

**OIL INDIA LIMITED**  
**(A Government of India Enterprise)**  
**P.O. Duliajan – 786602, Assam, India**  
**Website: www.oil-india.com**

**Corrigendum No. 3 to IFB No. CPI8376P19**

**Engineering, Procurement, Construction, Testing and Commissioning**  
**and O&M of a Water Injection Station (WIS) at Assam.**

1. This Corrigendum is issued to notify the following :
  - a) Terms & conditions, specifications and schedules in various sections of the Bidding Document shall stand modified to the extent indicated here below under column “Modified Clause” of **Annexure- I**.
  - b) Reply of Pre-Bid queries raised by bidders is attached herewith as **Annexure- II**
  - c) Integrity Pact (Annexure II-C of Volume I, Part III, Commercial) is attached herewith as **Annexure- III**
2. All other terms and conditions of the tender remain unaltered.
3. All the prospective bidders are requested to regularly visit OIL’s website: www.oil-india.com and e-procurement portal https://etender.srm.oilindia.in/irj/portal for further announcements/latest information related to this tender.
4. Bidder to submit this Corrigendum No. 03 along with **Annexure – I, II & III** duly signed & stamped in all pages as token of acceptance and shall upload this document in the un-priced folder of the e- bid.

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**Annexure – I to Corrigendum No. 3**

**Summary of the modified terms & conditions, specifications and schedules in various sections of the Bidding Document**

SL. No	RFQ Section	Reference Clause	Subject	Type	Modified Clause
1	VOLUME-II- PART-A- GENERAL	SECTION A3	Project description & general information	Add	Basic Engineering Design Data:  “ <b>1.02.02 Hazardous area classification:</b> Suitable for Zone 2, Gas group IIA (i.e. methane predominant) and Temperature classification T1 (As per OISD- 113)”
2	Volume III	O&M	-----	Modification	This section shall be replaced by <b>Annexure I-A</b>
3	Volume II Part B3-2 page 2 of 20	1.01.00	System design criteria for governor	Modification	Suitable governor shall be provided for adjustment of generator frequency.
4	Volume II Part B3-2 page 14 of 20	Serial no 2 of technical data sheet	Generator capacity	Modification	Capacity of Generator shall be above 800 KWe.
5	Volume II Part B3-2 page 15 of 20	Serial no 2 of technical data sheet	Degree protection of Generator & Constructional details	Modification	IP-23 Instead of IP-52
6	Volume II Part B3-4 page 28 of 44	Sl. no 1.3 of technical data sheet for 415V	Bus Bar	Modification	Bus bar shall be of Copper make instead of Aluminium

		PMCC			
7	Volume II Section-A-12 page 2 of 6	Serial no ii 2.00.00 Performance guarantees, Test	Out KW at Gas Engine generator terminal	Modification	Above 800 KWe at a combined temperature-relative humidity at 45 deg c of 85% and barometric pressure as specified with Power Factor 0.8
8	Volume II Section-A-16 page 1 of 2	Serial no 1.1.1.1	Sub vendor selection criteria	Modification	At least one unit of same Model offered by the bidder shall have record of running continuously for minimum 5000 hrs or 2 years in India along with documentary proof.
9	ANNEXURE- IIA PREAMBLE TO SCHEDULE OF RATES/PRICE	Sr. No-3.C	Construction (Erection/ Installation)	Modification	To be replaced by the following Quote- All site work including site grading and levelling, earth-filling, Erection of chain link fencing along with Entry/Exit gates around the plant area, Establishment of Maintenance shed, Construction (Civil and Structural), Site welding, Erection / Installation, Piping, Hook-up to the systems, Painting, Instrumentation, Electrical works and Testing including third party inspection (TPI). -Unquote
10	ANNEXURE- IIA SCHEDULE OF PRICE	Sr. No-12	Construction (Erection/ Installation)	Modification	To be replaced by the following Quote- All site work including site grading and leveling, earth filling, Establishment of Maintenance shed, Construction (Civil and Structural) and Site welding, Erection / Installation, Piping, Hook-up to the systems, Painting, Instrumentation, Electrical works and Testing as certified by EPMC/OIL on pro-rata basis as per the approved schedule of activities. -Unquote

**ANNEXURE - I-A**

**VOLUME - III**

**OPERATION & MAINTENENCE**

## **SCOPE OF SERVICES**

Scope of services in general shall include but not limited to the following:

**O&M contractor shall be responsible for smooth operation and maintenance of Bore Well Pump, all pipe lines, Iron Removal Filtration plant (IRF), storage of treated water and produced water, High Pressure Injection Water pumping system, Gas Engine, Generators, Electrical & control systems and all field instruments thereof.**

### **1.0 Important Note to Bidders**

- a) It is not the intent of this tender to describe all the tit bit work related to the operation and maintenance service of high pressure water injection system along with iron removal filtration plant and power generation by gas engine generator set. An overview of the services desired is indicated here. While quoting bidder should consider all the tit bit works /services related to this O&M work whether specifically spelt out or not  
Further, a bridging document between OIL and the operator will be put in place vide this term of contract. This document will be prepared bilaterally and include formats to be filled up regarding maintenance schedules / check lists / log-sheets etc and forms / formats regarding HSE matters to be complied with (Same is reiterated under HSE clause also).  
The above mentioned forms / formats vide the Bridging Document are subject to mutually agreeable changes / modifications with the objective of improvements of O&M jobs and HSE compliances. Any disagreement of the suggested formats / changes thereon must be on valid grounds & stated in writing.
- b) Offer price must include all yearly apportioned cost of Utility, Chemical, Lubricants, Spares and miscellaneous besides the cost of man power / staffs for operation and maintenance work and hiring charges if any for all maintenance tools and tackle, rent of any equipment lifting or conveying up to maintenance bay / site /hall/ area.
- c) Failure to comply with the scope of work, or not undertaking the works as directed by the Plant in-charge Leader, OIL shall have the right to get it done through other agencies, and the cost towards the same will be deducted from the monthly payment due to the contractor.
- d) In case of major breakdown of any equipment where involvement of OEM is envisaged / required, contractor must inform OIL in advance. Cost of repairing along with spares shall be reimbursed by OIL if the cause of breakdown is not due to the negligence or improper preventive maintenance

of the equipment by the contractor.

### **1.1 General Responsibilities**

- a) The water from bore wells in the plant layout shall be pumped to the Iron Removal Filtration Plant. After removal of iron through suitable chemical dosing as well as de-oxygenation, water will be stored in water storage tanks. A portion of treated water will also be stored in a different tank for meeting miscellaneous service water & potable water demand of the plant. Plant will also receive Produced water from ETP and shall be stored in water storage tanks after anti-sealant dosing. The stored water will be finally dispatched to the water injection wells through High Pressure Injection Pumps. The power requirement of the entire process along with lighting etc. shall be met by operating Gas Engine Generator set. Plant will have PLC based control system.
- b) The O&M Contractor shall handle 62.5 cum/ hr either from bore well or ETP water or both for 24 hrs in a day continuously by 3 shift operation. The discharge of High pressure Water Injection pump shall be 60 cum/hr at a discharge pressure of 110 Ksc to 130 Ksc. The discharge rate of 60 cum/hour is the maximum discharge rate and OIL can advise the operator to operate at any level of discharge rate. The operator shall inform OIL immediately about any discharge pressure variation of +/- 10% wrt the running pressure immediately prior to start of the variation at any point in time of a day. The information on discharge pressure variation must reach OIL's representative over phone within half an hour's time.
- c) The operation and maintenance of bore well pumps, pump shed, bore well water pumping and delivery pipe lines, iron removal filtration plant and its building /shed, treated water storage tank, produced water storage tank and all interconnecting pipelines, all chemical dosing systems, Injection Water Pumping system including pumps, Gas Engine generator sets and gas supply line, electrical power distribution shall be done by the O&M contractor as per standard engineering practices. If any failure is found, it should be repaired immediately. Proper records of pumping, gas utilization, Power consumption and generation, sampling, inventory, chemical and lubricant consumption, spares, preventive maintenance, breakdown maintenance, etc. shall be maintained by the O&M contractor as directed by OIL.
- d) Proper maintenance and daily recording of all flow meter readings shall be done by O&M contractor. Contractor shall provide test reports of injection water quality on daily basis. The O&M contractor shall submit the report of required process data/ graphs etc generated from PLC to OIL

on daily basis.

- e) Co-ordination and synchronization among bore wells iron Removal Plant. Injection water system, service water distribution system and power generation shall be done by the O&M Contractor.
- f) The O&M Contractor shall be responsible for replacement/ repair of any damage/ faulty equipment along with necessary plumbing and piping modifications without any additional cost to OIL.
- g) If water cannot be treated and supplied to storage tank because of the failure of line/pump/ Power supply, Iron Removal Filtration Plant Or water cannot be supplied to the manifold of High Pressure Injection Pump because of failure of pump or pumping main Or required Power could not be generated in the gas engine generator set because of engine or generator failure due to improper operation and/or maintenance, the O&M Contractor will be held responsible and has to pay penalty as specified elsewhere for consequential damages.
- h) The contractor shall be responsible for general cleaning and up keeping of the WIS premises. The scope of cleaning includes clearing of grown bushes and weeds, clearing of debris in and around plant, floor cleaning, keeping hygienic atmosphere, gardening etc. The clearing and disposal of bushes, weeds and other debris shall be ensured to be carried out periodically at least once in 15 days whereas cleaning of garbage inside the plant premises shall be done on daily basis.
- i) Cleaning of storage tanks/sumps and filtration vessels, office cum control room shall be undertaken as a part of preventive maintenance and this work shall be executed once in 3 months. However, any overhead storage tank used for distribution of service water will be done every fortnightly.
- j) O&M contractor will ensure to provide following personnel for smooth operation of the plant.
- k) O&M contractor shall have to arrange all necessary tools and tackles during the tenure of the contract.
- l) O&M contractor shall ensure the calibration of instrument and equipment as per the instruction of OIL.

DESIGNATION	QTY.	QUALIFICATION	EXPERIENCE
<b>REGULAR OPERATION MANPOWER - 3 SHIFT OPERATION</b>			
CONTROL DESK OPERATOR	4	DIP. MECHANICAL	3 years
GAS ENGINE GENERATOR OPERATION	4	DIP. MECHANICAL	5 years
FILTRATION PLANT&HIGH PRESSURE PUMPS AREA -FIELD WORKER	4	SKILLED WORKER	3 years
HELPER	4	UNSKILLED WORKER	-
E&I SUPERVISOR	4	DIP. ELECTRICAL OR E&I	3 years
<b>SECURITY</b>	<b>4</b>	<b>SEMI SKILLED WORKER</b>	<b>2</b>
<b>RUNNING MAINTENNACE MAN POWER-ONLY GENERAL SHIFT OPERATION</b>			
PLANT MANAGER	1	ENGINEER (MECH.)	5 years
MECHANIC /FITTER	1	SKILLED	3 years
WELDER & GAS CUTTER	1	SKILLED	3 years
HELPER	1	SEMI SKILLED WORKER	-
ELECTRICIAN	1	SKILLED	3 years
<b>HOUSE KEEPING AND OTHERS-ONLY GENERAL SHIFT OPERATION</b>			



HOUSE KEEPER	1	LITERATE	-
HELPER	1	UNSKILLED WORKER	-
GARDENER	1	SEMI SKILLED WORKER	-
<b>ADMIN AND ACCOUNT-ONLY GENERAL SHIFT OPERATION</b>			
ADMINISTRATOR	1	Sc.GRADUATE / EQUIVALENT	5 years
ACCOUNTANT	1	COMMERCE GRADUATE	3 years

## 1.2 O&M Contractor's staff and their conduct, etc.

- a) All employees shall be of Indian Nationality and the O&M Contractor shall provide their temporary and permanent address of the employees to OIL.  
Persons having criminal records shall not be employed.
- b) All personnel to be deployed in different streams of work must have sound health, requisite qualifications, adequate experience in their respective fields as well as requisite competency as stipulated vide Indian Mines Act, Oil Mines Regulations & other bye laws, regulations & norms in force. The Operator must warrant that all their employees shall perform the work correctly and efficiently and must ensure that such personnel observe all applicable statutory norms and safety requirement of OIL.
- c) Contractor would submit all documents, Bio data / Qualification / Experience-details / Credential / Competence Level / Eligibility Certificates / Police Verifications / IME reports etc and other relevant data of any prospective appointments to be deployed at DIKOM WIS. Such personnel must not have any pending case against them in court of law / any pending police case or FIR against them. Any of the employees – officers or work staff – can work at DIKOM WIS only after approval of OIL for such employees. If not approved by OIL, contractor cannot employ any of its employees at DIKOM WIS. In regards to selection process of the contractor for their potential employees to be deployed at DIKOM WIS, OIL shall not have any role or say.

The cost - if any - on providing all the above initial documents / reports etc (including but not limited to Initial Medical Examinations, IME) to OIL at the beginning of deployment of each prospective employee shall be responsibility of the operator.

The initial documents to be provided to OIL shall be applicable for any new/ fresh employee to be deployed or any old-DIKOM WIS-employee to be re-deployed at DIKOM WIS at any time during the currency of the contract.

Further, the operator shall be responsible for carrying out Periodic Medical Examination (PME) of employees of age above 45 years after every 3 years & employees of age below 45 years after every 5 years and provide OIL with PME reports of the employees engaged in WIS, Dikom.

- d) Even after initial deployment if at a later stage OIL finds any personnel of the Operator to be unsuitable / undesirable to OIL and communicates to the operator in writing, the Operator shall remove such personnel immediately from working at DIKOM WIS. In this case, the operator - entirely on their expense - shall promptly replace such personnel with alternative personnel acceptable to OIL. New recruitment shall take over the responsibility after adequate training and familiarization during which, persons of the existing work force must have to work for 2(two) consecutive shifts in place of the expelled persons.
- e) Operator wants to change any of their personnel deployed at DIKOM WIS at any time, replacement for such employee(s) will be required in advance. New recruitment shall take over the responsibility after adequate training and familiarization prior to release of concerned persons.
- f) The Contractor will have to provide identification badge, uniforms, and safety gears to his employee as per standard industry practices.
- g) The Contractor shall arrange for substitutes relievers during any leave granted to their staffs at his own cost. The Contractor shall regularly take and maintain daily attendance of all its employees coming to work at the WIS in Form-E. The Contractor shall promptly report to Installation Manager about any deviation(s) that may happen on a day in attendance with respect to already submitted man power roster.
- h) O&M contractor shall ensure regular payment of salaries to their employees. Any non-cooperation, strike, agitation etc arising out of discontentment on account of non-payment of their salaries are strictly prohibited.

The operator is under contract with OIL and contractually duty-bound to provide smooth uninterrupted O&M of the WIS plant. As such the operator will be solely responsible for any of the above incidents.

- i) Individual employee of the operator singly or in more than 1 person cannot approach OIL's representative for the purpose of settlement or resolving of any issue of the operator not limited to the ones as mentioned in 1.2(d) above.  
However, the plant manager of the operator along with any aggrieved employee(s) under him may approach OIL's representative for the purpose of conveying / discussing issue in the nascent stage only.
- j) If a part of personnel deployed for O&M jobs at Dikom by the operator – in whatever manner they may represent themselves to OIL or to any Govt

functionaries for settlement of their issues – fail to carry out jobs under the contract, the contractor in contract with OIL for O&M of the WIS shall be responsible for such failure or any ramification thereof.

The operator cannot / shall not disown or term such incidents extraneous to the operator. Occurrence of such incidents, non-settlement of issue(s) of the employees of the operator within itself at an earlier time are failures on the part of the operator.

The Govt functionaries – for the purpose settlement, may consider the aggrieved party of the operator and the officers / non-aggrieved party of the operator separately and conduct its discussion. Please note that, no bifurcation of employees deployed at Dikom WIS for O&M during the contract period is admissible / applicable as per any term of the contract.

- k) The Operator must issue monthly Wage Slips to all employees deployed at Dikom WIS for O&M job describing all credits & debits to the employees during the stated month. The operator – along with monthly O&M bill - shall submit a certificate stating issuing of such wage slips to all the employees deployed at Dikom WIS.

The Operator must declare a bank account number to OIL and photocopy or scanned copy showing debit from the mentioned account number against wage payments to its employees shall be submitted by the operator along with monthly O&M bill.

Submission of the above 2 (two) documents (the 2<sup>nd</sup> document may comprise 1 or more sheets) at the end of a month, are mandatory for facilitating OIL releasing the monthly O&M bill.

- l) Operator shall be fully responsible for carrying out all operation & maintenance (O&M) jobs under the contract in prompt and in its full-strength professional Man power. For all jobs under the contract, man-power engaged by the operator shall be competent & sufficient for carrying out such jobs.

However, requirement of OEM or their franchisees for Annual Maintenance Contracts (AMCs) / Warranties of their respective equipment shall be a matter of the operator only. Similarly, the Operator can obtain, such occasional or part time service of experts, seconded employees for operational

& maintenance requirement or for having some operational advantage in operator's performance as envisaged and deemed fit by the operator from time to time.

In case, the operator decides for bringing any type of afore-mentioned services for any O&M job at the WIS, the same needs to be endorsed by OIL on back-to-back basis prior to start of such services. This OIL's endorsement is only for allowing the operator to engage the services as mentioned above on behalf of the operator inside the WIS plant. In no other matter what so ever, the OIL's endorsement can be used or interpreted.

Contrarily if the operator decides to send any equipment / unit etc to OEM's workshop for maintenance, same needs to be endorsed by OIL. In such cases stand-by arrangement shall have to be provided by the contractor without extra charge to OIL.

All issues regarding services of the OEM / franchisees / seconded employees / expertise, shall not come under the scope or purview of this contract and shall be mutual matters of the operator and the party(ies) engaged by the operator. Some of such mutual issues include but not limited to financial ones, quality of service, quality & numbers of man-power sent / engaged etc.

Attributing any failure of O&M jobs, on any person of any outside parties engaged by the operator or on their service(s), shall not be applicable as per any term of the contract. All responsibility for O&M services shall entirely rest with the operator only, with all terms & condition of the contract remaining applicable on the operator only.

### **1.3. Handling of Chemicals**

Safety and facilities to the staff for handling of chemicals and equipment is of utmost importance. Handling of chemicals needs special attention. The O&M Contractor's personnel shall observe the following guidelines strictly while handling the chemicals.

- Rubber apron, gloves and boots must be used by the personnel, which will be provided by O&M to their staffs.
- Chlorine vapour is extremely hazardous. To avoid prolonged inhaling of chlorine gas, gas masks may be used. Caustic soda solution shall be kept ready for quick relief. It is essential that all operators working with chemicals to be familiar with the hazards of chlorine gas. It is

imperative to have protection equipment always readily available at site.

#### **1.4. Maintenance and submission of records to OIL**

The O&M Contractor shall maintain various records as per prescribed format and submit the same daily / once in a week as instructed by OIL. The details are as below:

- Quantity and hours of Bore Well Water Pumping with Log book
- Quantity and hours of Filter Feed Water Pumping with Log book
- Quantity and hours of High Pressure Water Injection Pumping with Log Book
- Record of Hours of operation of Gas Engine Generator and its generation
- Electricity consumption of various electrical equipment at bore well pump, Injection water pump and Iron removal filtration Plant
- Discharge of each filter bed along with hourly head loss records and its cumulative figures
- Maintaining daily up to date running of filters, compressors, pumps, engines and other equipment
- Record of routine and occasional Laboratory tests for treated and injection water quality
- Log book of Chemical dosing Pump- indicating dosing "RATE"
- Quantity of back wash water consumed in each filter back washing and total consumed in a day.
- Log book for service water consumption
- Record of chemicals purchased, consumed and balance available.
- Record of lubricants purchased, consumed and balance available
- Records of spares purchased, consumed and balance available indicating fast moving spares.
- Record of break-down occurred, reason break down and maintenance carried out, showing operating time lost etc.
- Record of fire-extinguisher inspection report.
- Maintaining daily record of engine temperature

### **1.5 Monitoring Instruments and Alarm/Indicators**

General monitoring and up-keepment of following instrumentation devices and alarm sensors are required.

Flow meter to monitor the supply of treated water. High Pressure Injection Water, Gas consumption to Engine

- Level measurement indicator of all storage tanks including dosing tanks
- Level switches wherever provided in the tanks.
- Functioning of Level indicator wherever provided.
- Checking of healthiness of Alarm circuit and safety trip circuit.
- Healthiness of Gas detectors
- Various pressure gauges
- Tripping of all electric motors.
- Routine calibration of all instrumentation devices.

### **1.6. Periodic Maintenance/Break-down maintenance**

#### **1.6.1 Mechanical & Plant**

A) The O&M Contractor shall carry out daily and periodic maintenance as per maintenance schedule / check list approved by OIL. Periodic maintenance shall also include daily observation of any malfunctioning in the plant and necessary rectification/ repair thereof. The periodic maintenance/ servicing shall include but not limited to the following.

- Changing of gland packing of pumps
- Changing of gear box oil frequencies not later than that of as per OEM's recommendation.
- Changing of Engine oil as per OEM's (original equipment manufacturer) recommendation

- Greasing of bearings
  - Check Bearing Temperature (Should not be more than 80°C or as per recommendation of the OEM whichever is lesser)
  - Check the stuffing box for any leakages. Change if required.
  - Checking Pump alignment. Rectify if required.
  - Checking of pump lubrication system, rectify if required.
  - Changing of leaky gaskets,
  - Removal of sludge from filter.
  - Cleaning of Storage tank.
  - Preventive maintenance of air compressor
  - Check and Replace the coolant filter, if required, after first 150 hrs
  - Checking of drive belts
  - Check for corrosion of the air receiver
  - Check the Coolant and coolant level
  - Check quality and level of lube-oil and gear-oil
  - Remove and clean package pre filter, replace if needed.
  - Change drives belts in every 9000 hrs or when required or as per OEM's recommendation whichever is earlier.
  - Replace all hoses in every 18000 hrs or when required or as per OEM's recommendation whichever is earlier.
  - Any other services / maintenance work as will be recommended by OEM
- B) The representative of the O&M Contractor shall attend to the work of dismantling, repair and reinstallation of the equipment/pipeline as soon as a failure is noticed. Any laxity in this regard shall be at the risk and responsibility of the O&M Contractor. Not starting a job for repairing / restoring equipment for more than 2 hours from the start of the equipment failure will be deemed a laxity. Spares and

consumables required for breakdown maintenance will always be available at Store. Any, extra spares required for the proper maintenance shall be arranged by the O&M Contractor.

- C) The supply of all consumables required in the plant (i.e. gaskets, bolts and nuts, lubricants, gear box oil, gloves, safety appliances, hoses, cans & containers, measuring jars, pH paper, other testing accessories, etc.) shall be supplied by O&M Contractor and it is the responsibility of the O&M Contractor to keep proper records of the items used and keeping them in good condition.
- D) Pump Motor Sets: Performance test shall be carried out once in 6 (six) months.  
The test shall include determination of discharge and efficiency of the pump motor set. The discharge shall be measured by reading the delivery of flow meter and valve operation. The tests shall be carried out by running one pump. All the test equipment required except watt meters and CTS shall be arranged by the O&M Contractor. The observation and results shall be submitted to OIL.
- E) Stand by Equipment: Every main and stand by equipment for any system shall be operated alternately. Thus all installed equipment will have the same facility of maintenance and readiness for operation at any instance of time.
- F) Routine rectification: Following minor works shall be included in routine rectification.
- Cleaning and replacement of bearings
  - Replacement of pressure gauges
  - Replacement of coupling and bushes of couplings
  - Spot welding, brazing and soldering
  - Gland packing
  - Spark plug cleaning
  - Any other as per Engine OEM's recommendation

The O&M Contractor shall submit the statement of machinery repairs every month along with probable repairs required, along with his monthly bill. The O&M Contractor shall submit details of all works done against works scheduled during the shutdown taken in the month.



Further, the O&M Contractor shall also submit reports of all daily to monthly maintenance reports / check lists / log-sheets and safety compliance certification along with a list showing all daily to monthly HSE reports / check lists / log-sheets.

- Leakage, if any, in the water main or in gas line shall be repaired immediately and recorded.
- Inspection of air and water line valves etc, attending the leakages, etc. are to be carried out as and when required and as directed by OIL. Round the clock vigil should be exercised in detecting and rectifying defects any part of the system and prompt rectification of same will be carrying out. .
- Tightening of lugs and checking glands of cables
- Cleaning of panel boards & components,
- Rectifying loose connections
- Replacement of fuses including D.O. fuse

#### **1.6.2 Electrical.**

##### **A. Daily Routine activities**

- Visual inspection of electrical panel boards, Motors, local electrical starters and report and rectify any abnormalities, loose connections, overheating/overloading, mechanical stuck up etc. Register the details in the maintenance logbook identifying the actions taken and spares/materials used item wise and equipment wise.
- Checking IR Value including that of motor & cables.
- Check for abnormal noise and vibration of motors
- Read and record the electrical meters reading (current, voltage, power factor, KW, KWh etc.) of panel boards and critical motors & machinery.
- General cleaning of electrical panel and control rooms.
- Trouble shoot the defects and faults such as motor not starting/ no availability of power supply/ etc and correct the same.

- Daily on-off operation and routine cleaning of all light fixtures, ceiling fans, exhaust fans and allied fittings
- Keeping all the above cited electrical fittings in good working condition.
- Greasing/Oiling to ceiling/exhaust fans

## **B. Preventive Maintenance Activities**

### **Monthly**

- Cleaning of panel boards/starters and motors.
- Checking and correctness of loose connections at motors, panel boards, cables and cable joints/terminations.
- Inspect and verify functional performance of switches, MCCBs, components and starter contactors & timers, relays (whether tripping or not) and report and rectify the defects if any and replace components if required.
- Check for damages to cables, conduits, wires, clamps, cable supports; Check for corrosive effect on conduit & junction Box
- Identify and report major preventive maintenance if any to be attended and major replacements/spare parts/components if any required to be taken up.
- Maintain and record all the preventive maintenance activities area wise/equipment wise detailing the actions taken and spare parts used.
- Verify the earthing system and correct for loose connections etc. Record earth resistance in log book.

### **Yearly**

- All activities listed out in the monthly preventive maintenance.
- Testing of all protective relays by secondary current injection test using over current test kit and verify the correct tripping of all relays and report and rectify any abnormality. Replace the faulty relays and check and correct the relay setting and record in the log book.
- Detailed checkup of all components of panel boards, starters, switches MCCBs etc for any abnormality, overheating etc and correction of the faults. Replacement of faulty/defective components.
- Overhaul the motors which are identified to be overhauled and replace bearings, fan cover, foundation lugs and rewind the motors where

needed.

- Verify the earthing system and correct for loose connections etc. record earth resistance in log book.
- Record the details and spares used in logbook.

### **C. Break down Maintenance**

- Attend all failure/not working calls and correct immediately.
- Troubleshoot and correct defects in panel boards, starters and components, Overheating, loose connections etc and correct the same.
- Attend and rectify failures such as motors not working/burnt, motor starters panel board components not working, electric power supply failure, motor rewinding and overhaul, replacements of starters/panels on account of major faults/repairs etc.

### **Common Notes for electrical works**

- e) Where motors or generator need to be overhauled or rewound outside, then the cost of the same will be reimbursed on actual basis on production of valid bills.
- f) If any major rectification of engine is required by OEM, cost will be reimbursed.
- g) For doing all the other maintenance activities there will not be any extra payment towards labour involved in mentor associated activities and the spares required for replacement during maintenance.
- h) All details to be recorded on the maintenance logbook including consumption of spares.
- i) Control and record on spares inventory

### **HSE (Health Safety and Environment):**

- i) O&M Contractor shall operate and maintain the plant in a diligent, safe and efficient manner strictly in accordance with provisions stipulated obligations imposed upon by applicable laws of India, Indian Mines Act, Oil Mines Regulations, Indian Explosives Act and Indian Electricity Rules, Petroleum Rules, Indian Boiler Regulations etc in force and OISD norms in vogue.

O&M Contractor shall also comply with guidelines of the Statutory bodies like DGMS, OISD, State and Central Pollution Control Board(s), OIL's HSE policy and other relevant statutory body in existence or likely to come into existence.

For any HSE matters not specified or without any stipulated provision in the contract document, the O&M Contractor will abide the relevant and prevailing acts / rules / regulations & sound industry practices pertaining to Health, Safety and Environment.

- ii) It will be solely the O&M Contractor's responsibility to fulfil all legal formalities with respect to the Health, Safety and Environmental aspects of entire O&M job under the contract (namely formalities related to the person & the equipment employed by the O&M Contractor and the environment etc.) under the jurisdiction of Dibrugarh district, Assam.

Further, during carrying out all the O&M jobs at WIS, it will be entirely the responsibility of the O&M Contractor to ensure strict adherence to all HSE measures, statutory rules and to ensure safety of all workers of the O&M Contractor.

- iii) The O&M Contractor has to update and timely submit all HSE related paper-works including but not limited to reporting, record keeping etc. to external agencies and/or to OIL. The report-formats will be as per prevalent ones in OIL and/or as suggested by statutory bodies and as per prevailing laws. Some of such formats include Form-A (MVT), Form-B (employee register), Form-E (daily attendance) and Form-J, K (accident-report), Form-O (IME/PME), Training Matrix etc as per Mines Rules 1955.

**The contractor shall prepare the man power roster and submit to OIL.** The O&M Contractor shall regularly take and maintain attendance of all its employees coming to work at WIS. The O&M Contractor shall promptly report to Installation Manager if deviation in attendance from **already submitted man power roster** happens on a day.

O&M Contractor shall have to report all incidents including near miss to Installation Manager / departmental representative of the concerned department of OIL. The O&M Contractor has to arrange daily tool box meeting and regular site safety meetings and maintain records.

- iv) The O&M Contractor – within 60 days from LOA of the contract - shall prepare written Site Specific Safe Operating Procedure (Site Specific SOPs) for the work to be carried out, including an assessment of risk, wherever possible and safe methods to deal with it/them. The SOP should clearly state all the risks that may arise to men, machineries & material during execution of any O&M jobs to be done by the O&M Contractor and how it is to be managed.

The O&M Contractor shall provide a hard copy of the SOP to the Installation Manager or his deputed competent persons at WIS who shall be supervising the O&M Contractor's work. The O&M Contractor shall keep an up-to-date SOP and provide a copy of the changes to OIL's person as above.

O&M Contractor has to ensure that all work is carried out in accordance with the Statute and SOP and for that purpose he may deploy adequately qualified and competent personnel. For work of a specified scope/nature, he should develop and provide to the mine owner a site specific code of practice in line.

O&M Contractor must frame a draft- "Bridging Document" as stated earlier vide clause no. 1.0 (i). This document shall include all procedural steps /SOPs of various activities of O&M jobs, shall clearly define roles & responsibilities in regards and shall bring out a uniform HSE policy for O&M jobs of the WIS. This draft must be furnished to OIL within 2 months from LOA of the contract. A final "Bridging Document" will be put in force after discussion on the draft among the two parties in conjunction with HSE departments of both the parties.

The preparation and putting a Bridging Document is a binding & firm term of this contract vide this clause as well as clause no 1.0 (i). However, the Bridging Document – particularly the document's maintenance schedules / check lists / log-sheets etc and HSE related forms / formats - shall remain a subject to mutually agreeable changes & modifications with the objective of improvements of O&M jobs and HSE compliances. Any disagreement of the suggested formats &/or changes thereon must be on valid grounds & stated in writing.

- v) In case the O&M Contractor is found non-compliant of HSE laws as required, OIL will have the right for directing the O&M Contractor to take prompt action to comply with the requirements or to cease work until the non-compliance is corrected. O&M Contractor shall be responsible for any pollution, accident (causing injury to man, damage to machinery) and clean-up operation due to pollution caused by the O&M Contractor as a fall out of noncompliance of HSE rules & regulations. OIL's technical team shall investigate cause(s) of pollutions, accidents and/or any other non-compliance of HSE rules & regulations by the O&M Contractor and the findings thereof shall be final. In this context, plant battery limit will not be applicable if the pollution caused by the O&M Contractor inside the plant spills out of the plant boundary.
- vi) O&M Contractor has to take material quality certifications from OIL's technical team in case O&M Contractor changes any part of machine / equipment / unit etc during maintenance work. O&M Contractor will be solely responsible in case of accident or further damage to equipment caused due to supply of sub-standard & spurious material during maintenance works not certified from OIL's technical team.
- vii) O&M Contractor shall carry out Daily Plant General Inspection in the entire plant asset-wise or area-wise. O&M Contractor shall do visual inspections of all equipment; facilities etc wherever possible and identify level of deposition, attrition/depletion, and deterioration in materials.

O&M Contractor shall also identify and ascertain likelihood of material deterioration at any part of all equipment, facilities etc where the same can be carried out with the help of checking-tools already provided by OIL.

The O&M Contractor shall also identify likelihood of any related unsafe working environment due to the above and promptly inform OIL.

The O&M Contractor shall be responsible for any unplanned circumstances / events in the plant operation that may take place due to material failure resulting from O&M jobs of the O&M Contractor. The O&M Contractor shall also be responsible for failure to identify or to report any abnormality as above not leading to subsequent unplanned circumstances / events. The cause(s) of such circumstances / events shall be investigated by OIL's technical team and finding thereof shall be final.

- viii) Oil may appoint one or more of the contractor's personnel as competent person(s) for carrying out specific job(s) coming under the contract within a certain domain of authority. O&M Contractor shall have to abide by the same. The authority of such competent persons shall, under no circumstances, supersede that of the Installation Manager of WIS. Appointment of the competent persons is not a pay-roll appointment.
- ix) All persons deployed at WIS by the O&M Contractor must undergo Mines Vocational Training, Initial Medical Examination, Periodic Medical Examination and other requisite statutory trainings like but not limited to First Aid Training, Gas Testing Training etc.

The health checkup of O&M Contractor's personnel is to be done by the O&M Contractor in authorized Health Centers as per OIL's requirement and proof of such test(s) is to be submitted to OIL. **The frequency of periodic medical examinations is every 3 (three) years for 45 yrs & above and 5 (five) years for all other employees of the O&M Contractor.**

The O&M Contractor shall submit to DGMS returns indicating – Name of his firm, Registration number, Name and address of person heading the firm, Nature of work, type of deployment of work persons, Number of work persons deployed, how many work persons hold VT Certificate, how many work persons undergone IME and type of medical coverage given to the work persons. The return shall be submitted quarterly (by 10th of April, July, October & January).

Bidders may take note of the fact that OIL may provide some of the statutory training like MVT / First Aid / Fire Fighting etc to contractor's employees engaged by OIL near its filed Head Quarter, Duliajan.

If OIL arranges any safety classes / training etc for the working personnel at site the O&M Contractor must arrange to release its personnel for any such training without hampering normal O&M jobs.

- x) Every person deployed at WIS by the O&M Contractor must wear all required safety gadgets / PPE items which are to be provided by the O&M Contractor. No person will be allowed to work at WIS without PPE and such debarring of any of the O&M Contractor's person(s) may lead to penalty if O&M Contractor cannot arrange substitute(s) for the debarred person(s).

The O&M Contractor shall provide proper Personnel Protective Equipment as per the hazard identified and risk assessed for the job and conforming to statutory requirement and OIL's PPE schedule. Safety appliances like Safety Boots, Safety Helmet and Full Body harness have to be DGMS approved. Necessary supportive documents / approvals shall have to be submitted as proof.

If the O&M Contractor fails to provide the safety items as mentioned above to the working personnel, the O&M Contractor may apply to the Company (OIL) for providing the same. OIL will provide the safety items, if available. But in turn, OIL will recover the actual cost of the items by deducting from O&M Contractor's Bill. However, it will be the O&M Contractor's sole responsibility to ensure that all the persons engaged by him in the mines use the proper PPE while at work. All the safety gears mentioned above are to be provided to the working personnel before commencement of the work.

- xi) The O&M Contractor must also possess various other safety items including but not limited to 2 (two) fire suits , 1 (one) lifting-jack for rescuing trapped persons, high intensity safety torches (minimum 5 nos), various leak plugging gadgets, at site. The O&M Contractor shall have to keep FIRST AID BOXES at all primary sites of the plant like control room, Pump house area, Generator area etc. All the FA boxes must have all the required and fresh batches of medicines and other items. In case of failure of the O&M Contractor to provide the above safety gadgets at the plant, Penalty will be imposed on O&M Contractor by OIL.
- xii) The O&M Contractor shall carry out Painting & Hydrostatic test that of CO2 extinguisher before every refilling. Reports of all testing / checks / inspection / observations etc conducted on fire fighting system and any corrective actions required / taken are to be recoded. O&M Contractor must conduct Fire Mock drills at WIS once every fortnight.
- xiii) O&M Contractor will provide all necessary support & co-operation in terms of resources, man-power and other facilities if OIL decides to obtain HSE related certifications including but not limited to ISRS, ISO, and OHSAS at WIS.

All O&M Contractor 's employees must, while at work, cooperate with OIL so far as is necessary to enable compliance with any requirement under the act or the regulations that is imposed in the interest of employee's health, safety and welfare.

Any of the employees of the O&M Contractor shall not refuse to follow any instruction given by OIL's Installation Manager or any competent person engaged by him for ensuring and monitoring safe operation.

- xiv) The O&M Contractor must carry out all operation and maintenance of any new equipment / facilities / instruments installed for compliance of any recommendation(s) of any statutory bodies or audits etc during the currency of the contract.

The new additional units / facilities will comprise minor changes only and there shall not be any additional man-power requirement. The O&M of such additional items shall have to be carried out by the O&M Contractor. Any consumables on such additional units will be borne by OIL.



### **Annexure – II to Corrigendum No. 3**

**REPLY OF PRE- BID QUERIES FOR OIL INDIA FOR ENGINEERING, PROCUREMENT, CONSTRUCTION, TESTING, COMMISSIONING AND OPERATION & MAINTENANCE (O&M) OF A WATER INJECTION STATION (WIS) AT DIKOM, ASSAM.**

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
	Part/ Section	Page No.	Clause No.	SUBJECT		
<b>1</b>	<b>PROCESS</b>		<b>Section B2-3</b>		The yield / discharge value for bore well is not mentioned in this section. Bidder wants to know yield value from bore well to conduct necessary survey and to decide bore well depth based on the outcome of survey.	Please see Clause 1.09.00 of Section B2-3 (Clause 1.09 ; Page 2 of 6) & ANNEXURE-B2-3/1 (Page 5 of 6); Technical Datasheet for Borewell Pump
<b>2</b>	<b>CIVIL &amp; STRUCTURAL</b>					
<b>2.1</b>			<b>Clause no.1.02.01</b>	General section	Bidder understands that FGL for the proposed facilities shall be 114.2 m as mentioned in the above section. Please confirm.	EL100.00 m corresponds to RL114.00 m from MSL. FGL of proposed facilities EL100.20m.Please refer to Sec A 5 Page 18 of 24 (Volume II Part A General)
<b>2.2</b>					Please confirm availability of permanent bench mark near proposed facility.	Bench mark already available at site. Please refer the Topographical Survey drawing. Refer to Sec A5 Page 18 of 24 (Volume II Part A General)
<b>2.3</b>					Bidder request to provide Topography Survey Report or Average NGL at present.	Please refer the Topographical Survey drawing.
<b>2.4</b>			<b>Clause</b>		Drainage System; Bidder wants to know	Please refer the drawing no RD-

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			<b>3.03.00</b>		high flood level to provide sufficient slopes for the proposed drain lines.	O011C01-C-CSL-001.
<b>2.5</b>					The recommendation as given in the tender soil investigation report are for reference only and bidders understanding is foundations for proposed WIS facilities shall be designed as per soil investigation carried out during per engineering survey.	EPC contractor will do the detail geotechnical Investigation. Detail Engineering /Design will be carried out based on that report.
<b>2.6</b>			<b>Section 1.2.2.2</b>		As mentioned in this clause, paints to be used for 2 shop coats on fabricated steel conforming to IS specification IS 2704 ready mixed paint. Air drying Red Oxide Zinc Chromate priming, one coat before and another after fabrication.  Bidder understands that all structural steel work shall be painted as mentioned above and no galvanization is required for structural steel work).	Please follow the technical specification. Refer volume II Part B5-3 Page 38 of 92
<b>2.7</b>			<b>Section 3.04.00</b>		Bidder understands from this clause that WIS plant site shall be enclosed with chain link fence of 2.4 m height resting on toe wall of 0.6m. Any other boundary wall except chain link fencing	Please refer the clause no 11.01.01.14 (Part B5-1, Page 17 of 19) and clause no 3.04.11 (Part B5-2, Page 4 of 8). Apart from Chain link fencing (GI sheet

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					as stated above is not part of LSTK contractor. Please confirm.	may be required in some portions) no other boundary wall is required.
2.8					Bidder will do the estimation/pre bid engineering of Civil Foundation based on soil data given in the tender document. Any negative variation in soil investigation during execution will result change in design and price variation.	The report given in tender is tentative test report. Any change in soil parameter during further investigation at the time of detail engineering stage will not be considered as variation. Bidder is requested to quote accordingly.

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
	Part/ Section	Page No.	Clause No.	SUBJECT		
3	Genset					
3.1	SECTION – A5 / GENERAL TECHNICAL REQUIREMENTS	3 of 24	2.02.0 4	The outputs of the generators will be connected to 415V PMCC through underground cables.	What is the distance between Generators and PMCC Panel? OIL to confirm.	Tender drawings to be followed. Generator and PMCC will be in different sheds. Tentative distance may be 50 M EPC to decide during detail engineering.
3.2	SECTION-A12 / PERFORMANCE GUARANTEES, TESTS& PENALTIES	2 of 6	2.00.0 0	Output “KW” at Gas Engine Generator terminal : Not less than 800 KW- at a combined temperature – relative	Output at alternator terminal at unity p.f. OIL to take cognizance of the same.	Please note that the Genset selected shall be above 800 KW with Power Factor 0.8, which should comply with all the requirements stated below.

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	Part/ Section	Page No.	Clause No.	SUBJECT		
				humidity at 45 °C of 85% and barometric pressure as specified		<p>a. Capable of delivering continuously 600 Kw minimum at the given Gas condition, site location and 35 Deg. C ambient temperature.</p> <p>b. capable of starting of one 180 KW Soft starter driven pump when the base load is 450 KW</p> <p>C. name plate rating of Genset in any case shall not be less than 800 KW at ISO condition</p> <p>Bidder should indicate in their offer the output at Generator Terminal at 0.8 pf and at the condition mentioned in "a" above</p>
3.3	<b>SECTION-A16 / SUB-VENDOR SELECTION CRITERIA</b>	1 of 2	1.1.1.1	At least one units of similar capacity (as mentioned in the tender) is running Continuously for 5000hrs or 2 years intermittently in India.	From this clause, we understand bidder must have supplied Genset of minimum 800 KWe rating which must have operated minimum 5000 hours or 2 years in India. Please note that we have supplied many 800 KWe MWM make natural gas gensets in India. However to comply MOEF requirement, we shall supply upgraded model which will have more than 800 KWe nameplate rating. OIL to confirm.	Genset shall be of above 800 KWe rating. Sec A-16 page 1 of 2 clause no 1.1.1.1 is modified as " At least one unit of same Model offered by the bidder shall have record of running continuously for minimum 5000 hrs or 2 years in India"
3.4	<b>PART – A / MECHANICAL</b>	4 of 27	1.01.0 2.02	API 610 Centrifugal Pumps for Petroleum,	The gas gensets shall be located in safe area and pumps used for the genset	Bidder to note that Gas gensets and its utilities will not be

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	Part/ Section	Page No.	Clause No.	SUBJECT		
	<b>CODES AND STANDARDS</b>			Petrochemical and Natural Gas Industries	cooling shall be for water application. We understand API pump is not applicable for this application.	located in safe area. The pumps shall be as per specification
<b>3.5</b>	<b>SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET</b>	1 of 20	1.01.00	..two nos. (2x100%) natural gas engine driven black start generator sets of above 800 kWe (minimum or the nearest higher rating being available from the vendors).	Please amend as ".. two nos. (2x100%) natural gas engine driven black start generator sets of more than 800 kWe at ISO condition (minimum or the nearest higher nameplate rating being available from the vendors)..". To ensure that only proven gensets are allowed to participate in the bidding, we also request to include bidder's eligibility criteria as "Genset supplier must have supplied at least 2 Nos Natural Gas Genset having same model no in India. The documentary evidence for the above have to be produced during PS approval of Genset."	Genset shall be of above 800 KWe rating. Sec A-16 page 1 of 2 clause no 1.1.1.1 is modified as " At least one unit of same Model offered by the bidder shall have record of running continuously for minimum 5000 hrs or 2 years in India" Documentary evidence for above to be provided.
<b>3.6</b>	<b>SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET</b>	1 of 20	1.01.00	Gas Engine shall be multi-cylinder, engine mounted / remote radiator cooled, turbocharged, spark ignition engine complete with intercooler, carburetor, air intake manifold, and adequate exhaust with silencer	Please amend as "Gas Engine shall be Lean Burn, multi-cylinder, engine mounted / remote radiator cooled, turbocharged, spark ignition engine complete with intercooler, <del>carburetor</del> , air intake manifold, and adequate exhaust with silencer"	Type shall be as per OEM standard but to comply with the requirements clarifications are as stated in sl. 3.2 above. (No amendment)

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	Part/ Section	Page No.	Clause No.	SUBJECT		
3.7	SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET	1 of 20	1.01.0 0	The gas engine set shall be rated for continuously delivering the rated output at an ambient temperature of 45°C plus the temperature inside enclosure. No de-rating of rated output is allowed in normal operation.	Please amend as "The gas engine set shall be capable for continuously delivering above 800 KWe output at an ambient temperature of 45°C.	See our clarification given in 3.2 above. (No amendment)
3.8	SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET	1 of 20	1.01.0 0	GG set shall be installed indoor and housed inside a building.	GG set shall be either installed inside enclosure or shall be installed inside a civil building. OIL to clarify.	<p>Please note that two alternative quotes are required as given below.</p> <p><b>Alternative-1</b> Acoustic enclosure with internal ventilation; noise level is limited to the most stringent value between 75 dBA from the surface of enclosure and that of specified by CPCB. In this alternative, Genset room EOT crane and forced ventilation of room are not required.</p> <p><b>Alternative-2</b></p> <p>Sound insulated Genset room,</p>

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	Part/ Section	Page No.	Clause No.	SUBJECT		
						<p>forced dry ventilation of Genset room to take care of liberated heat load, EOT crane to handle Genset shall be provided but noise attenuation chamber of gen set is not required. Noise level outside sound insulated Genset room shall meet the CPCB norm</p> <p>Please see Clause 1.03.04 (Page 4 of 20) of Section B3-2.</p>
3.9	<b>SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET</b>	1 of 20	1.01.0 0	GG Set shall be supplied complete with required consumables.	We understand only first fill of Lube oil and coolant for commissioning purpose can be provided by the bidder. All consumables for genset regular operation shall be in owner scope. OIL to confirm.	Follow tender document, which is for EPC and O&M contract both (All consumables & spares to be provided as per terms of O&M)
3.10	<b>SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET</b>	2 of 20	1.01.0 0	The governor shall be provided with motor operated speeder gear for adjustment of generator frequency	The governor shall be electronic type as per OEM standard.	Noted. Suitable governor shall be provided by the Bidder for adjustment of generator frequency. Bidder to furnish details of governor system along with the bid.
3.11	<b>SECTION B3-2 / GAS ENGINE DRIVEN</b>	2 of 20	1.01.0 0	The GG shall be rated for 415 V, 3 phase, 4 wire, 50 Hz supply. The	ISO / nameplate rating of the Genset shall be at unity p.f. OIL to take cognizance of the same.	Follow tender spec while considering Generator Output and our clarifications are in point

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
	Part/ Section	Page No.	Clause No.	SUBJECT		
	GENERATOR SET			rated power factor shall be 0.8 lag		no 3.2 above
3.12	SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET	2 of 20	1.02.0 0	24V DC starter with 2 sets of batteries and float cum boost battery chargers.	We understand one set of battery and battery chargers shall be used for each Genset. Total 2 sets of Batteries for 2 Gensets. OIL to confirm.	Bidder's understanding is okay. Any set of battery and battery charger, however, can be used for other set also.
3.13	SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET	4 of 20	1.03.0 4	Two alternative offers shall be given as under....	OIL to clarify whether genset to be housed inside enclosure or civil building. The offer shall be prepared accordingly.	Offer with any of the alternative is acceptable. (As per bidder's choice)
3.14	SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET	8 of 20	3.02.0 0 (a)	Capable to start second water injection pump (180 kW) having soft starter with a base load of 450 kW approximately.	We request OIL to consider VFD starting for motor.	Follow specification requirement for starting with soft starter.
3.15	SECTION B3-2 / GAS ENGINE DRIVEN GENERATOR SET	8 of 20	3.02.0 0 (b)	Duration of 10% overload operation without overheating or showing signs of undue stress and within specified frequency variation.	Gas Gensets are designed for continuous operation, hence overload is not applicable	Follow spec(Section B3-2; Clause 3.02.00; Page 8 of 20)
3.16	SECTION B3-2 / TECHNICAL DATA SHEET FOR GAS ENGINE GENERATOR SET	13 of 20	I) Gas engine genera tor	Net Output (each) : 810 (minimum or the nearest higher rating being available from the vendors)	We understand that the nameplate rating of Genset shall be more than 800 KWe as per MOEF norms. Please confirm.	Confirmed
3.17	SECTION B3-2 /	14 of	I) Gas	Gas Scrubber / Gas	Based on the above gas composition,	Bidder shall note that the gas



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	<b>TECHNICAL DATA SHEET FOR GAS ENGINE GENERATOR SET</b>	20	engine generator	Cleaning/ Gas Dehydrating / Gas Filter	Gas Scrubber / Gas Cleaning/ Gas Dehydrating / Gas Filter is not required.	compositions specified are indicative only. Bidder shall consider the suitable Gas scrubber/Gas Cleaning/ Gas Dehydrating / Gas Filter to take care of any liquid which might be prevalent with the supplied gas.
<b>3.18</b>	<b>SECTION B3-2 / TECHNICAL DATA SHEET FOR GAS ENGINE GENERATOR SET</b>	14 of 20	I) Gas engine generator	Governing System : Woodward governor with load sharing and parallel operation facility	We understand that the Governor make shall be as per OEM standard. For MWM gas genset, the governor make is Heinzmann. Bidder shall provide suitable protection and synchronizing relay which should have load sharing and parallel operation facility	See our clarification in point no 3.10 above
<b>3.19</b>	<b>SECTION B3-2 / TECHNICAL DATA SHEET FOR GAS ENGINE GENERATOR SET</b>	14 of 20	I) Gas engine generator	Acoustic Enclosure / Cladding : Required (to maintain 75 dBA within 1 m from Enclosure Surface)	We understand enclosure shall be suitable to maintain 75 dBA within 1 mtr from enclosure surface or as per CPCB norm whichever is applicable. OIL to confirm.	Noted & confirmed
<b>3.20</b>	<b>SECTION B3-2 / TECHNICAL DATA SHEET FOR GAS ENGINE GENERATOR SET</b>	14 of 20	I) Gas engine generator	Rating at 45 deg C ambient temperature : 810 kWe (minimum or the nearest higher rating being available from the vendors)	We understand that minimum output of gas genset at 45 deg C, unity p.f shall be 800 KWe at alternator terminal. OIL to confirm.	See the clarification given in 3.2 above
<b>3.21</b>	<b>SECTION B3-2 / TECHNICAL DATA SHEET FOR GAS ENGINE</b>	15 of 20	I) Gas engine generator	Excitation Type : Permanent Magnet	Request to amend as "Brushless excitation as per OEM standard"	Noted

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
	Part/ Section	Page No.	Clause No.	SUBJECT		
	<b>GENERATOR SET</b>					
<b>3.22</b>	<b>SECTION B3-2 / TECHNICAL DATA SHEET FOR GAS ENGINE GENERATOR SET</b>	15 of 20	I) Gas engine genera tor	Degree of protection : IP-52	Alternator degree of protection shall be IP-23 as per OEM standard.	Noted
<b>3.23</b>	<b>SECTION B3-2 / TECHNICAL DATA SHEET FOR GAS ENGINE GENERATOR SET</b>	15 of 20	I) Gas engine genera tor	Stringent Loading Pattern of Generator: Should capable to start 180 kW Motor with base load of 450 kW (Approximately).	We understand that the motor is VFD driven. Please note that without VFD, single 800 KWe genset cannot start 180 KWe motor at 450 KW base load. Else both working and stand by genset to be operated to start the motor at stated base load. OIL to confirm.	See the clarification given in 3.2 above
<b>3.24</b>	<b>SECTION B3-2 / TECHNICAL DATA SHEET FOR GAS ENGINE GENERATOR SET</b>	15 of 20	III) 24V Batter y and Batter y Charg es	Overall efficiency : > 80%	We understand minimum electrical efficiency of genset shall be > 40% and minimum thermal efficiency shall be > 40% so that total efficiency is > 80%. OIL to confirm.	Bidder shall indicate specific gas consumption in their offered Genset – Kg/KWe at 35 Deg C gas temperature, at the specified site condition considering specified characteristic of gas
<b>3.25</b>	<b>KEY SINGLE LINE DIAGRM</b>			Gas Genset rating – 810 KWe	We request OIL to modify the rating to 800 KWe (minimum rating)	Gas Genset rating shall be above 800 KWe

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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	Part/ Section	Page No.	Clause No.	SUBJECT		
<b>4</b>	<b>PROCESS</b>					
<b>4.1</b>	Volume II	24	3.01.04	Table not readable	Design basis table is not readable. Please furnish the revise table.	Please see the table as annexed in <b>Annexure II-A</b> with the clarification. below
<b>4.2</b>	Volume II			P & ID	We have not found P & ID in tender document. Please provide the same.	The P&ID has been uploaded as part of Tender Drawings (Volume IV) process & Mechanical. Please refer.
<b>5</b>	<b>MECHANICAL</b>					
<b>5.1</b>	Appendix-All	104 of 632	-	List of Mandatory Spare	Please confirm any Mandatory spare required for the piping items in this project.	Please refer Volume- II, Part A, Section A-9. For spare parts of Valve refer <b>Annexure II- B</b> annexed with the clarification. Mandatory Spares for Pipes & Fittings are not required.
<b>5.2</b>	General	75 of 632	<b>1.2.5</b>	Fire Fighting	Please clarify the scope of fire fighting System & Fire water network.	No fire hydrant system envisaged. Fire Detection & Portable Fire Extinguishers to be furnished as per Section B-11
<b>5.3</b>	General	-	-	Vendor list for Piping Items	Please furnish the vendor list for Piping items. (Pipe, flange, fitting, valves, strainer etc.)	Please see <b>Clause 1.2.3</b> (Page 2 of 2) <b>Mechanical Items of Section A-16 (Sub Vendor Selection Criteria)</b>
<b>5.4</b>	Scope of Service	18 of 632	<b>2.0</b>	Terminal Points	Please furnish detail for terminal points with size, existing header pipe size, location & length from terminal point to new plant battery limit.	Details are in the P&IDs as well as Overall Plot Plan, Plant Layout, Water Injection Pump House (Plan & Section), Gas

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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						Engine Generating Building (Plan & Section) and Piping Layout (Water Injection Pump House Area). These are uploaded in Volume IV of Tender Drawings.
<b>6</b>	<b>CIVIL &amp; STRUCTURAL</b>					
<b>6.1</b>	Volume-II Part A:General	5 of 8	1.02.01	Scope of Civil, Structural and architectural works	<b>Demolition of existing structures/Facilities, if any ,and site clearance</b>  Kindly provide the detail drawings of Demolition of existing structures/Facilities	Owners don't have any drawing of existing structure. It is mostly a barren land. Requested to visit the site to know & understand the exact scenario of the site.
<b>6.2</b>	Volume-II Part-B5	3 of 8	3.02.00	Pavement	<b>The Human trafficking road/Walkway shall be RCC Pavement:</b> We understand that RCC pavement shall be provided only for the Human trafficking road/Walkway, Please confirm	Yes, only human trafficking road/walkway will be RCC pavement.
<b>6.3</b>	Volume-II Part-B5	3 of 8	3.01.00	Road	<b>Road:</b> Kindly provide standard sketch showing cross-section of all plant service Road.	Minimum thickness of WBM, BM and Premix carpet mentioned in the specification clause no 3.01.00 (Section B5-2). However, the final plant service roads to be designed and draw during detail design stage based on the site data and technical specification mentioned in

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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						clause no 7.00.00 (Section B5-1) by EPC contractor.
6.4	Volume-II Part-B5	4 of 8	3.04.00	Fencing	<b>Fencing:</b>  Kindly provide standard sketch for Fencing.	Fencing specification also mentioned in the specification clause no 3.04.00 ((Section B5-3) & 11.01.01.14 (Section B5-1). However, EPC contractor to draw and submit the drawing along with layout during detail design stage.
6.5	Volume-II Part-B5	7 of 19	5.00.00	Design of reinforced concrete structures	<b>Grade of Concrete:</b> There is discrepancy between two clauses. Kindly clarify the grade of concrete for Liquid retaining structures whether M30 or M20?	Grade of concrete for liquid retaining structure shall be M30.
6.6	Volume-II Part-B5	6 of 19	5.00.00	Design of reinforced concrete structures	For design of all liquid retaining/storage RCC structures, we will adopt limit state design as per IS: 3370 with limiting crack width of 0.20 mm. Please confirm.	This is fine. The limit of crack width to be maintained within 0.10 mm However, un-cracked section design will be preferred.
6.7	Volume-II Part-B5	15 of 19	11.01.01.10	Roof	There is discrepancy between type of MOC for Rain water pipe kindly confirm type of pipe is PVC or Cast Iron to be provided	The rainwater pipe shall be PVC pipe.
6.8	RD-0011c01-C-CSL-001-Rev-01		6	Disposal of surplus soil	Kindly furnish the location or lead for Disposal of surplus soil	The location of disposal is totally in the scope of EPC contractor. Owner has no responsibility to provide land for disposal.
6.9	RD-0011c01-C-CSL-001-Rev-01		6	Borrow Pit	Kindly furnish the location of Borrow pit.	The location of Borrow pit is totally in the scope of EPC

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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						contractor. Owner has no responsibility to provide Borrow pit.
6.10	RD-0011c01-C- CSL-001-Rev-01			Backfilling	We understand that available excavated soil is good for backfilling, Please confirm.	This is the responsibility of EPC contractor to maintain the technical standard, specification and quality. EPC contractor has to ensure that back filling material will meet the technical requirement.
6.11				Hook up Point	Kindly furnish the location of outfall structure for Storm water drain	Please visit the site to see the location hook up point of storm water drain.
7	<b>ELECTRICAL</b>					
7.1	<b>Vol-II-Part-B3: Electrical Systems</b> SECTION: B3-1 LEAD ELECTRICAL SPECIFICATION	01/ 05	1.01.00	Control Voltage	<p>As per said clause, DC control voltage for Circuit Breaker shall be 110V, Ungrounded.</p> <p>However as per other paragraph on the said clause, control &amp; auxiliary voltage shall be 240 V, 1-Ph via control transformer.</p> <p>Moreover, control voltage for LT breaker shall generally be 240 V, 1 Ph and we are considering the same.</p> <p>Client to confirm the above</p>	<p>110 V DC control voltage shall be used for tripping, closing &amp; spring charging operation of all air circuit breakers.</p> <p>240 V, 1-ph AC derived from control transformer shall be used for PMCC controls/ indications/monitoring panel space heating and panel illumination purpose.</p> <p>Bidder to follow above only.</p>
7.2	<b>Vol-II-Part-B3:</b>			Approved vendor list	Approved vendor list is not attached	For Sub-vendor approved list,

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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	<b>Electrical Systems</b> SECTION: B3-1 LEAD ELECTRICAL SPECIFICATION				<p>with specification.</p> <p>However as per 4.02.05, consolidated Bill of Materials with make list for panel shall be submitted for review.</p> <p>Based on the above, we understand that Bidder shall submit approved make list with Previous customer supplied list for individual equipment for client approval.</p> <p>Client to confirm the above.</p>	<p>ref. VOULME-II, SECTION-A16SUB - VENDOR SELECTION CRTERIA.</p> <p>Bidder's reference of clause 4.02.05 pertains to SECTION: B3-4:415V PMCC, MLDB, ACDB, and WELDING DB &amp; LPB STATIONS. During detail engineering, the contractor shall submit the panel BOQ along with the make list of components for EPMC/OIL's approval.</p>
<b>7.3</b>	<b>Vol-II-Part-A: General</b> SECTION: B3-1 LEAD ELECTRICAL SPECIFICATION	05/ 24	2.02.13 ( <del>4.02.13</del> )	Electrical System Description	<p>As per said clause, 800 A ACB feeder to be considered for feeding client one remote 415 V electrical panel.</p> <p>However, we have not considered supply, laying &amp; termination of interconnecting cables for Client remote 415 V electrical panels.</p> <p>Client to confirm the above.</p>	Bidder's understanding is correct.
<b>8</b>	<b>Control &amp; Instrumentation</b>					
<b>8.1</b>				Plant Area for water injection	We understand that the complete plant area for water injection is SAFE area and accordingly all the field instruments shall be suitable for installing in safe	Except the Gas Engine Generator room, the whole plant area is a SAFE zone. However, enclosure protection shall be IP67 for

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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					area with enclosure protection WP IP 65, Intrinsically safe or Exd protection is not required. Please confirm our understanding.	outdoor installations
8.2	Vol. II Part B4	4/61	2.05.00 c	Power supply for Field Instruments	<p>It is indicated under this clause that power supply for field instruments shall be 230 V AC from UPS (4 wire system).</p> <p>We would like to submit that the field transmitters like PT, DPT, TT, LT etc are generally available with power supply 24 VDC (2 wire system). Hence we request you to accept the field transmitters with 24 VDC (2 wire system). Please confirm your acceptance.</p>	It is ok to have PT, DPT, TT, LT etc. with 24 VDC, but for analysers 230 VAC, 4W system may be required which must be from UPS.
8.3	Vol. II Part B4	4/61	3.00.00	PLC system type & configuration	<p>We understand that the PLC system required for Water Injection system shall be General Purpose (Not SIL certified) with redundant CPU, redundant power supply and redundant communication but Non redundant IO modules. The system shall have One no. Engineering cum operator work station alongwith printer and one no. 55" Large video screen. Please confirm our understanding.</p>	<p>A minimum SIL a certified PLC system is required which is already mentioned in the clause 3.00.00</p> <p>The other understandings are ok.</p>
8.4	Vol. II Part B4	4/61	3.00.00	Interfacing of WIS PLC with existing SCADA	It is indicated under this clause that the PLC system for WIS shall be interfaced	Approx. 400 meters (Actual measurement to be taken from



Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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					with existing SCADA system through MODBUS protocol. Please indicate the distance between WIS PLC and existing SCADA system so that we can estimate the length of cable required for interfacing.	site)
8.5	Vol. II Part B4	18/6 1	3.01.00 P	Foundation Fieldbus software	It is indicated that "In the EWS & servers, development version of HMI software & foundation fieldbus system software shall be provided". Since all the Field transmitters specified are Smart transmitter with 4-20 mA output + HART, we understand that the foundation fieldbus system software is not required. Please confirm our understanding.	Noted. Since system will be HART base, software for HART base system will be required.
8.6	Vol. II Part B4	24/6 1	4.01.00	Quantity of Handheld configurator	It is indicated to supply Hand held configurator kit for calibration of smart transmitter. We understand that One no. HHC shall be considered for the calibration of all the smart transmitters. Please confirm our understanding.	Noted & OK (BOM to be referred)
8.7	Vol. II Part B4	27/6 1	4.01.00 d	Instrument List	Under this clause specification for orifice plate has been given, for quantity of orifice plate it is indicated that "Refer Instrument list". We could not find the Instrument list in the tender document. Request you to	Vendor shall prepare their own Instrument list during detail engineering and for the time being they can refer the P & ID attached with the tender

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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					provide the same.	
8.8	Vol. II Part B4	35/6 1	4.01.00 k	Instrument Schedule	Under this clause specification for DP type multivariable transmitter has been given, for Quantity and service of multivariable transmitter it is indicated that "Refer instrument schedule". We could not find the Instrument schedule in the tender document. Request you to provide the same.	Vendor shall prepare their own Instrument schedule during detail engineering and for the time being they can refer the P & ID attached with the tender
8.9	Vol. II Part A Section A16	2/2	1.2.4.1	GCS-INS-008 --- Not found in tender document	It is indicated under this clause that the "Selection criteria of Instrument vendor are enclosed in document no. GCS-INS-008 elsewhere in the bid" We could not find the referred document. Request you to provide the same.	Document GCS-INS-008 stands deleted. The instrument vendor selection shall be done from EIL approved vendor list.
8.10	Vol. II Part A Section A5	16/2 4	9.01.01	Layout drawing of WIS – Not found in tender document	It is indicated under this clause that "A preliminary layout of the proposed WIS plant is shown in the tender drawing". We could not find the referred drawing. Request you to provide the same.	Please refer layout drawing attached in the tender
8.11	Vol. II Part A Section A5	13/2 4	8.02.00	P & IDs (RD-O011C01-M-PID-001 to 005). --- Not found in the tender document	It is indicated under this clause that "The control philosophy shall be read in conjunction with P & IDs (RD-O011C01-M-PID-001 to 005). We could not find the referred P & ID. Request you to provide the same.	Please refer P & ID
8.12				Type of On Off Valve	We understand that the On Off valves required for process isolations shall be	Please refer the P & ID for the type of On Off valves required.

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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					<p>as per following philosophy. For size 3" and less Ball valves with body &amp; flange rating 150# shall be used. The MOC of the body shall be as per respective piping class. For size 4" and above Wafer lugged design Butterfly valve with concentric disc design having body rating PN10 shall be used. The MOC of the body shall be as per respective piping class.</p> <p>Please confirm our understanding.</p>	
8.13				Type of Level Transmitter	<p>We understand that for Level measurement in the tank Non-contact type Ultrasonic level transmitters &amp; DP type level transmitters are acceptable. Please confirm our understanding.</p>	<p>Please use DP type level transmitters with or without diaphragm seal or Non-contact type Ultrasonic level transmitters as per process application.</p>
9	INSPECTION	---	General		<p>We understand that contractor shall have not to engage any third party inspection agency. Kindly confirm the same.</p>	<p>Contractor shall have to engage the third party inspection agency after getting approval from OIL.</p>
10	COMMERCIAL TERMS					
10.1		Page 74 of 163	Vol.I- Part-3-III Clause 4	Water & Power	<p>Water, Power &amp; Other Utilities for testing &amp; commissioning</p> <p>We understand that Water, Power &amp; Other Utilities for testing&amp;</p>	<p>Shall be arranged by contractor with no extra cost to OIL.</p>

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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					commissioning shall be provided, near the construction site, by OIL free of cost. Please Confirm	
10.2		---	General	Care and Custody	It is clarified that in case, for reasons not attributable to contractor, commissioning or handing over of the plant is delayed, the 'responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the OIL. Kindly confirm.	Not acceptable. Only extension of time limit shall be admissible.
10.3		Page 77 of 163	Vol.I- Part-3-III Clause 9	--	We understand that all the works under this tender shall be treated as "Work Contract services of GST Act". Please confirm above	Bidder's understanding is correct.
10.4		---	---	General	We understand that if there is any change in Govt rule regarding compliances of Labour, Manpower, Bonus, insurance, EPF, Gratuity etc. escalation is applicable. Kindly Confirm.	Escalation if any will be on Bidder's account
10.5		58	Vol.I- Part-3-III Page 77 of 163	Taxes	We understand that quoted price against this tender is inclusive of all extras, tax levies or cost as on closing date of the tender except GST TAXES AND same shall be payable extra at actual. Kindly Confirm please	Bidder's understanding is correct.
10.6		20	Vol.I- Part-3-III Page 83	Statutory Environmental clearances	All statutory, environmental clearances, permission and land acquisition including ROU and ROW shall be	Tender conditions prevails

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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			of 163		Owner's responsibility for timely execution of project. Please confirm	
11	<b>SPECIAL TERMS</b>	<b>58</b>	Vol. I- Part-3- 111: Page 58 of 163		<p>As per our understanding, for the purpose of availing benefit of concessions mentioned in Notification No. 50120 17-Customs dtd 30.06.20 17, separate contracts for supply of goods &amp; supply of services would be required. Kindly confirm this.</p> <p>In case of single contract under the head "Works Contract", GST @ 18% on total amount would be applicable and exemption benefits of various notifications would not be available.</p> <p>So whether separate contracts for supply of goods &amp; supply of services would be awarded or a single contract for entire works would be awarded?</p> <p>Kindly confirm.</p>	It will be Single Lump-sum Contract
12	<b>GUARANTEES</b>	---	---	General	As per new procedure of banks, we need "Oil bank details" for issuing EMD Bank Guarantee Kindly Provide	OIL will not provide bank details. Any scheduled Bank of Duliajan branch

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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13			FORWARDING LETTER Vol. I-Part 1 -1TB  <b>Clause 3(xvi)</b>	Performance Security (PBG)	<p><u>Amount of Performance Security as pre tender</u></p> <p>For Successful Completion &amp; covering the Defect LiabilityPeriod and O&amp;M period. 10% of the Total Contract Value. The Contract value is total evaluated price of the Contract (both EPC and total O &amp; M Charges):</p> <p>-----</p> <p>-----</p> <p>But, mostly for this type of tender (i.e. LSTK+O&amp;M), the PBGs clauses are generally as mentioned below in red font and we also request you to accept the same to increase the competitiveness in bidding.</p> <p>Within 30 days from the date of issue of WO/LOA/NOA the successful bidder shall be required to submit Performance Bank Guarantee (PBG) for 10% of total contract value (i.e. LSTK). Initially valid till the Scheduled Project Completion date plus Warranty Period. This PBG shall be reduced to 5.0% during Warranty period.</p> <p>On successful commissioning and at</p>	Not acceptable. Tender conditions prevail.

Sr. No	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OIL INDIA CLARIFICATION
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					<p>start of O&amp;M contract. Successful bidder shall be required to submit another PBG; valid for total O&amp;M period duration and of the value of 10% average annualized O&amp;M contract value.</p> <p>Kindly accept the same</p>	
14	ANY OTHER	---	---	General	<p>It is required that we should get minimum 30 days for submission of bids after receipt of replies of Pre-bid queries.</p> <p>Please confirm</p>	Not accepted. Revised Bid closing date is final.

## ANNEXURE- II-A

### Treated Water Specification (Phase – II)

Characteristics	Unit	Value (Range)
pH	-	6.5-8.5
Temperature	°C	Ambient - 50°C
Total Suspended Solids	-	98% of removal of suspended solids > 10 microns (in inlet water)
Dissolved Oxygen	ppm	< 2
SRB		Nil
Other Bacterial Activity, Gab, IOB & APB		Nil
Oil & Grease	ppm	< 10
BOD	ppm	80 - 135
COD	ppm	180 - 1400
TDS	ppm	3500 - 5000
Zinc	ppm	0.1 - 0.7
Chlorides	ppm	400 - 2400
Sulphates	ppm	70 - 125
Sodium	ppm	60 - 85
Phenolics	ppm	2 - 10
Cyanides	ppm	0.0002 – 0.04
Fluorides	ppm	0.1 – 0.3
Sulphides	ppm	0.07 – 0.3
Chromium (Cr <sup>6+</sup> )	ppm	0.01 – 0.06
Copper	ppm	0.02 – 0.4
Lead	ppm	0.7 – 2.0
Nickel	ppm	0.2 – 1.6



## ANNEXURE- II-B

### Mandatory Spare Part List for Valves

PART DESCRIPTION	QUANTITY REQUIRED  % OF AS BUILT	REMARKS
VALVES AND FLANGES (½ " TO 1½")	2	For ratings 900 # and above, minimum one valve surplus shall be supplied for each piping class and for each size, rating, and material.
VALVES AND FLANGES (2" TO 4")	2	For ratings 900 # and above, minimum one valve surplus shall be supplied for each piping class and for each size, rating, and material.
VALVES AND FLANGES (6" TO 8")	2	For ratings 900 # and above, minimum one valve surplus shall be supplied for each piping class and for each size, rating, and material.

## **ANNEXURE- III**

### **INTEGRITY PACT**

Between

Oil India Limited (OIL) hereinafter referred to as "The Principal"

And

(Name of the bidder).....hereinafter referred to as "The Bidder/Contractor"

#### **Preamble:**

The Principal intends to award, under laid down organizational procedures, contract/s for ..... The Principal values full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder/s and Contractor/s.

In order to achieve these goals, the Principal cooperates with the renowned international Non-Governmental Organization "Transparency International" (TI). Following TI's national and international experience, the Principal will appoint an external independent Monitor who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

#### **Section: 1 -Commitments of the Principal**

**(1)** The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:

1. No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for him/herself or third person, any material or immaterial benefit which he/she is not legally entitled to.
2. The Principal will, during the tender process treat all Bidders with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidders the same information and will not provide to any Bidder confidential/additional information through which the Bidder could obtain an advantage in relation to the tender process or the contract execution.
3. The Principal will exclude from the process all known prejudiced persons.

**(2)** If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a Page 2 of 6 substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

## **Section: 2 -Commitments of the Bidder/Contractor**

**(1)** The Bidder/Contractor commits itself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

1. The Bidder/Contractor will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or immaterial benefit which h e/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

2. The Bidder/Contractor will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, Subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

3. The Bidder/Contractor will not commit any offence under the relevant Anticorruption Laws of India; further the Bidder/Contractor will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

4. The Bidder/Contractor will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

**(2)** The Bidder/Contractor will not instigate third persons to commit offences outlined above or be an accessory to such offences.

**(3)** The Bidder/Contractor signing Integrity Pact shall not approach the Courts while representing the matters to IEMs and he/she will await their decision in the matter.

### **Section 3 -Disqualification from tender process and exclusion from future Contracts**

If the Bidder, before contract award has committed a transgression through a violation of Section 2 or in any other form such as to put his reliability or risibility as Bidder into question, the Principal is entitled to disqualify the Bidder from the tender process or to terminate the contract, if already signed, for such reason.

1. If the Bidder/Contractor has committed a transgression through a violation of Section 2 such as to put his reliability or credibility into question, the Principal is entitled also to exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case, in particular the number of transgressions, the position of the transgressions within the company hierarchy of the Bidder and the amount of the damage. The exclusion will be imposed for a minimum of 6 months and maximum of 3 years.

2. The Bidder accepts and undertakes to respect and uphold the Principal's Absolute right to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

3. If the Bidder/Contractor can prove that he has restored/recouped the Damage caused by him and has installed a suitable corruption prevention system, the Principal may revoke the exclusion prematurely.

4. A transgression is considered to have occurred if in light of available evidence no reasonable doubt is possible.

5. Integrity Pact, in respect of a particular contract, shall be operative from the date Integrity Pact is signed by both the parties till the final completion of the contract **or as mentioned in Section 9- Pact Duration whichever is later**. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings

### **Section 4 -Compensation for Damages**

1. If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and

recover from the Bidder liquidated damages equivalent to Earnest Money Deposit / Bid Security.

(2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to Security Deposit / Performance Bank Guarantee.

3. The bidder agrees and undertakes to pay the said amounts without protest or demur subject only to condition that if the Bidder/Contractor can prove and establish that the exclusion of the Bidder from the tender process or the termination of the contract after the contract award has caused no damage or less damage than the amount or the liquidated damages, the Bidder/Contractor shall compensate the Principal only to the extent of the damage in the amount proved.

### **Section 5 -Previous transgression**

1. The Bidder declares that no previous transgression occurred in the last 3 years with any other Company in any country conforming to the TI approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

### **Section: 6 -Equal treatment of all Bidders/Contractor/Subcontractors**

1. The Principal will enter into Pacts on identical terms with all bidders and contractors.

2. The Bidder / Contractor undertake(s) to procure from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the provisions laid down in this agreement/Pact by any of its sub-contractors/sub-vendors.

3. The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

### **Section: 7 -Criminal charges against violating Bidders/Contractors/Subcontractors**

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

## **Section: 8 -External Independent Monitor/Monitors**

1. The Principal appoints competent and credible external independent Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
2. The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the Chairperson of the Board of the Principal.
3. The Contractor accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder/Contractor/Subcontractor with confidentiality.
4. The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
5. As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or heal the violation, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action. However, the Independent External Monitor shall give an opportunity to the bidder / contractor to present its case before making its recommendations to the Principal.
6. The Monitor will submit a written report to the Chairperson of the Board of the Principal within 8 to 10 weeks from the date of reference or intimation to him by the 'Principal' and, should the occasion arise, submit proposals for correcting problematic situations.
7. If the Monitor has reported to the Chairperson of the Board a Substantiated suspicion of an offence under relevant Anti-Corruption Laws of India, and the Chairperson has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8. The word 'Monitor' would include both singular and plural.

**Section:9 -Pact Duration**

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the respective contract, and for all other Bidders 6 months after the contract has been awarded.

If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by Chairperson of the Principal.

**Section:10 -Other provisions**

1. This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi. The Arbitration clause provided in the main tender document / contract shall not be applicable for any issue / dispute arising under Integrity Pact.

2. Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

3. If the Contractor is a partnership or a consortium, this agreement must be, signed by all partners or consortium members.

4. Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

.....  
**For the Principal**

.....  
**For the Bidder/Contractor**

Witness 1: .....

Witness 2: .....

Place.  
Date.