make Engine Model No-DV8 ETA4G3 (CPCV - 4+)**

SN	Part No	Part Name	Quantity/Engine
B- CHECK SCHEDULE			
1.	82.020.35.1.05	KIRLOSKAR CARE GENUINE COOLANT PREMIX- 5 LITRE CAN	03
2.	DV0.014.67.0.00	LUBE OIL FILTER BY PASS SPIN ON	01
3.	DV0.014.72.0.PR	LUBE OIL FILTER-FULL FLOW-SPIN ON KIRLOSKAR LOGO REVERSAL APPLICATION	01
4.	DV8.072.108.0.00	FINAL FILTER CARTRIDGE	01
5.	6H.508.04.0.PR	PRE FUEL FILTER	01
6.	DV0.999.40.0.00	CENTRIFUGAL FILTER SERVICE KIT FOR DV	01
7.	DV0.506.115.0.PR	ASSEMBLY UNIT FOR AIR FILTER PRIMARY AND SECONDARY	01
8.	5H.085.16.0.SP	UREA FILTER	02
9.	5H.085.21.0.SP	SUCTION CONNECTION PIECE	02
10.		LUBE OIL CI4+ Grade 15W40 (50 LTR)	01
C- CHECK SCHEDULE			
1.	DV8.072.108.0.00	FINAL FILTER CARTRIDGE	01
2.	DV0.999.40.0.00	CENTRIFUGAL FILTER SERVICE KIT FOR DV	01
3.	DV0.506.115.0.PR	ASSEMBLY UNIT FOR AIR FILTER PRIMARY AND SECONDARY	01
4.		LUBE OIL CI4+ Grade 15W40 (50 LTR)	03
5.	82.020.35.1.05	KIRLOSKAR CARE GENUINE COOLANT PREMIX 5 LITRE CAN	01
6.	DV0.014.67.0.00	LUBE OIL FILTER BY PASS SPIN ON	01
7.	DV0.014.72.0.PR	LUBE OIL FILTER-FULL FLOW-SPIN ON KIRLOSKAR LOGO REVERSAL APPLICATION	01
8.	6H.508.04.0.PR	PRE FUEL FILTER	01
9.	DV2.016.02.0.00	V BELT 2JBX58 PITCH LENGTH 1550	01
10.	DV2.067.26.0.PR	GASKET (FOR ROCKER COVER)	08
11.	5H.085.21.0.SP	SUCTION CONNECTION PIECE	02
12.	5H.085.16.0.SP	UREA FILTER	02
13.	82.060.10.0.92	RUST BUSTER	01

Note: The list of parts is not exhaustive. Any additions / omissions of items / specifications as required in future as per the directives of RB/RDSO will be applicable to the above list.

MAINTENANCE SCHEDULES OF DIESEL ENGINES FOR KILOSKAR ENGINE LTD. (KOEL) MAKE

CPCB-4+ Engine

KOEL Diesel Engines (CPCB-4+) Maintenance Schedules Periodicity are as under:

Make	A	B	C	D	E
M/s Kirloskar Engine Ltd. (KOEL)	Every Round Trip	12 Months or 500 Hrs.	36 Months or 1500 Hrs.	72 Months or 6000 Hrs.	On condition basis

MAINTENANCE SCHEDULES ACTIVITY (CPCB-4+) Engine

S.N.	Equipment/Maintenance Activity	A Check	B Check	C Check	D Check
1.	Intake System				
I.	Check air cleaner Restriction/ Vacuum indicator. If it is red, replace outer element	√	√	√	R
II.	Ensure availability of Dust Evacuator Tube & its condition	√	√	√	√
III.	Check & Replace all rubber hoses and clamps	--	√	√	R
IV.	Replace the air cleaner Outer and Inner element	--	--	R	R
V.	Servicing & calibration of Turbo charger along with replacement of requisite parts	--	--	--	√
2.	Exhaust System				
I.	Check DEF level, Top up if required.(DEF as per ISO - 22241-1)	√	√	√	√
II.	Check DEF for leakage from hoses and joints	√	√	√	√
III.	Check DEF line pipes for no damage and proper routing	√	√	√	√
IV.	Check mounting and connectors of EGT (Exhaust Gas Treatment System)	√	√	√	√
V.	Check for Exhaust Gas Leakage	√	√	√	√
VI.	Check mounting, connectors Dosing module and supply module	√	√	√	√
VII.	Check for DEF Sedimentation in DEF tank and Dosing Module	--	√	√	√
VIII.	Clean DEF tank strainer filter	--	√	√	√
IX.	Replace the DEF tank filter and supply module filter	--	√	√	√
X.	Perform De-sox	--	√	√	√
XI.	Check exhaust bellow condition.	--	√	√	√
XII.	Check and adjust valve clearance for Intake /Exhaust valve	--	--	√	√
XIII.	Replace DEF tank vent line with filter	--	--	--	√

S.N.	Equipment/Maintenance Activity	A Check	B Check	C Check	D Check
XIV.	Replace DEF tank strainer filter	--	--	--	√
3.	Fuel system				
I.	Check fuel level	√	√	√	√
II.	Drain Water from Fuel Water Separator	√	√	√	√
III.	Check and arrest the leakage in fuel lines and banjo joints	√	√	√	√
IV.	Check the flexible fuel pipe / hoses conditions	--	√	√	√
V.	Replace Pre Fuel Filter Cartridge (water separator)	--	R	R	R
VI.	Replace the fuel filter/element	--	R	R	R
VII.	Servicing of centrifugal filter along with replacement of requisite parts	--	√	√	√
VIII.	Servicing of feed pump along with replacement of requisite parts	--	--	--	√
4.	Lubricating system				
I.	Check for oil leakage	√	√	√	√
II.	Check the oil level, Top up, when oil level reaches low mark	√	--	--	--
III.	Replace Lube Oil	--	R	R	R
IV.	Replace the lube oil filter	--	R	R	R
5.	Cooling System				
I.	Check for leakage (hoses condition, clamp tightness)	√	√	√	√
II.	Visual check Belt / V-Belt for any damages	√	√	√	√
III.	Check Match weld coupling of cooling system & Replace if required	--	√	√	√
IV.	Check & Adjust the V-belt tension	--	√	√	√
V.	Check the radiator core earthing Connection	--	√	√	√
VI.	Check residual voltage in engine coolant	--	√	√	√
VII.	Check Water pump weep hole and coolant leakage	--	√	√	√
VIII.	Check the radiator & hoses	--	√	√	√
IX.	Check and replace RFR, If required	--	√	√	√
X.	Check and clean Charge Air Cooler fins	--	√	√	√
XI.	Check and ensure proper coolant Ph value,	--	√	√	√
XII.	Replace V-Belts	--	--	R	R
XIII.	Replace the Coolant	--	--	--	R
6.	Engine operation				
I.	Ensure battery charging system is functioning	√	√	√	√
II.	Check gen set safety system	--	√	√	√
III.	Servicing of Cylinder Head	--	--	--	√

S.N.	Equipment/Maintenance Activity	A Check	B Check	C Check	D Check
7.	Electrical System				
I.	Check earthing Connections	--	√	√	√
II.	Servicing & repairing of Self starter.	--	--	--	√
8.	Miscellaneous Items				
I.	Check operation Emergency stop switch	√	√	√	√
II.	Check operation and visual inspection of controller unit	√	√	√	√
III.	Check Fault codes on controller screen	√	√	√	√
IV.	Check and tighten all external fasteners	--	√	√	√
V.	Replace all Hoses & their Clamps / Clips	--	--	--	R

Note: The Maintenance schedule activities as listed above are subject to changes as per the latest or future guidelines issued by RB/RDSO. The contractor is liable for timely implementation of any such changes in the maintenance schedules as directed.

CPCB-2 Engine

KOEL Diesel Engines (CPCB-2) Maintenance Schedules Periodicity are as under:

Make	A	B	C	D	E
M/s Kirloskar Engine Ltd. (KOEL)	Every Round Trip	12Months or 500Hrs.	36Months or 1500Hrs.	72Months or 6000Hrs.	On condition basis

MAINTENANCE SCHEDULES ACTIVITY (CPCB-2) Engine

S.N.	Equipment/Maintenance Activity	A Check	B Check	C Check	D Check
1.	Intake System				
I.	Check air cleaner Restriction / Vacuum indicator. If it is red replace outer element	√	√	√	R
II.	Ensure availability of Dust Evacuator Tube & its condition	√	√	√	√
III.	Check & Replace all rubber hoses and clamps	--	√	√	R
IV.	Replace the air cleaner Outer and Inner element	--	--	R	R
V.	Servicing & calibration of Turbo charger along with replacement of requisite parts	--	--	--	√
2.	Exhaust System				
I.	Check exhaust bellow condition.	--	√	√	√
II.	Check and adjust valve clearance for Intake / Exhaust valve	--	--	√	√
3	Fuel system				
I.	Check fuel level	√	√	√	√
II.	Drain Water from Fuel Water Separator	√	√	√	√
III.	Check and arrest the leakage in fuel lines and banjo joints	√	√	√	√
IV.	Check the flexible fuel pipe / hoses conditions	--	√	√	R
V.	Replace Pre Fuel Filter Cartridge (water separator)	--	R	R	R
VI.	Replace the fuel filter / element	--	R	R	R
VII.	Servicing of centrifugal filter along with replacement of requisite parts	--	√	√	√
VIII.	Servicing & calibration of Fuel pump along with replacement of requisite parts	--	--	--	√
IX.	Servicing & calibration of Injector assembly along with replacement of requisite parts	--	--	--	√
X.	Servicing of feed pump along with replacement of requisite parts	--	--	--	√
4.	Lubricating system				

S.N.	Equipment/Maintenance Activity	A Check	B Check	C Check	D Check
I.	Check for oil leakage	√	√	√	√
II.	Check the oil level, Top up, when oil level reaches low mark	√	--	--	--
III.	Replace lube oil	--	R	R	R
IV.	Replace the lube oil filter	--	R	R	R
5.	Cooling System				
I.	Check for leakage (hoses condition, clamp tightness)	√	√	√	√
II.	Visual check Belt / V-Belt for any damages	√	√	√	√
III.	Check Match weld coupling of cooling system & Replace if required	--	√	√	√
IV.	Check and ensure proper coolant Ph value,	--	√	√	√
V.	Check & Adjust the V-belt tension	--	√	√	√
VI.	Check the radiator core earthing Connection	--	√	√	√
VII.	Check residual voltage in engine coolant	--	√	√	√
VIII.	Check Water pump weep hole and coolant leakage	--	√	√	√
IX.	Check the radiator & hoses	--	√	√	√
X.	Check and replace RFR, If required	--	√	√	√
XI.	Replace V-Belts	--	--	R	R
XII.	Check & clean charge air cooler fins	--	--	√	√
XIII.	Replace the coolant	--	--	--	R
6.	Engine operation				
I.	Ensure battery charging system is functioning	√	√	√	√
II.	Check gen set safety system	--	√	√	√
III.	Servicing of Cylinder Head	--	--	--	√
7.	Electrical System				
I.	Check earthing Connections	--	√	√	√
II.	Servicing & repairing of Self starter.	--	--	--	√
8.	Miscellaneous Items				
I.	Check operation Emergency stop switch	√	√	√	√
II.	Check operation and visual inspection of controller unit	√	√	√	√
III.	Check Fault codes on controller screen	√	√	√	√
IV.	Check and tighten all external fasteners	--	√	√	√
V.	Replace all Hoses & their Clamps / Clips	--	--	--	R

Note: The Maintenance schedule activities as listed above are subject to changes as per the latest or future guidelines issued by RB/RDSO. The contractor is liable for timely implementation of any such changes in the maintenance schedules as directed.

MAINTENANCE SCHEDULE (D1, D2 & D3) FOR POWER CARS & LSLRD

PERIODICITY

D1 = TRIP INSPECTION

D2 = 03 MONTHS

D3 = 06 MONTHS

Alternator

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition and tightness of mounting bolts	✓	✓	--	--	✓
2.	Check and ensure proper Tightness of all connections of alternator outgoing & control cables	--	✓	✓	--	✓
3.	Check and ensure proper earthing connection	--	✓	--	--	✓
4.	Check and ensure proper Condition of coupling nut bolts and their tightness. Attend them, if required	✓	✓	--	--	✓
5.	Check alternator for any unusual sound, and attend same	✓	✓	--	--	✓
6.	Check and ensure generation of proper voltage (750V, 50Hz)	✓	✓	--	--	✓
7.	Ensure proper Cleaning and tightness of connection of Excitation System. Use thermal imager equipment to check temperature of cable nuts, connecting nut bolts etc. on load	--	✓	--	✓	✓
8.	Ensure proper Greasing of Bearings	--	--	--	--	✓*
9.	Ensure proper Servicing and Overhauling by disassembly of Coupling, End covers, Rotor, Stator and Excitation system etc and thorough cleaning of all parts including various windings by blower and thinner and application of anti track varnish on exposed portion of windings. Ensuring proper cleaning and Greasing of Bearings and their replacement, if required. Replace rubber bushes of alternator and diesel engine coupling. ensure alignment of alternator and diesel engine coupling with dial gauge during fitment after servicing and overhauling.	--	--	--	--	✓

*** greasing of bearing shall be as per recommendation of OEMs.**

Side Body Filter

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition of mounting and fitment of side body filters	✓	--	--	--	✓
2.	Remove and ensure proper cleaning of side body filters by dry compressed air at a pressure 1.75 kg/cm² (25psi) with help of portable compressor	--	✓	--	--	--
3.	Ensure proper cleaning of sidewalls and ceiling of engine room	--	✓	--	--	✓
4.	Replace old side body filters with new	--	--	--	✓	✓

Starting Battery

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition of mounting of batteries on frame	✓	--	--	--	--
2.	Check and ensure proper condition of connection cables, terminal connection tightness and application of petroleum jelly on it	✓	--	--	--	--
3.	Check and ensure proper condition of Air Vents of batteries	✓	--	--	--	--
4.	Check and ensure proper Specific Gravity (SPG) of batteries and it's electrolyte level. Top up with distill water, if required	✓	--	--	--	--
5.	Check and ensure proper battery voltage	✓	--	--	--	--
6.	Replace old starting batteries with new	--	--	--	--	✓

Battery Charger

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition of mounting bolts and covers	✓	--	--	--	✓
2.	Check and ensure proper tightness of connections	✓	--	--	--	✓
3.	Ensure proper cleaning by dry compressed air at a pressure 1.75 kg/cm² (25psi) with help of portable compressor	--	✓	--	--	--

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
4.	Check and ensure proper condition of electrical wires and attend them as and when required	✓	✓	--	--	✓
5.	Check operation of battery change over switch and replace if required.	✓	--	--	--	✓
6.	Check and ensure proper operation of battery charger.	✓	--	--	--	✓
7.	Ensure proper Servicing and Overhauling by opening the covers and thorough cleaning of all parts by blower and thinner. Replace the Voltmeter and Ampere meter with new calibrated meters	--	--	--	--	✓

Self Starter Motor

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition of mounting	✓	--	--	--	✓
2.	Ensure its proper working. Replace starter motor, relay, switch gears, cables, terminals etc., if found defective,	✓	--	--	--	--
3.	Check and ensure proper cleaning by blower/ vacuum pump and replace the carbon brush, if required	--	--	✓	--	--
4.	Check and ensure proper condition of electrical wires and attend them as and when required on condition basis.	✓	--	--	--	✓
5.	Ensure proper Servicing and Overhauling by disassembly of Coupling, End covers, Rotor, Stator etc and thorough cleaning of all parts including various windings by blower and thinner and application of anti track varnish on exposed portion of windings. Ensuring proper cleaning of bearings/ bush and their greasing and replacement, if required. Ensure Replacement of Carbon Brushes	--	--	--	--	✓

Power Panel /Control Panel

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition of mounting bolts /anti vibration pads etc	--	✓	--	--	✓
2.	Check and ensure proper condition of electrical wires/cables /connections and attend/ tighten/ replace them, if required	--	✓	--	--	✓
3.	Check and ensure proper cleaning of Power Panel, Control Panel by Vacuum Pump and dry compressed air at a pressure 1.75 kg/cm² (25psi) with help of portable compressor	--	✓	--	--	✓
4.	Check and ensure proper working of indication lamps ,Push Buttons, Switches and Fuses and Replace them , if required	✓	--	--	--	✓
5.	Check and ensure proper closing of main breaker (ACB) contactor and Attend/Replace, if required	--	--	✓	--	✓
6.	Check and ensure proper working of instruments provided on instrument panel	✓	--	--	--	✓
7.	Check and ensure proper working of DC control & Panel Wiring System and attend, if required	--	✓	--	--	✓
8.	Check and ensure proper working of different measuring meters- Ammeter, Volt meter, kW meter, frequency meter, R.P.M. meter and replace, if required	✓	--	--	--	✓
9.	Checking of the working of Contactors (C1,C2,C3,C4), Feeder Contactors and bus coupler contactors.	✓	--	--	--	✓
10.	Ensure Cleaning and tightness of connections of Power Panel/Control Panel. Use thermal imager equipment to check temperature of cable lugs, connecting nut bolt, contactors etc. on load	--	✓	--	--	✓
11.	Ensure Thermo Imaging of Power Panel on Load	--	✓	--	--	✓
12.	Ensure tightness of Bus Bars	--	✓	--	--	✓
13.	Strip Contactors, Bus Bars, MCBs, Air Circuit Breakers and all type of rotary switches etc. and do thorough cleaning of Panel and its equipments by blower/ Vacuum Pump and thinner and Ensure their proper Servicing and Overhauling. Replace contacts of Contactors, if required Ensure Thermo Imaging of Power Panel on Load after Servicing and Overhauling	--	--	--	--	✓

Radiator, Radiator Pipeline and Radiator Chamber

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition of mounting bolts and anti vibration pads etc	--	✓	--	--	✓
2.	Check and ensure proper cleaning of radiators. Clean by water jet machine 4.9-5.6 kg/cm² (70-80 psi) with OGR and ID-27 or any other suitable cleaning agent	--	✓	--	--	--
3.	Check Radiator water level and top up with distilled water, if required.	✓	--	--	--	--
4.	Check filling cap and condition of radiator fan bolts for tightness and attend, if required	✓	--	--	--	--
5.	Check condition of radiator pipeline, clamp & water leakage and attend, if required	✓	--	--	--	--
6.	Check condition of radiator chamber, doors, hinges, latches etc. and attend the same to ensure proper condition.	✓	--	--	--	✓
7.	ensure proper doors, latches, ceiling and intactness of baffles etc. for radiator chamber.	✓	--	--	--	✓
8.	Strip and ensure thorough cleaning by water jet machine 4.9-5.6 kg/cm² (70-80 psi) with OGR and ID-27 or any other suitable cleaning agent. Remove internal scaling if any, with the help of suitable descaling agent.	--	--	--	--	✓
9.	Replacement of „O“ Ring of radiator pipe line	--	--	--	--	✓
10.	Fill up the radiator with distilled water, proper coolant and descaler	--	--	--	--	✓

Radiator Motor and Starter

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition of mounting bolts	✓	--	--	--	✓
2.	Check and ensure proper condition of electrical cables/wires and attend them as and when required on condition basis	✓	--	--	--	✓
3.	Ensure Cleaning and checking of connection tightness of starters of radiator motors. Use thermal imager equipment to check temperature of cable lugs, connecting nut bolts etc. on load to find out loose connection. Check IR.	--	✓	--	--	✓

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
4.	Ensure Checking of condition of Radiator Motor, connection and its tightness	✓	--	--	--	✓
5.	Ensure Checking of condition of Radiator Motor Fans and its tightness and attend the defects. Replace motor in sick line/ workshop, if found defective.	✓	--	--	--	✓
6.	Ensure greasing of radiator motor.	--	--	--	--	✓
7.	Check and ensure proper working of Starter of Radiator motor and Replace defective contactor/overload relay if required	✓	--	--	--	✓
8.	Strip and overhaul radiator motor including ensuring proper condition/ working of its bearings	--	--	--	--	✓
9.	Strip and overhaul starters of radiator motor	--	--	--	--	✓

Roof Exhaust Fans and Motors

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition of mounting bolts	✓	--	--	--	✓
2.	Check and ensure proper condition of electrical cables/wires and attend them as and when required on condition basis	✓	--	--	--	✓
3.	Ensure Cleaning and checking of connection tightness of starters of Roof Exhaust motors. Use thermal imager equipment to check temperature of cable lugs, connecting nut bolts etc. on load to find out loose connection.	--	--	✓	--	✓
4.	Ensure Checking of condition of Roof Exhaust Motor, connection and its tightness	--	--	✓	--	✓
5.	Ensure Checking of condition of Roof Exhaust Motor Fans and its tightness and attend the defects. Replace motor in sick line/ workshop, if found defective.	✓	--	--	--	✓
6.	Check and ensure proper working of Starter of Roof Exhaust motor and Replace defective contactor/overload relay if required	✓	--	--	--	✓
7.	Check IR value of Vent Motors.	--	--	--	--	✓

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
8.	Strip and overhaul Roof Exhaust motor including ensuring proper condition/ working of its bearings.	--	--	--	--	✓
9.	Strip and overhaul starters of Roof Exhaust motors.	--	--	--	--	✓
10.	Replace bearings of motors and self starters.	--	--	--	--	✓

Cables and Trenches

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition/ securing of fixing bolts and covers of all trenches	--	✓	--	--	✓
2.	Check and ensure proper cleaning of all trenches by Brush, Jute/cotton waste etc	--	--	*✓	--	✓
3.	Check and ensure proper condition of cables and attend/replace them, if required	--	--	*✓	--	✓
4.	Ensure proper securing of cables against any rubbing, sharp edges	--	--	*✓	--	✓

* Alternate

Fuel Tank

S N	Activity	TI (D1)	3M (D2)	HY (D3)	IOH (SS-1)	POH (SS-2)
1.	Check and ensure proper condition of all mounting nuts/ bolts and mounting brackets/clamps etc	✓	--	--	--	✓
2.	Ensure proper Cleaning of fuel tank externally	✓	--	--	--	--
3.	Drain the fuel and clean the tank internally as well as externally including the pipe line and Sediment Junction Box etc.	--	--	--	--	✓
4.	Check Condition of diesel filling cap and Fuel Gauge/ diesel leakage and attend, if required	✓	--	--	--	✓
5.	Replace wheel valves of fuel pipe line	--	--	--	--	✓
6.	Ensure Opening and servicing of fuel gauges and replacement of rubber items	--	--	--	--	✓
7.	Ensure replacement of fuel gauges.	--	--	--	--	✓*

* Alternate

Safety System

S.No.	Safety System	Circuit Checking	Calibration/ Replacement
1.	AEL (alternator earth leakage relay)	D1	SS2
2.	FEL (feeder earth leakage relay)	D1	SS2
3.	FOL (feeder overload relay)	D1	SS2
4.	OVR (over voltage relay)	D1	SS2
5.	UVR (under voltage relay)	D1	SS2
6.	HWT (high water temperature)	D1	SS2
7.	LLOP (low lube oil pressure)	D1	SS2
8.	OSR (over speed relay)	D1	SS2
9.	LWL (low water level)	D1	SS2

GENERAL CONDITIONS OF CONTRACT

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General conditions of the contract form the part of the present contract. Hence all conditions stipulated therein, shall be applicable for the present agreement, unless repugnant to the context.

I/We have gone through the General Conditions of Contract –April-2022 or applicable from time with all correction slips up-to-date as Governing the performance of works covered by this Tender. I/We have kept myself/ourselves fully informed of the provision of these General Conditions, and agree to abide the same fully.

Signature of Tenderer(s)

NOTE

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The General Conditions of contract can be perused in the offices of Sr.Divisional Electrical Engineer, South Western Railway, Hubballi, South Western Railway, Hubballi during office working hours or will be downloaded from the website attached with this tender.

“End of Tender Document”