

CORRIGENDUM-1 dated 27.01.2026

Tender No. GEM/2025/B/7075240 dated 06.01.2026

This **Corrigendum No. 1 dated 27.01.2026** to **GEM/2025/B/7075240 dated 06.01.2026** for “*Hiring services for Daily Operation and Maintenance of 3MWM Gas Engine Genset in Moran Power House*” is issued to amend the following:

Sl. No	Reference	Existing Clause	Amended/New Clause
1	Section-III: II of SOW	The bidder shall be responsible for arranging tools & tackles at his own cost and purchase and stock a portion of spare parts (will be finalized after discussion with OIL) required for keeping the 3.0 MW power plant in operational condition (for 24x7 for the entire period of the contract) & maintainable, maintaining log sheets/records for operational detail, deployment of staff for continuous operations and qualified engineer for supervision of O&M work. The Owner (OIL) shall not pay any other amount except the agreed Daily O&M charges	The Bidder shall be responsible for arranging tools and tackles at his own cost and for maintaining the 3.0 MW power plant in operational condition on a 24x7 basis for the entire contract period, including maintaining log sheets/records of operational details, deployment of staff for continuous operations, and deployment of a qualified engineer for supervision of O&M works. All consumables necessary for execution of the work shall be provided by OIL and shall be deemed to be under OIL's scope. The Owner (OIL) shall not pay any other amount except the agreed Daily O&M charges.
2	Section-II: 10.0 of SCC	New Clause	Termination for delay in mobilization: CONTRACTOR is required to mobilize complete equipment along with crew for commencement of services at the specified site within the maximum allowed number of days from the date of LOA/Notice for Mobilization as specified in the special conditions of contract. If the CONTRACTOR (successful

			bidder) fails to complete the mobilization as above, OIL shall have, without prejudice to any other clause of the CONTRACT, the right to terminate the contract. Notwithstanding anything in the Banning Policy of OIL, in the event of such termination due to the CONTRACTOR's failure to mobilize within the stipulated period, the CONTRACTOR shall, in addition to termination of the Contract, be liable to immediate suspension from participating in any tendering process or entering into any contractual engagement with OIL for a period of three (3) months from the effective date of termination, without prejudice to any other rights or remedies available to OIL under the Contract or applicable law.
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(i) Incorporation/amendment of the following Clauses in SOW and SCC of the subject tender:

(ii) Modified SCC and Modified SOW is enclosed herewith as **ENCLOSURE-I** and **ENCLOSURE-II**.

(iii) Extension of bid closing & opening dates & time:

- a) Extended Bid Closing Date & Time: 03.02.2026 [1400 Hrs (IST)]
- b) Extended Bid Opening Date & Time: 03.02.2026 [14:30 Hrs (IST)]

(iv) All other terms and conditions of the Bid Document remain unchanged. Details can be viewed at www.oil-india.com.

SR. OFFICER – CONTRACTS (S)

SECTION - II**SPECIAL CONDITIONS OF CONTRACT (SCC)**

The following Special Conditions of Contract (SCC) shall supplement and/or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

Sl. no.	GCC Clause No. Ref (if any)		Clause Descriptions
1.	GCC clause no. 1.2.25	Mobilization	<p>The mobilization should be completed by the Contractor within Two (02) weeks from the date of issuance of Mobilization Notice from Field Engineering Department after issuance of LOA. During mobilization, the Contractor shall carry out the following activities:</p> <ol style="list-style-type: none"> i. Mobilize personnel, materials, & tools for deployment to the nominated locations. ii. Contractor shall obtain and submit the Labour Clearance Advice (LCA) and/or Labour Clearance Certificate (LCC). iii. Arrange to make 'Photo Gate-Passes', for all the personnel for working inside the OIL premises (wherever required). iv. Contractor has to complete all statutory formalities such as Labour License, P.F and ESIC Registration. <p>Mobilization shall be deemed to be completed only upon completion of the above-mentioned activities. The date on which the mobilization is completed in all respects is treated as date of commencement of the contract.</p> <p>If the Contractor fails to mobilize within the stipulated date, Liquidated Damage (LD) Clause as per point No. 5, mentioned below shall be applicable. However, in such a case, the Company reserves the right to cancel the Contract without any prior notice.</p>
2.	GCC clause no. 4.3	Duration of contract	The duration of contract shall be Four (04) years from the date of commencement of the Contract i.e. after completion of mobilization.
3.	GCC clause no. 10	Performance Security	Upon awarding of the contract, the Contractor shall furnish performance security for an amount of 03% of the Contract value

			excluding GST, within 30 (Thirty) days from the date of issuance of LOA with a validity of 03 (Three) months beyond the period of contract expiry.
4.	GCC clause no. 42.3	Arbitration	Shall be applicable as per GCC. Location of Arbitration shall be Duliajan
5.		Mobilization Completion Certificate	Mobilization Completion Certificate as per Appendix A shall be issued by the User Department of Oil India Limited upon successful completion of mobilization.
6.	GCC clause no. 30.0	Liquidated Damage Clause specific to Tender	<u>LIQUIDATED DAMAGES</u> In the event of the Contractor's default in timely mobilization of the job within the stipulated period [as per Sl No. 1 above], the Contractor shall be liable to pay liquidated damages @0.5% of total contract cost per week or part thereof, of delay, subject to maximum of 7.5% of total contract cost. Liquidated Damages shall be reckoned from the expiry date of the scheduled mobilization completion as defined in Sl No. 1 above.
7.	GCC clause no. 24.0	Subcontracting Allowed/Not Allowed	Not Allowed.
8.	GCC clause no. 31.0	Force Majeure	In the event of Force Majeure, no 'force majeure' rate shall apply.
9.		Address details for submission of invoice	All Invoices are to be sent to the following address: CGM-Field Engineering (HOD) Oil India Limited P.O. Duliajan-786602 Dist. Dibrugarh, Assam
10.	GCC clause no. 44.8	Termination for delay in mobilization	CONTRACTOR is required to mobilize complete equipment along with crew for commencement of services at the specified site within the maximum allowed number of days from the date of LOA/Notice for Mobilization as specified in the special conditions of contract. If the CONTRACTOR (successful bidder) fails to complete the mobilization as above, OIL shall have, without prejudice to any other clause of the CONTRACT, the right to terminate the contract. Notwithstanding anything in the Banning Policy of OIL, in the event of such termination due to the CONTRACTOR's failure

			to mobilize within the stipulated period, the CONTRACTOR shall, in addition to termination of the Contract, be liable to immediate suspension from participating in any tendering process or entering into any contractual engagement with OIL for a period of three (3) months from the effective date of termination, without prejudice to any other rights or remedies available to OIL under the Contract or applicable law.
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11.0 Area of operation: MORAN POWER STATION, Moran, OIL.

12.0 Terms of Payment

Payment will be made, not often than monthly, up to 100% of the value of work done. Final payment will be made only after satisfactory completion of the work. Such final payment shall be based on the work actually done allowing for deviations and any deductions and the measurement shall be checked and certified correct by the Company's authorised representative before any such final payment is made.

- i. Wages: Contractor will make payment to his employees latest by 7th of the month. A proof of payment to be submitted to OIL.
- ii. Payment to be made to employees by the contractor through online account transfer. Contractor shall obtain undertaking from its employees regarding acceptability of payment through online account transfer payment and copies of same shall be submitted to OIL.

Note:

All Invoices shall be addressed as below and uploaded through Vendor Invoice Management portal only via <https://vim.oilindia.in/velocious-portal-app/>.

CGM-Field Engineering (HOD)
Oil India Limited
P.O. Duliajan-786602
Dist. Dibrugarh, Assam

13.0 Billing:

Contractor or his representative shall prepare monthly running account bills in triplicate. All bills to be duly signed by the contractor and vetted by concerned Engineer from Electrical and Instrumentation Department before submitting it to Engineer-In-Charge of Field Engineering Department of OIL. Bills shall be processed for payment only after the verification of employee payment of previous month, certification of attendance verified by the OIL's controlling engineer and subject to carrying out all works as per the scope of the contract.

14.0 Penalty:

Penalty would be deducted from Contract's running bills at the rates given below

against the following failure / non-compliance from the Contractors end.
Event Penalty Amount

- i. Penalty will be imposed on the contractor @ 25,000.00 INR per day for not attending in case of any scheduled/unscheduled breakdown of equipment's by mobilizing his team and responding immediately within 48 hours of receipt of report from OIL.
- ii. Continuous shut-down of any GEG unit for more than seven (7) days because of the failure of the Contractor for trouble shooting and rectify the problem in time. Deduction of O&M rate on pro-rata basis.
- iii. Non-compliance to maintenance schedule / not carrying out any scheduled maintenance as mentioned in the SOQ in time, as per the maintenance schedule.
- iv. For deferring any schedule maintenance job, Contractor has to take prior approval from OIL's end. Rs. 50,000/- (Fifty thousand) against each SOQ line item.
- v. Penalty will not be deducted if job could not be carried out due to non-availability of spares from OIL's end.
- vi. Non-compliance to contract terms and conditions with respect to deployment of manpower, inability to provide spares and qualified and adequate manpower which falls under the contractor's scope. Maximum Rs. 50,000/- (fifty thousand) in a month.
- vii. Damage to OIL's property: The Contractor has to bear the cost (actual cost at the time of procurement) of that property damaged.

15.0 Goods and Services Tax:

- 15.1** In view of GST Implementation from 1st July 2017, all taxes and duties including Excise Duty, CST/VAT, Service tax, Entry Tax and other indirect taxes and duties have been submerged in GST. Accordingly, reference of Excise Duty, Service Tax, VAT, Sales Tax, Entry Tax or any other form of indirect tax except of GST mentioned in the bidding document shall be ignored. Bidders are required to submit copy of the GST Registration Certificate while submitting the bids wherever GST (CGST & SGST/UTGST or IGST) is applicable.
- 15.2** "GST" shall mean Goods and Services Tax charged on the supply of material(s) and services. The term "GST" shall be construed to include the Integrated Goods and Services Tax (hereinafter referred to as "IGST") or Central Goods and Services Tax (hereinafter referred to as "CGST") or State Goods and Services Tax (hereinafter referred to as "SGST") or Union Territory Goods and Services Tax (hereinafter referred to as "UTGST") depending upon the import/interstate or intrastate supplies, as the case may be. It shall also mean GST compensation Cess, if applicable.
- 15.3** Quoted price/rate(s) should be inclusive of all taxes and duties, except GST (i.e. IGST or CGST and SGST/UTGST applicable in case of interstate supply or intra state supply respectively and cess on GST if applicable) on the final service. However, GST rate (including cess) to be provided in the respective places in the

Price Bid. Please note that the responsibility of payment of GST (CGST & SGST or IGST or UTGST) lies with the Supplier of Goods/Services (Service Provider) only. Supplier of Goods/Services (Service Provider) providing taxable service shall issue an Invoice/Bill, as the case may be as per rules/regulation of GST. Further, returns and details required to be filled under GST laws & rules should be timely filed by Supplier of Goods/Services (Service Provider) with requisite details.

- 15.4** Bidder should also mention the Harmonised System of Nomenclature (HSN) and Service Accounting Codes (SAC) at the designated place in SOR.
- 15.5** Where the OIL is entitled to avail the input tax credit of GST:
OIL will reimburse the GST to the Supplier of Goods/Services (Service Provider) at actual against submission of Invoices as per format specified in rules/regulation of GST to enable OIL to claim input tax credit of GST paid. In case of any variation in the executed quantities, the amount on which the GST is applicable shall be modified in same proportion. Returns and details required to be filled under GST laws & rules should be timely filed by supplier with requisite details.
The input tax credit of GST quoted shall be considered for evaluation of bids, as per evaluation criteria of tender document.
- 15.6** Where the OIL is not entitled to avail/take the full input tax credit of GST:
OIL will reimburse GST to the Supplier of Goods/Services (Service Provider) at actual against submission of Invoices as per format specified in rules/regulation of GST subject to the ceiling amount of GST as quoted by the bidder. In case of any variation in the executed quantities (If directed and/or certified by the In-Charge) the ceiling amount on which GST is applicable will be modified on pro-rata basis.
The bids will be evaluated based on total price including GST.
- 15.7** Payments to Service Provider for claiming GST amount will be made provided the above formalities are fulfilled. Further, OIL may seek copies of challan and certificate from Chartered Accountant for deposit of GST collected from OIL.
- 15.8** Contractor/Contractor shall be required to issue tax invoice in accordance with GST Act and/or Rules so that input credit can be availed by OIL. In the event that the Contractor/Contractor fails to provide the invoice in the form and manner prescribed under the GST Act read with GST Invoicing Rules there under, OIL shall not be liable to make any payment on account of GST against such invoice.
- 15.9** GST shall be paid against receipt of tax invoice and proof of payment of GST to government. In case of non-receipt of tax invoice or non-payment of GST by the Contractor/Contractor, OIL shall withhold the payment of GST.
- 15.10** GST payable under reverse charge mechanism for specified services or goods under GST act or rules, if any, shall not be paid to the Contractor/Contractor but will be directly deposited to the government by OIL.

- 15.11** Where OIL has the obligation to discharge GST liability under reverse charge mechanism and OIL has paid or is/liable to pay GST to the Government on which interest or penalties becomes payable as per GST laws for any reason which is not attributable to OIL or ITC with respect to such payments is not available to OIL for any reason which is not attributable to OIL, then OIL shall be entitled to deduct/setoff/recover such amounts against any amounts paid or payable by OIL to Contractor/Supplier.
- 15.12** Notwithstanding anything contained anywhere in the Agreement, in the event that the input tax credit of the GST charged by the Contractor/Contractor is denied by the tax authorities to OIL for reasons attributable to Contractor/Contractor, OIL shall be entitled to recover such amount from the Contractor/Contractor by way of adjustment from the next invoice. In addition to the amount of GST, OIL shall also be entitled to recover interest at the rate prescribed under GST Act and penalty, in case any penalty is imposed by the tax authorities on OIL.
- 15.13** TDS under GST, if applicable, shall be deducted from Contractor's bill at applicable rate and a certificate as per rules for tax so deducted shall be provided to the Contractor/Contractor.
- 15.14** The Contractor will be under obligation for charging correct rate of tax as prescribed under the respective tax laws. Further the Contractor shall avail and pass on benefits of all exemptions/concessions available under tax laws. Any error of interpretation of applicability of taxes/duties by the Contractor shall be to Contractor's account.
- 15.15** It is the responsibility of the bidder to quote the correct GST rate. The classification of goods/services as per GST (Goods & Service Tax) Act should be correctly done by the Contractor to ensure that input tax credit on GST (Goods & Service Tax) is not lost to the OIL on account of any error on the part of the Contractor.
- 15.16** In case, the quoted information related to various taxes, duties & levies subsequently proves wrong, incorrect or misleading, OIL will have no liability to reimburse the difference in the duty/tax, if the finally assessed amount is on the higher side and OIL will have to right to recover the difference and in case the rate of duty/taxes finally assessed is on the lower side.
- 15.17** Notwithstanding anything mentioned elsewhere in the Bidding Document the aggregate liability of OIL towards Payment of Taxes & Duties shall be limited to the volume of GST declared by the bidder in its bid & nothing shall be payable extra except for the statutory variation in taxes & duties.
- 15.18** Further, it is the responsibility of the bidders to make all possible efforts to make their accounting/IT system GST compliant in order to ensure availability of Input Tax Credit (ITC) to Oil India Ltd.

- 15.19** GST liability, if any on account of supply of free samples against any tender shall be to bidder's account.
- 15.20** In case of statutory variation in GST, other than due to change in turnover, payable on the contract value during contract period, the Supplier of Goods/Services (Service Provider) shall submit a copy of the 'Government Notification' to evidence the rate as applicable on the Bid due date and on the date of revision.
- 15.21** Beyond the contract period, in case OIL is not entitled for input tax credit of GST, then any increase in the rate of GST beyond the contractual delivery period shall be to Service provider's account whereas any decrease in the rate GST shall be passed on to the OIL.
- 15.22** Beyond the contract period, in case OIL is entitled for input tax credit of GST, then statutory variation in applicable GST on supply and on incidental services, shall be to OIL's account.
- 15.23** Claim for payment of GST/Statutory variation, should be raised within two [02] months from the date of issue of 'Government Notification' for payment of differential (in %) GST, otherwise claim in respect of above shall not be entertained for payment of arrears.
- 15.24** The base date for the purpose of applying statutory variation shall be the Bid Opening Date.
- 15.25** The Contractor will be liable to ensure to have registered with the respective tax authorities, wherever applicable and to submit self-attested copy of such registration certificate(s) and the Contractor will be responsible for procurement of material in its own registration (GSTIN) and also to issue its own Road Permit/ E-way Bill, if applicable etc.
- 15.26** In case the bidder is covered under Composition Scheme under GST laws, then bidder should quote the price inclusive of the GST (CGST & SGST/UTGST or IGST). Further, such bidder should mention "Cover under composition system" in column for GST (CGST & SGST/UTGST or IGST) of price schedule.
- 15.27** OIL will prefer to deal with registered supplier of goods/services under GST. Therefore, bidders are requested to get themselves registered under GST, if not registered yet. However, in case any unregistered bidder is submitting their bid, their prices will be loaded with applicable GST while evaluation of bid. Where OIL is entitled for input credit of GST, the same will be considered for evaluation of bid as per evaluation methodology of tender document.
- 15.28** Procurement of Specific Goods: Earlier, there is no tax incidence in case of import of specified goods (i.e. the goods covered under List-34 of Customs Notification no. 12/2012-Cus dated. 17.03.2012 as amended). Customs duty is not payable as per the policy. However, under GST regime, IGST Plus GST compensation cess (if applicable) would be leviable on such imports. Bidders should quote GST as

inclusive considering IGST component for the imported Materials portion while quoting their prices on destination basis. However, GST rate to be specified in the price bid format.

15.29 Documentation requirement for GST

- i. The Contractor will be under the obligation for invoicing correct tax rate of tax/duties as prescribed under the GST law to OIL, and pass on the benefits, if any, after availing input tax credit.
- ii. Any invoice issued shall contain the following particulars:
- iii. Name, address and GSTIN of the supplier;
- iv. Serial number of the invoice;
- v. Date of issue;
- vi. Name, address and GSTIN or UIN, if registered of the recipient;
- vii. Name and address of the recipient and the address of the delivery, along with the State and its code,
- viii. HSN code of goods or Accounting Code of services [SAC];
- ix. Description of goods or services;
- x. Quantity in case of goods and unit or Unique Quantity Code thereof;
- xi. Total value of supply of goods or services or both;
- xii. Taxable value of supply of goods or services or both taking into discount or abatement if any;
- xiii. Rate of tax (IGST, CGST, SGST/UTGST, cess);
- xiv. Amount of tax charged in respect of taxable goods or services (IGST,CGST, SGST/UTGST, cess);
- xv. Place of supply along with the name of State, in case of supply in the course of interstate trade or commerce;
- xvi. Address of the delivery where the same is different from the place of supply and
- xvii. Signature or digital signature of the supplier or his authorised representative.
- xviii. GST invoice shall be prepared in triplicate, in case of supply of goods, in the following manner:
The original copy being marked as ORIGINAL FOR RECIPIENT;
The duplicate copy being marked as DUPLICATE FOR TRANSPORTER and
The triplicate copy being marked as TRIPLICATE FOR SUPPLIER.

In case of any advance given against any supplies contract, the supplier of the goods shall issue Receipt Voucher containing the details of details of advance taken along with particulars as mentioned in clause no. (a), (b), (c), (d), (g), (k), (l), (m) & (o) above.

15.30 Anti-profiteering clause

As per Clause 171 of GST Act it is mandatory to pass on the benefit due to reduction in rate of tax or from input tax credit to the consumer by way of commensurate reduction in prices. The Supplier of Goods/Services may note the above and quote their prices accordingly.

- 15.31** In case the GST rating of Contractor on the GST portal/Govt. official website is negative/black listed, then the bids may be rejected by OIL. Further, in case

rating of bidder is negative/black listed after award of work for supply of goods/services, then OIL shall not be obligated or liable to pay or reimburse GST to such Contractor and shall also be entitled to deduct/recover such GST along with all penalties/interest, if any, incurred by OIL.

Notes:

- **HEADINGS:** The headings of the clauses of the contract are for convenience only and shall not be used to interpret the provisions thereof.
- Company hereby acknowledges that the equipment and tools (“Equipment”) that are owned and utilized by Contractor to perform its service obligations under the Contract shall be at all times be, handled and manned by the Contractor. Company shall not be entitled to use/operate/possess any of the Contractor’s Equipment for providing Services under the Contract. To clarify that control, custody and possession of Contractor’s equipment shall always be with the Contractor.
- All the clauses in this tender are limited to execution of this tender only and do not carry any precedence whatsoever for any OIL’s such or similar tenders in future.

End of SCC

SECTION-III

SCOPE OF WORK (SOW)

Job Description: Hiring services for Daily Operation & Maintenance (O&M) of 3.0 MW GEG plant at Moran Power Station.

I. TERMS OF O&M CONTRACT:

The bidder shall be responsible for Daily Operation and Daily Maintenance of the 3.0 MW (1x3.0 MW), MWM make, TCG2032 V16 model Gas Engine Generator (GEG) power plant for a period of 4 (4) years from the date of issue of Work Order.

II. BATTERY LIMIT:

The battery limit for the contractor during the period of daily O&M contract shall cover complete 3.0 MW (1x3.0 MW) GEG plant and up to incomer VCB at 11 kV switchgear panel at 3 MW GEG hall at Moran Power Station.

The Bidder shall be responsible for arranging tools and tackles at his own cost and for maintaining the 3.0 MW power plant in operational condition on a 24×7 basis for the entire contract period, including maintaining log sheets/records of operational details, deployment of staff for continuous operations, and deployment of a qualified engineer for supervision of O&M works. All consumables necessary for execution of the work shall be provided by OIL and shall be deemed to be under OIL's scope. The Owner (OIL) shall not pay any other amount except the agreed Daily O&M charges.

The bidder shall be responsible for carrying out the daily schedule, preventive and breakdown maintenance of the auxiliaries of the engine & balance of plant including housekeeping

Brief description of the major equipment of the power plant is attached as Annexure -A.

III. SCOPE OF WORK:

1. MWM make, TCG2032V16 model 3.0 MW (1 x 3.0 MW) capacity gas engine driven generating sets with Synchronization & paralleling function was commissioned in Nov 2017 , at the Power House Facility set up at the premises of Moran Power Station, to cater to the power requirements of the Pump Station-2, Central Tank farm (CTF), Moran OCS-1, Moran Water Injection Station and GCS Moran.

For convenience the scope of work has been segregated into two parts:

- i. Round the clock operation of 3.0 MW (1 x 3.0 MW) capacity gas engine driven generating set with Synchronization & paralleling function.

- ii. Maintenance of 3.0 MW (1 x 3.0 MW) capacity gas engine driven generating set with Synchronization & paralleling function.
2. Details of the work to be done are detailed below:

Service Line-Item No. 10: Daily Operation & Maintenance of the power plant:

The scope of works against this line item has been classified into three parts:

2.1 Round The Clock Operation:

- a. Round the clock Operation of the GEG package according to OEM operating instructions/ prudent industry practices and in accordance with the O&M manuals in minimum three (3) shifts of eight (8) hours duration each.
- b. Perform synchronization and paralleling with Gas Turbine Generating Sets or Grid power (as future addition) as per the instruction of in-charge of Moran Power Station as and when required.
- c. Recording equipment parameters / data on log sheets [formats of which shall be approved by Engineer - in charge of OIL], carrying out necessary checks provided in the check list. Maintaining records and submitting daily/weekly/monthly reports about the performance of Power Plant and regular operating checks.
- d. Round the clock monitoring and operation as required for trouble free and safe operation of the power plant on three shifts basis to ensure uninterrupted and quality power supply from the power plant.
- e. Carry out electrical operations like switching on/ off of motors / breakers/ MCCBs, resetting faults in relays, PLCs etc. or other electrical operation jobs viz. connection / disconnecting of electrical equipment etc. as required for the safe plant operation.
- f. Carry out mechanical operations like closing and opening of valves (water/ gas/ air / Lube oil) etc. or other mechanical operation jobs viz. checking of pressure/ temperatures/ detecting leakages etc. as required for the safe operation of the plant.
- g. Carry out instrumentation operations like O&M of pressure/temperature sensors, PLCs etc. and troubleshooting of same.
- h. The contractor personals shall diagnose variations in important critical parameters and shall take corrective measures / actions.
- i. Recording of equipment parameters / data on log sheets [Log Sheets formats shall be approved by OIL's Engineer and such formats can be changed from time to time as per OEM recommendations and OIL's operational requirements].

Carry out necessary operational checks provided in the operational check list [Check List formats shall be approved by OIL's Engineer and such formats can be changed from time to time as per OEM recommendations and operational requirements].

- j. Reporting of any abnormal equipment behaviour.
- k. Maintaining all operational and maintenance records and everyday logging of all the critical parameters of equipment in EHR, hours run, and any specific maintenance / repairs carried out including material / spares consumed.
- l. Generate regular/ special operational reports as and when required.
- m. Assisting maintenance personnel as and when required during schedule maintenance of prime-mover, trouble shooting and executing scheduled / unscheduled maintenance works. The operating personnel on duty should be competent enough to detect and rectify defects that may arise during the operation of equipment.
- n. Reporting any abnormal equipment behaviour that needs the attention of maintenance personnel to Engineer - in - charge, OIL, as soon an occurrence is noticed as well as intimating Engineer-in-charge, OIL once such faults are rectified.
- o. Any other operational related services required for O&M of the plant as per OIL Engineer's instructions.

2.2 Daily Maintenance:

- a. Keep continuous vigil on the condition of running/ standby equipment as specified in Annexure-A
- b. Carry out Schedule, Preventive. Predictive maintenance of all the equipment as per maintenance schedule of the GEG set and balance of plant (BoP).
- c. Schedule, preventive, predictive maintenance shall normally be carried out during day time in general shift.
- d. Maintenance personnel engaged by the contractor on daily basis on general shift shall carry out scheduled maintenance of all the equipment of the power plant.
- e. All maintenance works essential in different equipment on daily/time to time basis for the smooth plant operation shall be carried out by the contractor under this common line item.
- f. Any other maintenance related services as per OIL Engineer's instructions.
- g. No modification without prior approval from OIL will be allowed in the gas line

circuits, lube oil circuits, cooling water circuits, control circuits and electrical power circuits etc.

- h. Regular Housekeeping, Cleaning of the 3 MW GEG plant including balance of plant, Engine Hall, Electrical Switchgear Room, Battery Room, Control Room etc. Schedule for housekeeping will be prepared as per instructions by OIL.
- i. Maintenance team shall support, guide/advise OIL for any kind of jobs taken up by OIL for modification of existing infrastructure of 3 MW GEG plant as per the advice of in-charge of Moran Power station.

2.3 Breakdown Maintenance:

- a. The contractor should ensure at all times satisfactory working conditions of the equipment included in the service contract. In the case of unscheduled breakdown of equipment/auxiliaries/BoP at any point of time, the contractor should ensure minimum downtime of equipment by mobilizing his team and resources at once and responding immediately to such unscheduled breakdown and see to it that, production/ generation losses are not accrued on account of such breakdowns.
- b. Plant O&M personnel shall attend all breakdown/ malfunctioning reports immediately.
- c. Against each breakdown, a suitable report shall be generated and communicated to OIL. Updating the breakdown register is the contractor's responsibility.

III. MANPOWER REQUIREMENT:

- 1. The contractor has to provide trained, experienced and competent manpower for smooth running of the power plant.
- 2. Contractor has to deploy manpower for the continuous operation of the power plant 24 X 7 on 3 shifts basis.
- 3. Contractor has to deploy manpower for maintenance of power plant along with all ancillaries (BoP) on single shift basis (general shift). However, in case of unscheduled breakdowns of equipment at any point of time (say during outside of general shift hours or Sundays/holidays), the contractor shall immediately mobilize his maintenance team to attend the breakdown to ensure minimum downtime of equipment.
- 4. Deployment of a Plant Manager and one Assistant Plant Manager, who will act as the single point contact between OIL and the contractor as far as O&M is concerned. Appointment letters of these people are to be made available at site i.e. Moran Power Station. A copy of the same shall be made available to In-charge of Moran Power Station

Note: The checklist for operating personnel is enclosed as Annexure-D.

5. Detail requirements are as follows:

5.1 01 Plant Manager (01 no.)

The incumbent shall be a Degree holder in Mechanical Engineering, or Electrical Engineering with 3(Three) years of experience in operation & maintenance (O&M) of Power Plant of Gas Engine Driven generator set having synchronization and paralleling functions along with administrative capability.

Or

Diploma holder in Mechanical Engineering or Electrical engineering with 5(Five) years of experience in operation & maintenance (O&M) of Gas Engine driven power plant with synchronization and paralleling functions. The incumbent should have administrative capability for smooth running of the power plant. He will have overall responsibility for operation & maintenance activities of the entire plant.

5.1.1 Assistant Plant Manager:

The qualifications shall be the same as plant manager as specified in para 5.1.

The Plant Manager/Assistant Plant Manager should visit the Office of in-charge MPS/FE-Moran everyday morning at 7.00 A.M. for necessary instructions and other administration purposes.

5.2 Operation personnel:

Shift Operators: (3 shift operation)

Operation Crew shall minimum comprise of:

5.2.1 Two (02) nos. operators per shift - one for mechanical and another for electrical; for three shift operation - total of 08 nos. (Including one reliever group).

5.2.2 The operators should be diploma holders in their respective disciplines (Electrical or Mechanical Engineering) and minimum job experience of 3(three) years in gas engine driven/ Diesel engine generating set power plant. The incumbent for Electrical shall possess a valid Electrical Supervisor's License (with minimum parts I to VI) issued by State Electrical Licensing Board, Assam, and should be conversant with synchronization and paralleling operation of generating sets. In the case of persons from outside Assam, they can submit an Electrical Supervisor's License issued from their respective states, which is to be vetted by State Electrical Licensing Board, Assam.

Note:

a) The contractor shall furnish all necessary documents endorsing qualification and

experience details of operating personnel together with their biodata and the same should be forwarded to OIL for approval and clearance prior to their deployment.

b) The operating personnel must be conversant with the safe operating procedures of the equipment deployed as per IS / NEC codes.

c) During shift hours, operating personnel will not leave the site till such time their relievers arrive & take over charge.

d) The operators must be able to perform minor maintenance jobs/rectification jobs as and when required.

5.3 Maintenance Personnel:

3 nos. of Diploma Holders in Mechanical, Electrical and Instrumentation disciplines as Maintenance In-Charge, 01 No. ITI certificate Holder in as Instrumentation discipline as Maintenance Assistant and 01 no. un-skilled personnel as helper.

5.4 The Minimum numbers of manpower required to carry out the day-to-day jobs/maintenance including OFF (reliever group) shall be 14 (Fourteen) personnel viz.,

- i. Plant Manager: 1 no
- ii. Shift Operator: 8 nos.
- iii. Maintenance In-Charge: 03 nos.
- iv. Maintenance Assistant (Instrumentation): 1 no. and
- v. unskilled helper: 01

Contractor shall arrange for immediate replacement of manpower either temporary or permanent in for the following conditions:

- a) Leave or absence beyond 10 days
- b) Resignation by any of engaged contractual manpower
- c) Written complaint against contractual manpower from OIL

However, the contractor can deploy a greater number of skilled/ unskilled personnel as per their convenience for smooth functioning of the power plant at their own cost.

Details of the manpower requirements for the O&M of the plant as shown above in Para No. III.

Attendance registers with letter head of vendor for all the persons engaged under the contract should be maintained by plant manager/Asst. Plant Manager.

IV. GENERAL NOTES:

1. The power control room must always be manned.
2. The Contractor shall maintain the existing operating & application software to improve upon performance of the system. Software modification and up-gradation as & when required shall also be covered under this scope at no extra cost. During

the contract period and its extension if any, if the systems require software release up-gradation and the same is necessary, then same shall be provided without any additional cost implication to OIL. During the contract period and its extension if any, the system shall be also upgraded to its desired release to meet any requirement of OIL without any additional cost implication to OIL by the Contractor. The modifications required for taking care of statutory requirements shall also be Contractor's responsibility at no extra cost to OIL.

3. The operator shall maintain the equipment as per manufacturer's guidelines. System back-up of workstation at control room including backups shall be maintained by operator on regular basis.
4. It shall be the responsibility of the contractor to make all instruments and control system of the plant work satisfactory through the contract period and also handover the systems to OIL in working condition at the expiry of the contract.
5. OIL and/or the contractor after consultation & consent from OIL may include/change modify any maintenance formats for instrumentation jobs at any point of time during the currency of the contract.
6. While quoting for operating and maintenance personnel the contractor must take into consideration all statutory laws for wages, taxes, duties, insurance, Provident Fund, bonus, compensation etc. as per State / Central Government laws applicable from time to time.
7. The operating and maintenance personnel should be provided proper training pertaining to electrical safety including first aid, electrical shock treatment and fire fighting as per relevant IS / NEC codes. The responsibility of providing such training to the operating and maintenance personnel lies with the contractor. The contractor shall deploy personnel trained and authorized by the OEM of equipment to carry out maintenance of the generating sets and their ancillaries.
8. The onus of providing accommodation, medical facilities, transportation, food etc. to operating and maintenance personnel shall lie with the contractor.
9. Necessary stationery, including log sheets, attendance sheet and other reporting formats shall be provided by the contractor.
10. The contractor shall arrange all requisite tools, tackles and instruments needed by the operating and maintenance personnel, to effectively carry out their operation and maintenance activities.
11. The contractor shall arrange 'Master Gauges' to calibrate all instruments running in the powerhouse and has to calibrate the required instruments as per the OEM / standard recommendation. The cost of buying the gauges/ meters and/ or any third-party calibration requirement has to be borne by the contractor.

12. Except during maintenance purposes, the generating set must be kept functional at any point of time, to ensure uninterrupted power supply for the Moran Power station facility, so that production operations are not affected due to inadequate availability of captive power. Information regarding outage of the generating set for maintenance or breakdown should be immediately reported to the Engineer- In- charge of OIL. For any point of time, if the unit is shut down beyond 7 (seven) days because of contractor's fault, Penalty will be levied as per Penalty Clauses.
13. The operation and maintenance personnel shall be provided with personal protective equipment (PPE) such as protective clothing, safety boots, safety helmet, safety goggles, hand gloves, ear caps etc. which they shall put on while on duty. The responsibility of providing the protective equipment to the operating and maintenance personnel shall lie with the contractor.
14. In the event of equipment damage due to mishandling or negligence by the operating and maintenance personnel, penalty shall be charged against the contractor amounting to the cost of equipment damaged and equivalent amount for loss of production thereof.
15. There must be a code of conduct for working personnel of the contracting agency which is will be at par with the Company's (OIL's) Modified Standing order. The contracting agency shall submit the same during mobilization.
16. The contractor must ensure that the "Electrical Supervisor's License" and "Wireman Permits" of work persons are duly renewed. Updated document shall be submitted to Engineer-In-Charge without delay.
17. The contractor must ensure that all related personnel shall be available at site, at any point of time, as per the terms of the contract, both during operation as well as while carrying out schedule/ breakdown maintenance of equipment. This will be physically checked and monitored by Engineer-In-Charge, OIL from time to time.
18. The contractor shall not engage minor labourer (below 18 years of age) under any circumstances.
19. Any work found defective will have to be re-done by the contractor at his own cost.
20. Recommended spare of same make and model, subjected to the availability in the market, are to be used in case there is a need of replacement of any components. In case of non-availability, prior permission from OIL shall be obtained.
21. In case the contractor fails to deploy personnel or to carry out operation and maintenance jobs as specified in the terms and conditions of the contract, Liquidated Damages has to be paid by the contractor at the rate of 1.5 times the normal rate charged for the said services.

22. The contractor must have the capability to carry out the jobs under adverse conditions / situations, if any, arises during execution of the job.
23. It shall be mandatory for the contractor to maintain the following documentation at site:
- i. Operational logbook duly signed by shift-in charge (Contractor has to submit Daily Generation Report (DGR) by email to Engineer-In-Charge and concerned officials of OIL.)
 - ii. Daily Check List of the power plant
 - iii. Checklist for GEG start.
 - iv. GEG Start / Stop Register
 - v. Equipment wise 'Equipment History Record'
 - vi. Weekly / Monthly / Annual generation reports
 - vii. Troubleshooting Register/Report.
 - viii. Tools and instruments register/Report.
 - ix. Scheduled maintenance register/Report.
 - x. Breakdown maintenance register/Report.
 - xi. Inventory register
 - xii. Materials consumption register
 - xiii. IR value and earth resistance value measuring register/Report.
 - xiv. Calibration certificate of all measuring instruments and meters
 - xv. List of all equipment with specification.
 - xvi. List of essential spares required for operation and maintenance of above.
 - xvii. Periodical Medical Examination (PME) of working personnel.
 - xviii. Safety, Statutory, Internal-Technical Audit report of the installation.
 - xix. Display duty Roster
 - xx. Attendance registers of O&M personnel with letter head of vendor.
 - xxi. Visitor's book etc.
 - xxii. Valid Electrical Supervisor's License issued by State Electrical Licensing Board
 - xxiii. Appointment letter of Plant Manager & Asst. Plant Manager.
 - xxiv. Matrix of Job responsibility: Maintenance in-charge, assistant & Helper
 - xxv. Electrical SLD
 - xxvi. Hazardous zone classification of the plant
 - xxvii. Electrical shock treatment chart in trilingual version
 - xxviii. Bridging Document

VII. SPECIAL NOTES

1. Contractor to quote separately for each item of the SOQ. The total of individual prices quoted against each item of the SOR, shall be considered for arriving at the L1 Contractor.
2. While quoting for the contract, the Contractor must take into consideration all statutory laws for wages, taxes, duties, insurance, Provident Fund, bonus, compensation etc. as per State / Central Government laws applicable from time to

time.

3. Sub-letting of contract: No part of the contract nor any share or interest therein in any manner or extent, shall be transferred or assigned or sub-let, directly or indirectly to any person / firm or Organization without prior approval of OIL.
4. The Contractor shall ensure compliance of all applicable laws in force including Assam Contract Labour (Regulation & Abolition) Rules, 1971, Payment of Wages Act, 1936 and the rules made there under, The Minimum Wages Act, 1948 or the rules made there under etc.
5. The Contractor shall forthwith remove and replace any work personnel, who in the opinion of OIL is involved in unlawful activity, misconduct, habitual late coming, insubordination, abusive/violent behaviour, is a security risk, etc. The decision of OIL shall be final and binding in this regard. The contractor shall be liable for ensuring immediate return of OIL's Gate Entry Pass by the concerned work person.
6. Accommodation / Transportation/Food of the working personnel is the responsibility of the Contractor. However, accommodation may be provided by OIL on chargeable basis subject to availability / vacancy of quarters.
7. Medical:
 - 7.1 Contractor shall carry out Initial Medical Examination (IME), Periodic Medical Test (PME), Periodic Audiometric Test etc. of his employees at his own cost.
 - 7.2 The frequency of periodic medical examinations should be as per statutory requirement.
 - 7.3 OIL shall not be responsible for providing any medical assistance to contractor's personnel.
8. Gate Pass:
 - 8.1 Arranging for OIL's industrial area gate pass for contractor's work person shall be the responsibility of the contractor. These shall include entry pass for normal working days, operational shift, entry on Sunday/Holidays.
 - 8.2 It shall be the contractor's responsibility to ensure that OIL's Industrial Area Gate Entry Pass of retired/removed/transferred work person (s) engaged by the contractor is surrendered promptly.
9. Training: The contractor shall arrange to impart adequate First Aid training/safety training/ operational training to his employees at his own cost. Operation and maintenance crew working in the power plant have to be trained from OEM or its authorized dealer/ service provider of the generating sets.

VIII. COMPLIANCE OF STATUTORY LAWS:

1. The Contractor deploying workmen as contract labour shall have to obtain Labour & other applicable Licenses from the Labour Commissioner, Government of Assam or such other licensing authority as may be declared by competent authority.
2. It will be the responsibility of the Contractor to pay as per the minimum wages of the appropriate government applicable under the Minimum Wages Act 1948.
3. The Contractor shall not engage / deploy any person of less than 18 years under this contract and the persons to be deployed should be physically and mentally fit.
4. The Contractor shall arrange for insurance of all his workers engaged on the job under this contract as per the relevant Acts, rules and regulations, etc.
5. Records & Registers: Following Up to date Records and Registers are to be maintained by Contractor at workplace:
 - a) Employment Card-Form XII
 - b) Register of Workmen employed by Contractor-Form XIII
 - c) Muster Rolls- Form XVI
 - d) Register of Wages- Form XVII
 - e) Wages Slip - Form XIX
 - f) Register of Deduction for Damage or Loss- Form XX
 - g) Register of Fines - Form XXI
 - h) Register of Overtime - Form XXIII
 - i) Attendance register
 - j) Leave Record Register.
 - k) Initial Medical Examination (IME) Register,
 - l) Periodic Medical Examination (PME) Register
 - m) Tools and Instruments Register.
 - n) Training Register

IX. Reporting Channel:

1. Plant Manager should report to Engineer-In-Charge of Field Engineering Department and concerned engineers of Electrical / Instrumentation Department of OIL on daily basis.
2. Plant Manager shall be continuously in touch with the maintenance personnel and concerned Engineers from FE/Electrical/Instrumentation for any operational or maintenance related issues. He shall have to update stock position of spares & consumable on regular basis.
3. Any issues related to the contract execution; Plant Manager can approach HoD of Field Engineering Department wherever required.

4. Housekeeping: Housekeeping is the responsibility of the contractor. Contractor has to maintain the cleanliness of the installation as desired. For waste disposal, contractor has to adhere to the policy followed by OIL.
5. Fire Fighting / Emergency Reporting: Portable type Fire extinguisher will be provided in the installation. For handling any emergency, a proper contingency plan has to be made with the Consultation with OIL personnel.

X. HANDING OVER THE PLANT AFTER EXPIRY OF TERM:

In the beginning of last year of expiry of term & extension of term as the case may be, the Contractor shall hand over the plant to the OIL in operationally fit and running condition the associated major & critical equipment to ensure that plant is operational and in good running condition in accordance with the norms of original equipment manufacturer. While handing over the plant, the Contractor shall hand over all technical documents, literature, and instruction manuals, lists of spare part & tools & tackles. The Contractor will also hand over all the relevant record/documents.

XI. DEFECTS / NON-ACHIEVEMENT PLANT DEPENDABLE CAPACITY AFTER HANDING OVER

In order that the Contractor could obtain a Handing Over certificate, he shall rectify any defect / non-achievement of plant dependable capacity in accordance to the norms of manufacturer arising from the defective Operation & maintenance practices or noncompliance of Prudent Utility Practices or that may have been noticed or developed during/ after the plant has been taken over, the period allowed for carrying out such works will be normally one month. If any defect could not be remedied or plant dependable achievement capacity in accordance with the norms of manufacturer could not be achieved within a reasonable time the OIL may proceed to do the work at operators' risk and expense and deduct from the final bill such amount as may be decided by the OIL.

All the aforesaid safeguards /rights provided for the OIL shall not prejudice its other rights/remedies elsewhere provided herein and/or under law.

Annexure-A

1. Gas Engine Generator:

Qty. 1 units, 3.0 MW, make - MWM Germany, Model – TCG 2032 V16, Engine SI No. – 2211818, No. of cylinder - 16, RPM - 1000, Generator Make – Marelli Motori, Type MJHMC6, Generator Rating – 5600 KVA, 11 KV, 50 HZ.

2. Air Compressor for starting of GEG Unit: Qty. - 2 Nos., Compressor Make - Ingersoll Rand, Model – 15T2, Compressor Driven by – 15 HP, ABB make Induction Motor, Type-EHx160 ML D4.

3. Air Drier: Qty. 2 Nos. Make - Ingersoll Rand, model -D180IN-A-HP35

4. AIR RECEIVER TANK: Qty. 2, Make- Abacus Heat Transfer Ltd, Capacity – 2 m3, Working Pressure – 30 Kg/cm²

5. GAS CONDITIONING SKID: Qty. 1, Make:- RMG AUTOMETERS Gas Technologies Ltd, SI No 892.

6. GEG Control Panel : Qty. 3 nos. Make –Vidyut Control India Ltd.

7. MCC Panel for GEG Auxillary: 57 Nos MCCB of L&T make

8. NGR Panel: Qty. 1 nos., NGR Make - RESITECH, Type- R-PSS 304, SI No. 140510/4, Ratings - 11/√3 KV, 192.5 A for 10 Sec, 192.25 A for cont. , NGR Value 33 Ohm.

9. HV Switch Board (11 KV): 10 nos, 630 Amps, 26.3kA L&T make (Model VK 10J25H) VCB with 17 nos microprocessor based relay

10. Battery Charger: Qty. 1 Nos. Make – HBL, Type 110 TP 20, Float cum Boost Charger with DVR, Input - 3 phase, 4 wire 415V, 50 Hz, Nominal output – 110V, DC, Output current limit – 20A. For more details, refer to **Annexure-E6**

11. 110V DC DB: 1 no., Make HBL, connected at the Battery output

12. AC DB: Make Hi-Rel connected at the UPS output.

13. VRLA Battery Bank: Qty. 1 Nos., (two banks connected to UPS, one bank connected to battery charger) Make – HBL, Bank Voltage – 110V

80 AH: 55 nos, 100AH: 110 Nos

14. TEM panel Battery: 12V, 180AH Nicd Battery 2 nos

15. UPS System: 2 X 3 KVA parallel redundant UPS System, Make – Hitachi Hi-Rel, Model – I4(HR-XP-3)

16. Air cooled fluid cooler (Remote radiator): Remote radiator, Qty 1 Nos. Make: ICL India, Type – ACFC, Model – FCW-260-5R (LT+HT), Radiator fan Motor rating 7.5 kW (4 Nos.).

17. HT & LT Pumps : 2 nos HT pumps & 2 nos LT Pumps.(*HT Pump* : Make- Grundfos, Type- NB65-200/185,; Motor : Make Seimens, rating 22kW, Type-183-2NB86-Z); (*LT Pumps* : Make- Grundfos, Type- NB50-160/147,; Motor : Make Seimens, rating 11kW, Type-163-2NB86)

18. Power house Air ventilation System: 2 Nos. Blower units. (Blower fan : Make Walter Ventilation India Ltd, Model – HYZ071120, Motor: Rating 11KW, Make – Siemens, Frame 160 N)

19. Air intake unit: Turbo Charged

20. Exhaust silencer: Accoustic India pvt ltd

21. Exhaust System: Chimney, 1 Nos. (30 M height, 750 mm Dia (OD), Fabricate by M/S Gulati Steel Fab Pvt. Ltd.)

22. Load Bank: 800 Kw LT load bank with remote control Panel

Annexure – B			
Electrical spares and consumables			
1	Ammeter Analog Type		
2	Voltmeter Analog Type		
3	Digital Voltmeter		
4	Ammeter / Voltmeter Selector Switch		
5	LED type Indication Lamp (of different colour)		
6	Multifunction Meter		
7	Current Transformer for LT application		
8	MCB		
9	Fuse		
10	Contactors for control circuit		
11	Various Relays for control circuit		
12	Auxiliary Contractor		
13	TNC switch		
14	Push Button Switch		
15	Thermal Overload Relay		
16	ELR		
17	CBCT of various ratings		
18	Cable Lugs (various size)		
19	Cable glands (various size)		
20	Cable terminator (various size)		
21	Electrical Motor of rating up to 10HP		
22	MCCB of rating up to 200A		
23	Shunt trip Coil / UV Trip Coil		

<u>List of Tools and Instruments</u>		
SL.NO	ITEMS	REMARKS
1	Standard Toolbox	Shall always be available at site
2	Chain Pulley Block (5T)	Shall always be available at site
3	Hydraulic jack 10 T	Shall always be available at site
4	Puller	Shall always be available at site
5	Bench vice	Shall always be available at site
6	Digital Multimeter	Shall always be available at site
7	Digital Master Pressure Calibrator	Shall be taken on rent
8	Portable Pressure Calibrator	Shall always be available at site
9	Temperature Bath	Shall be taken on rent
10	MA Source , Loop calibrator	Shall always be available at site
11	Relay Testing Kit	Shall be taken on rent
12	HT Hand Gloves etc.	Shall always be available at site
13	Insulation Tester	Shall always be available at site
14	Earth Testing Megger	Shall always be available at site

Annexure-D

CHECK LIST FOR OPERATING PERSONNEL:**I. Equipment: Gas Engine [Make: MWM Model: TCG 2032 V160]****Frequency: Every Shift****Activity:**

1. Always start and shutdown Generating set engine following procedures recommended by the OEM. Warm up engine before putting on load. Run multiple units depending on the load level.
2. Check and maintain engine oil level in crankcase
3. Check for engine oil dilution / contamination
4. Check and maintain coolant level
5. Check vacuum indicator for restriction of air filter element
6. Check and maintain hydraulic governor oil
7. Check and record engine parameters, viz.: engine oil pressure, engine oil temperature, coolant temperature, air manifold temperature (L/R), exhaust temperature (L/R) and other parameters mounted on the instrument panel.
8. Visually check condition of belts
9. Check for leaks of oil, coolant, fuel, exhaust gases. Observe for looseness in securing clamps / bolts in oil, fuel and water lines.
10. Check for any abnormal sound / vibration in the engine
11. Check condition of flexible coupling
12. Check engine load from PCC. Observe and record any abnormality in load sharing
13. Maintain proper housekeeping of the acoustic enclosures
14. Report any of the following for maintenance services:
 - Abnormal engine noise or vibration
 - Low engine oil pressure
 - Abnormal coolant or oil temperature
 - Excessive smoke
 - Excessive consumption of engine oil
 - Low engine power
 - Misfiring or engine hunting
 - Contamination of engine oil

- Malfunctioning of all the instruments / tripping devices.
- Any other occurrence needing attention of maintenance personnel

II. Equipment: Air Compressor [Make: Ingersoll Rand, Model: 15T2]

Frequency: Every Shift

Activity:

1. Check and maintain oil level in crankcase of both engine and compressor
2. Visually check drive belt condition
3. Drain condensate / moisture from air receiver and intercooler
4. Clean suction air filter
5. Check and maintain air receiver air pressure
6. Check proper functioning of the un-loader and relief valves
7. Check for any abnormal sound / vibration in the compressor and engine
8. Report any of the following for maintenance services:
 - Abnormal noise or vibration of compressor
 - Low discharge pressure
 - Malfunction of un-loader assembly
 - Any malfunction related to the prime mover's starting system, fuel system etc.
 - Any other occurrence needing attention of maintenance personnel.

III. Equipment: Ventilation Blower [Make: Walter Ventilation India Ltd, Model: HYZ071120] Frequency: Every Shift

Activity:

1. Check and clean Units
2. Check fan assembly for proper operation, looseness of belt / bolting /coupling etc.
- 3 Check rotation of blower fan.
4. Report / rectify any of the following for maintenance services:
 - Malfunction of the fan assembly
 - Damage or looseness of the drive coupling and mounting bolts
 - Any other occurrence needing attention of maintenance personnel

IV. Equipment: Remote Radiator Unit [Make: ICL India; Model: FCW-260 (5R)

Frequency: Every Shift

Activity:

1. Check & clean pre-filter media daily.

2. Check / arrest any leakage in the coolant lines.
3. Check fan assembly for proper operation, looseness of belt / bolting /coupling etc.
4. Check rotation of blower fan.
5. Report / rectify any of the following for maintenance services:
 - Malfunction of the fan assembly
 - Damage or looseness of the drive coupling and mounting bolts
 - Any other occurrence needing attention of maintenance personnel

V. Equipment: HT & LT Pumps [Make: Grundfos ;]

Frequency: Every Shift

1. Check motor and pump for any abnormal sound.
2. Check tightness and integrity of the coupling.
3. Check / arrest any leakages in the coolant flow lines.

VI. Equipment: Air Receiver Tank [Make: Abacus Heat Transfer Ltd]

Frequency: Every Shift

1. Check pressure gauge reading on tank and record.
2. Bleed out liquid from tank if present.

VII. Equipment: Air Dryer unit [Make: Ingersoll Rand; Model: D 180 IN-A-HP 35}

Frequency: Every Shift

Anexxure-E6

EQUIPMENT NAME: FLOAT CUM BOOST CHARGER WITH DVR MAKE: HBL POWER SYSTEMS LIMITED POWER ELECTRONICS DIVISION HYDERABAD-INDIA

TYPE: 110 TP 20

INPUT: 415V, A.C 50 HZ,

OUTPUT: 110V – 20A D.C

SL NO: 12913-5914; **MFG:** OCT '2014

QTY: 1 NO

End of SOW