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

Corrigendum No. 4 to IFB No. CPG3774P17

Engineering, Procurement, Construction, Testing & Commissioning of a Group Gathering Station (GGS) at Baghjan, Assam

a) This Corrigendum is issued to notify the following as Addendum to above tender:

i) Bid Queries Responses (Technical/Commercial clarifications) as per attached **ANNEXURE-1**

ii) **Amendment No. 01** (Commercial and Technical) to Bidding Document

iii) Modified VENDOR SELECTION CRITERIA as per attached **ANNEXURE -D(rev-01)**

b) Further, this Corrigendum is also issued to notify extension of Date of Sale of Bid document and Bid Closing/Opening Date as under :

i) Last date of Sale of Bid document : **20.07.2017 (up to 15:30 Hrs. IST)**

ii) Revised Bid Closing/Opening Date & Time : **27.07.2017 (11:00 Hrs./14:00 Hrs. IST : Server Time)**

c) All other terms and conditions of the tender remain unaltered.

d) 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.

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AMENDMENT NO. 01 (Commercial and Technical)
TO
BIDDING DOCUMENT NO.: CPG3774P17
Creation of Group Gathering Station (GGS) at Baghjan in Upper Assam

NAME OF WORK: GROUP GATHERING STATION
IFB No. /E-TENDER No.: CPG3774P17

A. COMMERCIAL:

The terms, conditions, specifications and stipulations of the Bidding Document shall stand modified to the extent indicated here below under column "Modification/Addition/Deletion" and subject to these modifications; all other terms, conditions, specifications and stipulations of the Bidding Document & Amendments issued earlier shall remain unchanged.

SL. No.	Section(Document)	Clause No.	Subject	Modification /Addition/Deletion
1.	VOLUME I, PART 1, INSTRUCTION TO BIDDERS	33.4 (a) iii [page no 31 of 269]	MOBILISATION ADVANCE PAYMENT, FIRST INSTALMENT	The 5th line of the clause viz. "which shall be valid till completion of work" stands modified and to be read as under:- **"The validity of the Bank Guarantee shall be up to completion of the Contract. However, Bank Guarantee shall be released after completion of the Contract or full recovery of Mobilization Advance whichever is earlier".**
2	VOLUME I	PROFORMA - O [page 262 of 269]	COMMERCIAL QUESTIONNARIE	In Serial no.20, Bid validity period "180 days" stand replaced by 120 days.
3	VOLUME I, PART 3, SECTION-I, GENERAL CONDITIONS OF CONTRACT.	17.2 [page 60 of 269]	LIQUIDATED DAMAGES FOR DELAY IN COMPLETION.	The words "Gas Compressor Station" appearing in the first line of the clause stand modified and to be read as "Group Gathering Station".
4	VOLUME I, PART 3, SECTION III, SPECIAL CONDITIONS OF CONTRACT	[Page 210 of 269]	ANNEXURE A2 & A3	The format of this Annexure A2 PWCAMC and Annexure A3 PWCAMC are attached with this addendum for bidder's reference.
5	VOLUME-I, PART – 1, INSTRUCTION TO BIDDERS	33.4 (b) [page 31 of 269]	MOBILISATION ADVANCE PAYMENT b) SECOND INSTALLMENT:	The sentence in bracket "Balance 5% (five percent) Mobilisation Advance shall be payable to the Contractor after the Contractor has constructed a site office, storage shed, fabrication yard, etc. and has physically mobilised construction equipments and is ready to start the works to the entire satisfaction of the Engineer-in-Charge/EPMC and commencement of work at Site" stands modified and to be read as:

				Balance 5% (five percent) Mobilisation Advance shall be payable to Contractor after the contractor has mobilized the items at site as listed in the mobilization check list form enclosed as **PROFORMA-T**. Upon Mobilization, EPC to fill the PROFORMA-T and obtain approval from the Engineer-in-Charge / EPMC prior to raising the invoice for this 5% payment on mobilization. The remaining statement in this clause remains same.

B. TECHNICAL:

The terms, conditions, specifications and stipulations of the Bidding Document shall stand modified to the extent indicated here below under column "Modification/Addition/Deletion" and subject to these modifications; all other terms, conditions, specifications and stipulations of the Bidding Document & Amendments issued earlier shall remain unchanged.

SL. No.	Section(Document)	Clause No.	Subject	Modification /Addition/Deletion
1.	Volume I, Part 3, section- II, TERMS OF REFERENCE & TECHNICAL SPECIFICATIONS	4.5 [page 94 of 269]	WATER SUPPLY AND FIRE FIGHTING SYSTEM	The sentence in bracket "(water supply well will be made available by OIL)" appearing in the 3rd line of the clause stands modified and to be read as under:- Installation of Water supply well and Bore well pump will be in bidder's scope of supply. Water supply well pump shall be designed to cater the total water requirement of Water supply

				systems and Fire fighting systems. The pump's maximum capacity shall be 2400 KLPD and head will be decided once the water depth from land data is available. Rest part of the clause remains unchanged.
2.	Volume I, Part 3, Section III, SPECIAL CONDIIONS OF CONTRACT	56.0 [page 183 of 269]	PAYMENT & INVOICING PROCEDURE	The words "Production Project Department" appearing in the clause and elsewhere in the bidding document stand replaced by "Projects Department".
3.	Volume I, Part 3, Section III, SPECIAL CONDIIONS OF CONTRACT	ANNEXURE- D [page 221 to 233 of 269]	ANNEXURE–D VENDOR SELECTION CRITERIA	"Annexure D" in the bidding document has been modified to ANNEXURE-D (Rev-01). Copy of ANNEXURE-D (Rev-01) is enclosed.
4.	Volume-1 Part 3, Section II, Terms of Reference, Documentation & Submission of Reports	Clause 5.0 [page 104 of 269]	Documentation & Submission of Reports	New clause 5.5 has been added under the Clause 5.0 DOCUMENTATION & SUBMISSION OF REPORTS and bidders to strictly comply the requirement. **5.5** EPC will have to use Project management software of M/s OIL named as TIEMCHART for creating, updating and storing all project related data, reports and MoPNG reports, etc. Project schedule, resource planning, billing schedules and other details will have to be updated in the software by EPC. The license for the same has to be procured/obtained by EPC from M/s TIEMCHART.
5.	Volume-1 Part 3, Section II, Terms of Reference & Technical Specifications	Clause 8.0 [page 105 of 269]	VARIOUS MILESTONES FOR EXECUTION	Clause 8.0 III. 3rd Mile stone, a milestone activity (d) has been included and bidder to comply the same. d) 90% PDS / PDMS model review

6.	Volume-1 Part 3, Section II, Terms of Reference & Technical Specifications	Clause 4.0	SCOPE OF EPC	The words "EPMC / OIL Approved vendors or OIL Approved Vendors" appearing in the clause and elsewhere in the bid document is not to be considered and in place of that Bidders to note that for any Package / Equipment / system / Bulk Items, the offered items for the same must meet the tender specification combined with EQC and PTR requirements provided in the Annexure D, Vendor Selection criteria rev.01. Any vendor who meets the vendor selection criteria such as EQC and PTR requirement shall be considered for this project. The responsibility of ensuring the performance of these items as per tender specification is EPC responsibility.
7.	Volume II, PROCESS & FIRE SAFETY	1. Site conditions and available utilities1960-P-GD-0103, Rev.0, Page 2 of 2. 2. Electrical Design Philosophy, 1960-E-DB-0900, Rev.0, Clause-2.0, Page 11 of 44.	Elevation above MSL	The value provided for the MSL as 1000m appearing in the clause stands modified and to be read as **116m**. Bidder shall consider the average elevation of the site as **116 m of the MSL** as per Section 6.1, Page 36 of Geotechnical Investigation & Topographical Survey for "Construction of GGS" at Baghjan.
8.	Volume II, Piping 1 of 1, Doc No : 1960 -L-DB-0400,	Piping design Philosophy Clause 4.7.5 [Page 26 of 44]	Valves end type (SW, Butt weld, Flanged)	Valves end type specified in the clause stands modified and bidder to follow as per the end type provided in the Valve Material Specification (Doc no 1960-M-SP-0505, Rev 0)

9.	Volume II, Piping 1 of 1, Doc No : 1960 -L-DB-0400	Piping design Philosophy Clause 4.2.7 [page 15 of 44]	LP Steam	In Utility station 1st paragraph 2nd line "Utility stations shall have three connections [one for LP steam (SL), one for Plant Air (AP) and one for Service Water (WS)]". This line stands modified and to be read as under:- Utility stations shall have two connections [one for Plant Air (AP) and one for Service Water (WS)]
10.	Volume II, Doc No.1960-M-DS-0501	Inlet Heater data sheet [Page 4 of 6]	Process conditions (Design pressure, operating pressure, process duty)	Process conditions mentioned in the Inlet Heater data sheet [Page 4 of 6] stands modified and bidder to follow the P&ID (Doc no 1960-P-DW-0202-01-Rev.0) for the Inlet Heater process conditions.
11.	Package RFQ listed below, 1960-M-RFQ-0504 1960-M-RFQ-0500 1960-M-RFQ-0506 1960-M-RFQ-0507 1960-M-RFQ-0508 1960-M-RFQ-0502 1960-M-RFQ-0510 1960-M-RFQ-0512 1960-M-RFQ-0501 1960-M-RFQ-0503 1960-M-RFQ-0505 1960-M-RFQ-0509 1960-M-RFQ-0513	Different clauses in the specified RFQs under EQC and PTR	Equipment Qualification Criteria (EQC) and Proven Track Record (PTR)	EQC and PTR requirement specified in the various RFQ's listed under this S. No 9 in this amendment stands modified and bidder to follow the requirements for EQC and PTR as provided Annexure D, Vendor Selection Criteria Rev.01.
12.	Volume II, RFQ of Flash Gas Compression Package Doc no1960-M-RFQ-0505-Rev.0 and elsewhere in the tender document	-	Design code of compressor package	API 618 design code specified in various documents in tender stands modified and to be read as ISO 13631

13.	Volume II, Doc no1960-M-RFQ-0505	RFQ of Flash Gas Compression Package, Clause 5.1	Capacity control method	The sentence in bracket "(Capacity control device Inlet Throttle valve / Air Blow-off system)" appearing in the clause 5.1 stands modified and to be read as under:- Capacity control method shall be any combination of followings a) Prime mover speed variation b) Suction valve unloading c) Variable volume clearance pocket d) Recycle valve Rest part of the clause remains unchanged
14.	Volume II, Piping 1 of 1, Doc No : 1960 -L-DB-0400	Piping design Philosophy Clause 4.7.1.1 [page 20 of 44]	Pipe Schedule	The Sentence in Clause 4.7.1.1 - '10S' for above 2" NB. This line has been modified and to be read as under:- '5S' for above 2"NB follow as per PMS AS20.
15.	Volume II, Doc No : 1960 -L-DB-0400	Piping design Philosophy Clause 4.6	Flexibility Analysis and supporting	Various requirements specified in clause 4.6 stands modified and Bidder to follow the requirements specified in the pipe stress philosophy (Doc no 1960-M-SP-0506, Rev 0)
16.	Piping design Philosophy Doc No : 1960 -L-DB-0400,	Clause 4.7 & Annexure - D	Materials & Technical requirements for piping material	Various requirements specified in clause 4.7 & annexure -D stands modified and Bidder to follow the requirement specified in the PMS (Doc no 1960-M-SP-0500, Rev 0) and VMS (Doc no 1960-M-SP-0505, Rev 0).
17.	Volume II, Piping 1 of 1, Doc No : 1960 -L-DB-0400	Piping design Philosophy Clause 3.0 [page 42 of 44]	Positive Material Identification (PMI)	Positive material identification test at vendor's works shall be done as per 'Standard specification for positive material identification PMI at vendor's works, 6-81-0001'.has been modified and to be read as under:- Positive material identification test at vendor's works shall be done as per ASTM E1467 standard.

18.	Volume II, Piping 1 of 1, Doc No : 1960 -L-DB-0400	Piping design Philosophy Clause 2.4.1 [page 37 of 44]	Valves Castings/Forgings	The sentence in bracket "(Valves castings/forgings purchased from India or Indian vendors shall be from EIL approved foundries/forging shop)" this line has been modified and to be read as under:- Valves castings/forgings purchased from India or Indian vendors must comply the requirements provided in the Annexure –D, Vendor Selection Criteria rev.01.
19.	Volume II Electrical 1 of 6, Electrical Design Philosophy (Doc No : 1960 -E-DB-0900, Rev 0)	4.2 (Page 20 of 44)	Gas Engine Driven (GED) Genset	("A suitable sized EOT crane should be provided at captive power plant for maintenance work") Sentence in the bracket stands modified and to be read as below. **"**A suitable Material Handling Facility shall be provided at captive power plant for maintenance work"
20.	Volume II Electrical 1 of 6, Electrical Design Philosophy (Doc No : 1960 -E-DB-0900, Rev 0)	3.10 (Page 18 of 44)	DC Power Supply for FAS	("Fire alarm system shall have a dedicated battery backup system from the station battery/separate battery system") Sentence in the bracket stands modified and to be read as below. "FAS system shall be fed from AC UPS, However the Fire Alarm System Panel shall contain built-in Battery and Battery charger to feed the same during failure of AC UPS"

21.	Volume II Electrical 1 of 6, Electrical Design Philosophy (Doc No : 1960 -E-DB-0900, Rev 0)	4.13 (Page 29 of 44)	Annunciation Panel	("In case, hardwired panel is not provided, audio visual annunciations shall be provided as part of the HMI system") Sentence in the bracket stands modified and to be read as below. "Separate Hardwired Annunciation Panel shall be provided."
22.	Volume II Electrical 1 of 6, Electrical Design Philosophy (Doc No : 1960 -E-DB-0900, Rev 0)	3.9 (Page 16 of 44)	Protection and Metering Schemes	("All motor and lighting circuits must be protected by suitably rated ELCB/ELRs.") Sentence in the bracket stands modified and to be read as below "Suitable Earth leakage protection devices to be used in every motor starter or supply feeder so as to trip the incomer to that motor starter or supply feeder instantly on the occurrence of earth fault or earth leakage current. ELCB shall be used for all power feeders up to 63A rating and motor feeders upto 7.5kW rating. For rating higher than these CBCT, earth leakage relay and timer along with Audio & Visual indication shall be provided and the same shall be extended to the control room through Hardwired signal / Soft Link"
23.	Volume II Electrical 2 of 6, Key Line Diagram (Doc. No.1960-ED-DW-0900)	(Page 4 of 4)	Emergency LV MCC	("415V, 3PH, 3 Wire, 50 HZ, 4000A, 65kA, 1 Sec Cu Bus A"). Sentence in the bracket on Emergency LV MCC Bus Bar rating stands modified and to be read as below 415V, 3PH, 3 Wire, 50 HZ, 1000A, 65kA, 1 Sec Cu Bus A.

Note:

NAME OF WORK: GROUP GATHERING STATION
IFB No. /E-TENDER No.: CPG3774P17

1. Bidder to submit this Amendment No. 01 (Commercial and Technical) duly signed & stamped as token of acceptance and shall upload this document in the un-priced folder of the e-bid.

_____
(STAMP & SIGNATURE OF BIDDER)

PROFORMA-T

CHECKLIST FOR MOBILIZATION AT SITE

Contractor is requested to fill this check list and ensure that all the required items are mobilized at site and submit this document with duly filled in, signed & stamped checklist to the Engineering in Charge /EPMC for approval. This is one of the requirements for the mobilization payment milestone.

Note: This checklist is only indicative, however, in case, if any items need to be added or deleted based on the actual construction requirement as part of mobilization, then the EPC contractor shall discuss with the Engineer-in-charge/EPMC and obtain approval on the modified mobilization check list.

(1.0) Site Office Trailer(s)/Constructed including power supply

Mobilized / Constructed ☐

(2.0) Office furnishings (desk, chair's, filing cabinet, print table)

Mobilized / Constructed ☐

(3.0) Storage Facility at site/location with store keeper ☐

Mobilized / Constructed

(4.0) Fabrication Yard at site / location

Mobilized / Constructed ☐

(5.0) Store room for tools storage and equipments

Mobilized / Constructed ☐

(6.0) Temporary power for Construction

Mobilized / Arranged ☐

(7.0) Sanitary Facilities with water facility and water tanks

Mobilized / Arranged ☐

(8.0) Qualified Safety Officer Trained in first aid

Mobilized / Arranged ☐

(9.0) Fire Fighting Appliances such as Fire Extinguishers

Mobilized / Arranged ☐

(10.0) Fire Aid Kit, Medical facilities location

Mobilized / Arranged ☐

(11.0) Site Construction Manager

Mobilized / Arranged ☐

(12.0) Site Project Manager

Mobilized / Arranged ☐

(13.0) Security Requirements

Mobilized / Arranged ☐

(14.0) Organization Chart (Site Specific)

Mobilized / Arranged ☐

(15.0) Batching Plant

Mobilized / Arranged ☐

(16.0) Wheel Excavator machine for construction need

Mobilized / Arranged ☐

(17.0) Dewatering Pump

Mobilized / Arranged ☐

(18.0) High Pressure Hand pump ☐

Mobilized / Arranged

(19.0) Diesel Generator set for Emergency Power

☐

Mobilized / Arranged

(20.0) Lighting, Ventilation, Fan arrangement inside temporary facilities such as Office Trailer, Store room, Sanitary Toilet

☐

Mobilized / Arranged

(21.0) Approach area Lighting towards temporary building facilities such as Office Trailer, Store room, Sanitary Toilet

☐

Mobilized / Arranged

(22.0) Concrete Mixer

☐

Mobilized / Arranged

(23.0) Rollers and Compactors

☐

Mobilized / Arranged

(24.0) Cordless Drill

☐

Mobilized / Arranged

(25.0) Vacuum Blower

☐

Mobilized / Arranged

(26.0) Tripod

Mobilized / Arranged ☐

(27.0) Ladder

Mobilized / Arranged ☐

(28.0) Earth Rammer

Mobilized / Arranged ☐

(29.0) Hoe, Head Pans, Masonry Trowel, Plumb Bob, Measurement Tap

Mobilized / Arranged ☐

(30.0) Site Communications (Walkie Talkie)

Mobilized / Arranged ☐

(31.0) Rubber Boots, Gloves, Safety Glass

Mobilized / Arranged ☐

(32.0) Safety Shoes, Safety Helmets

Mobilized / Arranged ☐

(33.0) Shallow tube well
Mobilized / Arranged ☐

(34.0) Theodolite

Mobilized / Arranged ☐

(35.0) Crow bar

Mobilized / Arranged ☐

(36.0) Wrenches, Jack Hammer

Mobilized / Arranged ☐

(37.0) Circular Saw, Hand Saw, Flat Pry Bar

Mobilized / Arranged ☐

NAME OF WORK: GROUP GATHERING STATION
IFB No. /E-TENDER No.: CPG3774P17

ANNEXURE-A2

SL NO.	DESCRIPTION OF RECOMMENDED SPARES	UNIT		QTY.	RATE (Rs.)	
					CURRENCY	IN FIG.
A	**CREATION OF GGS AT BAGHJAN**					
A1	ANNUAL CHAREGES FOR MAINTENANCE OF **DCS SYSTEM** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A1.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A1.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A1.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A1.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A1.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A2	ANNUAL CHAREGES FOR MAINTENANCE OF **ESD SYSTEM** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A2.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A2.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		

A2.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A2.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A2.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3	ANNUAL CHAREGES FOR MAINTENANCE OF **F&G SYSTEM** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A3.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A4	ANNUAL CHAREGES FOR MAINTENANCE OF **TELECOM SYSTEM** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A4.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		

A4.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A4.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A4.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A4.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5	ANNUAL CHAREGES FOR MAINTENANCE OF **MOTOR OPERATED VALVES** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A3.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		

A6	ANNUAL CHAREGES FOR MAINTENANCE OF **FIELD INSTRUMENTS**INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A6.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A6.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A6.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A6.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A6.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A7	ANNUAL CHAREGES FOR MAINTENANCE OF GAS ENGINE **GAS ENGINE GENERATOR (AS PER VENDOR DATA)** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A7.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A7.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A7.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		

A7.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A7.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A8	ANNUAL CHAREGES FOR MAINTENANCE OF **DIESEL ENGINE GENERATOR (AS PER VENDOR DATA)** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A8.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A8.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A8.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A8.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A8.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A9	ANNUAL CHAREGES FOR MAINTENANCE OF **SWITCHGEAR INCOMER PROTECTION RELAY** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A9.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		

A9.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A9.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A9.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A9.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A10	ANNUAL CHAREGES FOR MAINTENANCE OF **EARTH PIT** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A10.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A10.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A10.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A10.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A10.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A11	ANNUAL CHAREGES FOR MAINTENANCE OF **HIGH MAST** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					

A11.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A11.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A11.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A11.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A11.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A12	ANNUAL CHAREGES FOR MAINTENANCE OF **MOTORS (BASED ON RUNNING HOURS AND VENDOR O&M MANUAL)** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A12.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A12.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A12.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A12.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A12.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
Notes: 1. COMPANY may negotiate the above prices and may enter into a suitable agreement with the Supplier of PLC/DCS/F&G/CCTV System covering all						

relevant aspects, at their discretion. The above Price shall be valid upto three years after the expiry of Defect Liability Period.

2. The above Price shall not be considered for evaluation.

NAME OF WORK: GROUP GATHERING STATION
IFB No. /E-TENDER No.: CPG3774P17

ANNEXURE-A3

SL NO.	DESCRIPTION OF RECOMMENDED SPARES	UNIT		QTY.	RATE (Rs.)	
					CURRENCY	IN FIG.
A	**CREATION OF GGS AT BAGHJAN**					
A1	ANNUAL CHAREGES FOR MAINTENANCE OF **INLET MANIFOLD SYSTEM – HP WELLS** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A1.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A1.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A1.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A1.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A1.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A2	ANNUAL CHAREGES FOR MAINTENANCE OF **INLET MANIFOLD SYSTEM – LP WELLS** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A2.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A2.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		

A2.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A2.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A2.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3	ANNUAL CHAREGES FOR MAINTENANCE OF **INLET MANIFOLD SYSTEM – NAG WELLS** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A3.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A3.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A4	ANNUAL CHAREGES FOR MAINTENANCE OF **SEPARATION AND STABILISATION SYSTEM** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					

A4.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A4.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A4.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A4.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A4.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5	ANNUAL CHAREGES FOR MAINTENANCE OF **OIL METERING SYSTEM** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A5.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5	ANNUAL CHAREGES FOR MAINTENANCE OF **FLASH GAS COMPRESSION PACKAGE** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A5.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		

A5.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A5.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A6	ANNUAL CHAREGES FOR MAINTENANCE OF **TRUNK LINE KOD** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A6.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A6.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A6.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A6.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A6.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A7	ANNUAL CHAREGES FOR MAINTENANCE OF **PRODUCED WATER TREATMENT SYSTEM** INCLUDING SUPPLY OF SPARES, CONSUMABLES, SERVICES AND DEPLOYMENT OF COMPETENT TECHNICAL PERSONNEL FOR THE FOLLOWING PERIOD AS PER BID DOCUMENT					
A7.1	FIRST YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A7.2	SECOND YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		

A7.3	THIRD YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A7.4	FOURTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		
A7.5	FIFTH YEAR AFTER EXPIRY OF DEFECT LIABILITY/WARRANTY	LS		LS		

Notes: 1. COMPANY may negotiate the above prices and may enter into a suitable agreement with the Supplier of equipment covering all relevant aspects, at their discretion. The above Price shall be valid upto three years after the expiry of Defect Liability Period.

2. The above Price shall not be considered for evaluation.

ANNEXURE - 1

Bid Queries Responses (Technical/Commercial clarifications)					
Tender Reference : CPG3774P17					
Project: Engineering, Procurement, Construction, Testing and Commissioning of a Group Gathering Station (GGS) at Baghjan, Assam					
Subject: Technical / Commercial					
Sr. No.	**Page No.**	**Clause No.**	**Tender Specification**	**Comments**	**OIL Response**
1	- 21 of 429 -59 of 429 - 95 of 429 -425 of 429 of Process 1 of 10			At various places TQ-001, 002 & 003 is mentioned. We are unable to locate TQ-001, 002 & 003 anywhere. Please help	These TQ numbers are communication reference numbers between OIL & EPMC Consultant. This number has no significance to the Bidders.
2			Pumps	what is the edition to be followed for the design of pumps.	Latest editions to be followed for all the specifications.
3				Various specs are given in the tender. But the requirement of the same is not clear.	Query is not clear. Specifications are provided in the tender as per the requirements of the project.
4			RFQ - NITROGEN GENERATION PACKAGE 1960-M-RFQ-0513	Oxygen content of nitrogen outlet has not been specified. This is required to work out the No. of membrane modules required for the Generator	Oxygen content is specified in the Tender. Bidder to follow details provided in the process design basis (1960-P-DB-0100) Rev.01 under clause. 7.15, Page no.47 of 58.
5			Emergency Diesel Generator set	Please provide Technical Specifications	Bidder to refer the details provided in the Electrical Equipment List (1960-E-El-0900 rev.0). Bidder to further firm up the power rating during detailed engineering in line with the electrical specifications provided in the Tender.
	AC UPS				
6		Electrical		Please specify the type of Battery to be considered viz. Lead Acid VRLA (2V) / Lead Acid Plante (2V) or Ni-Cd Pocket Plate	Bidder to follow the information provided in the Electrical Design Philosophy (1960-E-DB-0900 rev.0) & Electrical Data sheet (1960-E-DS-0903 rev.0) provided in the Tender Specfication.
7		Electrical		Please confirm De-rating factors to be considered in Battery Sizing Calculations. i.e. Aging factor, Design Margin & Minimum Temperature etc	Bidder to design during detailed engineering.
8		Electrical		Is there any other Technical Spec for UPS system to be followed. Please provide if any.	No specificaiton. Bidder to follow Electrical Design Philosophy (1960-E-DB-0900 rev.0) & Electrical Data sheet (1960-E-DS-0903 rev.0) provided in the Tender Specificaiton.
9		Electrical		Rating of UPS system shall be 25KVA at 0.8 P.F. Please confirm this rating is including 125% of full load	Bidder to follow the Electrical Data sheet (1960-E-DS-0903 rev.0) - AC UPS provided in the Tender specification.
10		Electrical		Pleased advice whether ACDB is required. If yes specify the type, rating & quantity of Input & Output Feeders	Bidder to follow Electrical SLD, Electrical Design Philosophy (1960-E-DB-0900 rev.0) & Electrical Data sheet (1960-E-DS-0903 rev.0) provided in the Tender Specfication.
11		Electrical		Please advice UPS to Battery & UPS to ACDB Cable distances	Bidder to develop during detailed engineering.
	DC UPS				
12		Electrical		Please confirm Charger rating in Amp required with Type is FC & FCBC OR both Float Cum Boost Chargers	Battery ChargerType shall be Float Cum Boost Charger. Bidder to follow Electrical Datasheet for Battery Charging (1960-E-DS-0905 rev.0) and shall carryout necessary calculation to finalize the amps rating based on the Load requirements.

13		Electrical		Pleased specify the type of Battery to be considered viz. Lead Acid Plante (2V) Or Ni-Cd Pocket Plate	Battery type shall be either plante type Lead Acid or Nickel Cadmium type. However selected battery type shall be meet recent developments and shall be preferable in the aspects of power rating, reduced loss of capacity, no freezing, robust against discharge, life etc.,
14		Electrical		Battery AH rating to be considered OR Please provide Load Cycle with step Loading if any	Bidder to develop during detailed engineering.
15		Electrical		Type & rating of each Load with its O/p Voltage Acceptable range is 110V DC +/- 10%	Bidder to develop during detailed engineering.
16		Electrical		Please confirm De-rating factors to be considered in Battery Sizing Cal. i.e. Aging factor, Design Margin & Minimum Temperature etc.	Bidder to develop during detailed engineering.
17		Electrical		Is there any other Technical Spec for UPS system to be followed. Please provide if any.	No function specification. Bidder to follow Electrical Design Philosophy (1960-E-DB-0900 rev.0) and Electrical Datasheet for Battery Charging (1960-E-DS-0905 rev.0)
18		Electrical		Rating of DC system mentioned is 25KVA. Please Clarify whether this rating is including Battery Charging Current.	Bidder to develop during detailed engineering.
19		Electrical		Please advice whether DCDB is required. If yes specify the type, rating & quantity of Input & Output Feeders	Bidder to develop during detailed engineering.
20		Electrical		Pleased advice DC system to Battery & DCDB Cable distance	Bidder to develop during detailed engineering.
21		RO Water Makers	RFQ WATER MAKERS (RO-UNIT) - (ZZZ-3240 A/B) 1960-M-RFQ-0507	Inlet parameters of water entering RO needed (Table 10-2 Feed Water Analysis). This data is required to calculate the capacity of intake water. Efficiency can be calculated only after this.	Inlet Water Sample Parameters as under : (a) Turbidity : 9.35 NTU (b) pH : 7.2 (c) Total Hardness as CaCO3 : 62mg/l (d) Iron as Fe : 0.3 mg/l (e) Chloride as Cl : 17 mg/l (f) Total dissolved solids : 95 mg/l (g) Alkalinity as CaCO3 : 85 mg/l (h) Mineral Oil : NIL Bidder to note that these details were already provided in the Corrigendum 2, Annexure-2. Also, bidder to take into account that the information provided are tentative and that the successful bidder to do RAW WATER ANALYSIS during detailed engineering stage.
22		Nitrogen Generation Package	RFQ - NITROGEN GENERATION PACKAGE 1960-M-RFQ-0513	Oxygen content of nitrogen outlet has not been specified. This required to work out the no. of membrane modules required for the Generator	Query repeated. Refer response to Sr.No.4.
23		Piping Speciality List	Document No.1960-M-LL-0501	Item Nos 195 & 879 are specified as Type D, but the facing is mentioned as RF. Please clarify	Item no 195 & 879 shall be type F and RF.
24		Piping Speciality List	Document No.1960-M-LL-0501	Item Nos 618 to 621 and 646 to 649 sizes are on "Hold". We require the sizes for these items for our price workout	Bidder to develop during detailed engineering.
25		CP System	Document No.1960-E-GD-0900	The CP System is for the Tank Bottom external surfaces only. Please clarify	CP System is for tank bottom external surface only.
26		CP System	Document No.1960-E-GD-0900	The CP System is "Sacrifical Anode Cathodic Protection" System. Please clarify	Bidder to follow Tender Specification - Specification for Cathodic Protection System (1960-E-GD-0900 rev.0).
27		CP System	Document No.1960-E-GD-0900	Kindly provide the SACP Anode specification if any.	Bidder to refer General speicification for cathodic protection(1960-E-GD-0900) and for more details Bidder shall refer IS 8062.
28		CP System	Document No.1960-E-GD-0900	As per the provided document, pipeline is also part of job. Kindly provide the details for the same.	Cathodic protection shall be provided to underground pipelines
29		CP System	Document No.1960-E-GD-0900	Please provide detailed design specification	Bidder to refer General speicification for cathodic protection(1960-E-GD-0900) and for more details Bidder shall refer IS 8062.
30		CP System	Document No.1960-E-GD-0900	Provide details on coating breakdown factor, operating temperatures, etc.	Bidder to refer the P&ID and Painting Specification available in the tender Documents.
31		CP System	Document No.1960-E-GD-0900	Number of cased road crossings, railway crossings, pipeline crossings, HT line crossings,etc need to be provided. Advice	Bidder to consider based on the Tender Documents

32		CP System	Document No.1960-E-GD-0900	Specify any SCADA requirements for CP	Bidder shall provide SCADA requirement based on the type of CP system deceided and as per applicable standards
33		CP System	Document No.1960-E-GD-0900	Kindly provide power line connection details,AC/DC power(source and rating) availability to determine whether to install CPTR or CPPSM	Bidder shall consider based on the type of cathodic protection system selected as per IS 8062.
34		CP System	Document No.1960-E-GD-0900	What is the type and number of anodes, soil resistivity survey and design life of the system	Bidder to consider type and Number of Anodes based on the Tender Specification and as per applicable Standards. Design Life shall be 25 years. Soil Resistivity Report is provided in the Tender Document.
35		CP System	Document No.1960-E-GD-0900	what is the Current Density for coated pipe	Bidder to calculate current density based on applicable standards
36		CP System	Document No.1960-E-GD-0900	Kindly advice whether CIPL,DCVG ,CAT survey,interference survey is required or not	All the surveys specified in clause 11.3 of standrd IS 8062 is to be performed by the bidder
37		CP System	Document No.1960-E-GD-0900	Kindly advice whether ER probe,ER Reader,CTSU & CTSU Reader is required or not.	Bidder shall consider based on the type of cathodic protection system selected and as per IS 8062
38		CP System	Document No.1960-E-GD-0900	Hazardous area classification	Bidder to refer Tender Hazardous area classification drawing 1960-E-DW-0903
39			Pumps	Please provide OIL India Ltd approved vendors for the required Positive Displacement Pumps as we are unable to get many parties for these pumps who are willing to quote.	Bidder to follow the updated Vendor Selection Criteria, Annexure D - Rev.01 which is attached as part of the Corrigendum 4.
40			Hot Oil Heater System	Please let us know who qualifies as per OIL's qualification criteria	Bidder to follow the updated Vendor Selection Criteria, Annexure D - Rev.01 which is attached as part of the Corrigendum 4.
41			Electrical Items	Please provide vendor list for various Electrical items like LV MCC, Lighting Transformers, Distribution Boards, Junction Boxes, Lighting System, Lighting Fixtures, DC Critical lights, Sockets, etc. Also there is no proper specification for various items. Please provide the same.	Bidder to follow the updated Vendor Selection Criteria, Annexure D - Rev.01 which is attached as part of the Corrigendum 4.
42			Power Generation	Please let us know who qualifies as per OIL's qualification criteria	Bidder to follow the updated Vendor Selection Criteria, Annexure D - Rev.01 which is attached as part of the Corrigendum 4.
43			Flash Gas Compression package	Please let us know who qualifies as per OIL's qualification criteria	Bidder to follow the updated Vendor Selection Criteria, Annexure D - Rev.01 which is attached as part of the Corrigendum 4.
44			Price Format	In lieu of the Central Government's decision to implement GST from 1st July 2017, please give us the revised price format.	Revised price format will be uploaded in line with the GST requirements shortly.
45			Hot Oil Heater Question Set from one of our suppliers	"The heater will be as per API 560. The crude will pass through set of coil in a low heat combustion furnace (Radiation Section). The crude from radiation section will pass through convection section and if possible a combustion air preheats section as well to maintain the system efficiency. We request you to accept horizontal arrangement. The space requirement may be little more but the operation and maintenance will be easier. The economics will be also better in horizontal arrangement. (Plate form at different elevation will stand deleted.) The horizontal unit can be factory assembled and can go in parts as radiation section & convection section. The burner can be natural draft. However considering tube heat load, number of burner may be four or more than four. " Please Comment	Bidder proposal is accepted.

46	Piping 1 of 1	Doc No : 1960 -L-DB-0400 (page 26 of 44)	Piping design Philosophy ,Clause 4.7.5	As per Clause 4.7.5 all valves of 900# & above shall be butt welded ,but P& ID indiactaes valves of 900# & above flanged valves , kindly confirm the type of valves to be considered (flanged or butt welded) ?	Bidder to follow as per P&ID and VMS provided in the Tender specificaiton. In case of discrepancies, the order of precedence would be P&ID, Datasheets and Piping Design Philiosophy.
47	Piping 1 of 1	Drg. No :1960 -L-DW-0400 ,Rev-1	Overall Plot Plan	Overall Plot Plan indicates sleeper rack for falre Header , but kindly confirm is there any requirement for trestle for flare header & rack for lines going to flare tip.	Bidder to decide suitable support for flare header.
48	Piping 1 of 1	Doc No : 1960 -L-DB-0400 (page 27 of 44)	Piping design Philosophy ,Clause 4.11.1	Positive material identification (PMI) test at construction site shall be done as per standards specification for positive material identification at construction site. Kindly provide the specification for PMI	Bidder to carry out the PMI as per ASTM E1467 standard
49	Piping 1 of 1	Doc No : 1960 -L-DB-0400 (page 42 of 44)	Piping design Philosophy ,Clause 3.0	Positive material identification (PMI) test at vendors work shall be done as per standards specification for positive material identification at vendors work (6-81-0001). Kindly provide the specification for PMI at vendors work.	Bidder to carry out the PMI as per ASTM E1467 standard
50	Piping 1 of 1	Doc No : 1960 -L-DB-0400 (page 15 of 44)	Piping design Philosophy ,Clause 4.2.7 (uitility stations)	In clause no.4.2.7 it is mentioned that utility station shall have connections for LP Steam . Kindly confirm the source od steam. Will it be made available from Existing EPS Plant?	LP steam is not required.
51	General	……	……..	kindly provide QAP / ITP & NDT requirements for piping items/systems	Bidder to develop during detail engineering phase.
52	General	……	……..	please provide the datasheets for MOV (motor operated valve)	Bidder to refer functional specification for MOV and Instrument Index (1960-I-GD-0801), Rev.0. MOV datasheet shall be prepared by contractor during detail engineering.
53	Site Conditions and Available Utilities	1960-P-GD-0103-Rev.0	Site Conditions	In site conditions and available utilities document of the tender (Doc No.1960-P-GD-0103-Rev.0), elevation above mean sea level is mentioned as 1000 m, which seems to be inappropriate. Please confirm the right value.	The the average elevation of the site is 116.00 metre of the MSL. Bidder to refer Section 6.1 of Geotechnical Investigation & Topographical Survey report provided in the Bid package.
54	RFQ of IA / UA Compressor Package	1960-M-RFQ-0501-Rev.0	Clause 8.2, Compressor - Design Basis	what is the limit of oil content (in ppm) is accetable at outlet of air compressor.	Air compressor is of Oil free type screw compressor. Bidder shall follow tender specificaitons.
55	RFQ of IA / UA Compressor Package	1960-M-RFQ-0501-Rev.0	Clause 8.2, Compressor - Design Basis	IS reciprocating compressor is acceptable instead of raotary screw type oil free compressor, please confirm.	Bidder shall design as per tender document.
56	RFQ of IA / UA Compressor Package	1960-M-RFQ-0501-Rev.0	Clause 8.2, Compressor - Design Basis	Vendors can offer Air Compressor with design pressure of 13 kg/cm2g, wheras tender requirement is 14.5 kg/cm2g. Also they are offering water cooled air compressor at oper.press.of 11 kg/cm2g instead of air cooled, which is a tender requirement. They can offer air cooled Air Compressor at max 10 barg. M/s OIL to advise / suggest / confirm.	Bidder shall comply tender requirements, however in case if vendors are not offering the equipment in this range, then vendors can go for the next closest range between 13 kg/cm2g - 14.5 kg/cm2g design pressure. Since there's no cooling water, Bidder shall consider air cooled type as per tender specifications. In case if the Bidder is not able to obtain the required design pressure of 14.5 Kg/cm2g then Bidder to follow the below indicative design conditions to select the next closest range of Air Compressor with Design Pressure: 13 kg/cm2g Compressor discharge Pressure: 10 kg/cm2g Utility air operating pressure: 6.5 - 9.5 kg/cm2g Instrument air operating pressure: 5.5 - 8.5 kg/cm2g UA Receiver size shall be: 1981 ID x 4850 TT IA Receiver size shall be: 3353 ID x 7800 TT
57	Flash Gas Compression Package PFD	1960-P-DW-0100-14-Rev.0	Stream No. G4 and G17	There are 2 streams going to Flash Gas Compressor, one is from inlet separators and second is from LP separators. The gas composition from inlet separator is OK for compressor vendor to design the flash gas compressor but there is about 46% water in stream coming from LP separator and compressor vendor is unable to design for this stream. M/s OIL to provide gas composition after removing the water.	Suction coolers are already considered in the Process simulation. Bidder shall refer shall refer stream numbers G5 (Cooler outlet) and G7(Compressor inlet) in 1960-P-RP-0100, Simulation Report, Rev.01 and 1960-P-DW-0110 and Heat and Mass Balance Table, rev.01.

58	RFQ of HP/LP Flare Tip & Ignition Panel	1960-M-RFQ-0502-Rev.0	Clause 2.0, Scope of Supply	Tender requirement for HP flare Tip is of Sonic type, vendor for which is not found. Almost all vendors have regretted for this Sonic type of HP flare tip. M/s OIL to advise / suggest / confirm.	Sonic flares are available. Bidder to follow the tender specification.
59	RFQ of Flash Gas Compression Package	1960-M-RFQ-0505-Rev.0	Clause 5.7 - Noise, Page 17 of 32	Noise level upto 75 dBA in flash gas compressor can not be achieved by vendors. As acoustic enclosure for this size of compressor (0.3 MMSCMD capacity) also is not possible, the noise level is going upto 110 dBA. M/s OIL to advise / suggest.	Bidder to follow the tender specification.
60	Equipment List Doc No. 1960-M-LL-0500-Rev.0	Inlet Heater data sheet Doc No.1960-M-DS-0501-Rev.0	Inlet Heater P&ID No. 1960-P-DW-0202-01-Rev.0 Process Design Basis Doc No. 1960 -P-DB-0100-Rev.01	Design pressure on tube side of Inlet Heater HBG-1470 is mentioned as 300 kg/cm2g / FV in Equipment list, P&ID etc., whereas in process data sheet of inlet heater, it is mentioned as only 40 kg/cm2 g / FV. OIL to clarify the same as the Oper.Press. of the tube side mentioned in P&ID, Design Basis as 60 kg/cm2g.	Bidder shall consider the design pressure for HBG-1470 as per PFD and P&IDs.
61	Site Conditions and Available Utilities	1960-P-GD-0103-Rev.0	Site Conditions	In Site and Utility conditions of the tender document (Doc No.1960-P-GD-0103-Rev.0), M/s Kavin asked to M/s OIL to provide the parameters like Design Relative Humidity, Design Temperature, Precipitation (Rainfall), Ice/Snow Burden etc. M/s OIL to provide the same.	Follow (Doc No.1960-P-GD-0103-Rev.0). 1. Bidder shall consider the maximum relative humidity as the design. 2. Bidder shall consider mimimum and maximum ambient temperature range provided in the document for the design. 3. Rainfall rate is already provided in the document itself. 4. During winter the ambient temperature will not go below 0 degC. Hence Ice/Snow burden details are not required.
62	Tender Data Sheet of Crude-Crude Exchanger	1960-M-DS-0512-Rev.0	Stream L7 and L8	Temperature and Heat duties for tube side inlet (L7) & tube side outlet (L8) of tender data sheet of Crude-Crude Exchanger HBG-A-1030/B-1030 is not matching with Heat & Mass balance sheet for the same streams. M/s OIL to confirm, which data is to be considered as a worst case scenario for design	For Crude-crude heat exchanger HBG-A/B-1030, Tube side inlet streams are L5 and L6. Bidder can refer PFD & Heat & Mass Balance Sheet for correct stream numbers.
63		SLD 1960-ED-DW-0900	Single line diagram mentioning bus rating of emergency LV MCC	As per SLD 1960-ED-DW-0900 the bus rating of Emergency LV MCC is 4000A and at actual the required rating is 1000A which is being reflected in the Bulk MTO. Please clarify	Emergency LV MCC bus bar rating is 1000A and bidder to follow the same.
64		Vendor Selection Criteria	Annexure D, page 221 of 269	Since vendor list is not provided, bidder would like to consider vendors of OIL from Barekuri OCS tender, Kindly confirm. List of vendors from EPC of Barekuri OCS tender has been attached for reference.	Bidder to follow the updated Vendor Selection Criteria, Annexure D - Rev.01 which is attached as part of the Corrigendum 4.
65		PAGA system and PA system		Client to provide BOQ for PAGA system, Block Diagram for Public Address System	Bidder shall quantify based on project specification requirement and layout design.
66		General		As per tender specifications total 12 no's of zones are required. Please confirm the quantity of ceiling mount and horn type loudspeakers per zone. Client to also provide a plotting diagram with us in which loudspeakers will be marked	Bidder shall quantify device type based on project specification requirement and layout design.
67		General		All the Instruments require DGMS certificate but all the vendor is not complying the same. vendor is providing the ATEX certificates for the instruments. Kindly confirm whether ATEX certificates would be acceptable.	DGMS is the requirement. Biddet to follow Tender Specifications.
68		Vendor Selection Criteria	Annexure D, page 221 of 269	Bidder request to have Onshore / Offshore / Overseas as criteria for choosing the vendor and PTR's of suppied, installed and successful operation in Onshore / Offshore / overseas. Kindly confirm acceptance.	Bidder to follow the updated Vendor Selection Criteria, Annexure D - Rev.01 which is attached as part of the Corrigendum 4.
69		General - Due date extension		Bidder request to extend due date of bid submission by 5 weeks from 6th Jul 2017 due to pending queries and difficulties in receiving timley response with compliance from vendors.	Extension of Bid submission date as per management approval will be communicated in due course of time.

70		General	Feed water details to RO plant	Feed Water analysis to RO plant inlet is not provided by M/s OIL in tender. The same to be provided by M/s OIL	Inlet Water Sample Parameters as under : (a) Turbidity : 9.35 NTU (b) pH : 7.2 (c) Total Hardness as CaCO3 : 62mg/l (d) Iron as Fe : 0.3 mg/l (e) Chloride as Cl : 17 mg/l (f) Total dissolved solids : 95 mg/l (g) Alkalinity as CaCO3 : 85 mg/l (h) Mineral Oil : NIL Bidder to note that these details were already provided in the Corrigendum 2, Annexure-2. Also, bidder to take into account that the information provided are tentative and that the successful bidder to do RAW WATER ANALYSIS during detailed engineering stage.
71	Volume-1		Clause 62 page 188/269	Since any change in the taxes and duties are going to applicable to both the bidder and his vendors /sub-contractors, it is bidder understanding that in view of GST coming into place The implication of taxes& duties are reimbursed by client. Please Confirm	Suitable clauses to cover up the GST implications will be uploaded shortly.
72		General - Resolution of disputes through conciliation by OEC (outside expert committee)		Bidder request, If any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, in connection with construction, meaning, operation, effect, interpretation of the contract or breach thereof which parties areunable to settle mutually, the same may first be referred to conciliation through outside expert committee ("OEC"). Kindly confirm acceptance	Bidders are to be guided as per the Tender.
73	General	Clause 62 page 188/269	Impact of GST	Kindly clarify the reimbursement of impact of GST on the contract price which is not presently considered in the bid estimate, and being a new law coming into implementation. Also please clarify with respect to service tax which is presently reimbursed as per the existing clause	Suitable clauses to cover up the GST implications will be uploaded shortly.

Note to Bidders:

In case, if any of the previous pre bid query respones provided earlier vide Annexure 1,2,3 & 4 of Corrigendum 2, contradicts with the responses provided with this Annexure-1 of Corrigendum 4, then Bidder to follow the responses provided in this Annexure-1 of Corrigendum 4 which superseeds earlier responses.

ANNEXURE-D (rev-01)

VENDOR SELECTION CRITERIA

1.0 GENERAL:

(i) The Package / Equipment / system (with all its sub-systems) as being offered / supplied should have been installed and operating satisfactorily in similar application for at least the period as mentioned in the individual package / equipment / system / sub-system (as collaborated by user certificate).

(ii) The Package / Equipment / system should be supplied, engineered & tested from a factory from where the Package / Equipment / system / sub-systems as offered / supplied, engineered & tested/ have already been supplied and meet the criteria 1(i) above.

(iii) All the activities including engineering should be carried out by the engineering firm which has carried out the similar activity in the past and meets the criteria 1(i) above.

(iv) The system should be supplied by the manufacturer/authorized dealer in the fully engineered condition or should be supplied by the manufacturer's representative/ subsidiary (except basic engineering- refer responsibility chart and explanation given above) who have proper infrastructural facilities and meets the criteria 1(i) above.

(v) The design life of the Package / Equipment / system shall be as mentioned in individual package.

(vi) Vendor List for Package / Equipment / system is NOT provided elsewhere in the Bid package. For any Package / Equipment / system, the offered items for the same must meet the tender specifications and proven track record (PTR) requirement. The responsibility of ensuring the performance of these items as per tender specification is EPC responsibility. Any vendor who meets the vendor selection criteria such as EQC and PTR requirement shall be considered for this project and also for the items where selection criteria (like EQC, PTR) is not provided, in such cases vendor has to arrange for procurement by strictly complying to the tender specifications and the responsibility of ensuring the quality of these items as per tender specification is EPC responsibility.

(vii) Vendors on Owner holiday list **shall not be considered** for ordering. Names of such vendors who are put on Owner "Holiday List" subsequent to vendor approval at bidding stage shall be informed to the EPC CONTRACTOR at any stage of the project. CONTRACTOR shall comply with this requirement without any time or cost implication to the OWNER.

(viii) No obsolete equipment / package / system will be acceptable.

(ix) The equipment selected shall be rugged in design and must be field proven. Prototype design or equipment of experimental nature or design undergoing testing etc. shall not be selected and supplied.

(x) Any equipment/ package / systems offered by the vendor for this project **has to ensure** that continued support services such as technical support, availability of spares etc. are provided for a period of at least 10 (ten) years from the date of commissioning.

2.0 MECHANICAL PACKAGE/ EQUIPMENTS

2.1 CAPTIVE POWER PLANT (Gas Engine Generator):

2.1.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM /authorized packagers/ authorized dealer of Gas Engine driven Generating Set. The OEM/ authorized packagers/ authorized dealer of the proposed Gas Engine Generator shall have the adequate engineering, manufacturing, fabrication & testing facilities for the same.

The Gas Engine Generator model offered shall be from regular manufacturing range of the manufacturer, brand new and shall meet the following minimum service and manufacturing experience requirements.

The offered Gas Engine Generator package shall be of identical in type i.e. rating, operation method, electrical design etc. to standard and field proven gas genset packages at least TWO UNITS that have been designed, manufactured, tested and supplied from the said plant of the manufacturer and in their current range of supply. At least ONE of these units should be operating successfully in an onshore installation in India for at least 5 years intermittently or 8000 hrs continuously (including normal maintenance shutdowns such as filter/lube oil replacement etc.) as on the date of bidding with an additional clause of 25 years future design service life as on the date of commissioning at site.

No obsolete Gas Engine Generator package shall be acceptable.

2.1.2 PROVEN TRACK RECORD (PTR)

Gas Engine Generator vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Gas Engine Generator vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue, customer names and addresses and general reference list for

all the above equipment shall also be furnished along with the bid/proposal.

2.1.3 OTHER REQUIREMENTS

The Vendor shall have total responsibility for Gas Engine Generator that is being designed, fabricated, and tested at manufacturer's facility in accordance with the requirements of this specification, referenced codes, regulations, and standards.

The noise level at generator sets shall not exceed 75 dB (A) at 1 meter from the acoustic enclosure surface. Acoustic enclosures shall be provided for each Genset.

2.2 CHEMICAL INJECTION SYSTEM

2.2.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an established manufacturer/ authorized packagers/ authorized dealer of chemical injection pump. The manufacturer/ authorized packagers/ authorized dealer of the proposed injection pump shall have the adequate engineering, manufacturing & testing facilities for the same.

The injection pump model offered shall be from regular manufacturing range of the manufacturer and shall meet the following minimum service and manufacturing experience requirements.

The offered Injection pumps shall be of identical in type for the specified service i.e., Discharge pressures, Inlet temperatures, Actual Inlet flow, Mechanical Design, Materials etc. to standard and field proven injection pump that have been at least TWO UNITS designed, manufactured, tested and supplied from the said plant of the manufacturer and in their current range of supply. At least ONE UNITS of these units shall have successfully operated in an onshore installation for at least 5 years intermittently or 8000 hrs continuously in India without any major problems as on the date of bidding.

2.2.2 PROVEN TRACK RECORD (PTR)

Injection pump vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Pump vendor may furnish additional information to justify that the EQC is being met. In

addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.2.3 OTHER REQUIREMENTS

The Vendor shall have total responsibility for the Chemical Injection System being designed, fabricated, and tested at the Vendor's facility in accordance with the requirements of this specification, referenced codes, regulations, and standards, equipment data sheets and project P&IDs.

2.3 FIRE WATER PUMP PACKAGE

2.3.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

2.3.1.1 CENTRIFUGAL PUMP

The vendor shall be an established centrifugal pump manufacturer/ authorized packagers/ authorized dealer. The manufacturer/ authorized packagers/ authorized dealer of the proposed pump shall have the adequate engineering, manufacturing & testing facilities for pumps conforming to IS 6595 (Part-2).

The pump shall be designed, packaged and tested as per IS-6595 /IS 9137 (latest edition) and supplied specifically for an onshore plant installation.

The pump model offered shall be from the regular manufacturing range of the manufacturer. The mechanical as well as the hydraulic performance (including NPSHR) for the complete range of operation of the offered model shall have been established in the shop test. The offered pump model shall meet the following minimum service and manufacturing experience requirements.

Pumps shall be identical or validly similar in terms of Power rating, Hydraulic Performance (including NPSHR), Inlet flow, Differential Head, Operating Pressure & Temperature, Pumping Liquid, Speed, Number & Type of Impellers, Mechanical Design, Materials, Bearing span (applicable for between bearing pumps), Column Length (applicable for vertically suspended pumps) etc. as compared to and at least TWO UNITS of the proposed model designed, manufactured, tested and supplied from the proposed manufacturing plant in the last ten years and at least ONE of these units in similar application and shall have successfully operated in the field in

India for at least 8000 hours continuously individually without any major problem as on the date of bidding.

2.3.1.2 DIESEL ENGINE

The Engine offered shall be from a regular and OEM/authorised dealers of reciprocating I.C. Engines having requisite design, engineering, manufacturing and testing facilities. The Engine model offered shall be from the regular manufacturing range of the manufacturer for industrial applications and already type tested at either manufacturer's works or outside. The Engine model offered shall meet the following minimum service and manufacturing experience requirements.

The Engines proposed shall be identical in terms of Model no., number of cylinders, cylinder arrangement, Power rating, Speed, Service, Skid size, weight, Type of Fuel, type of Cooling arrangement, Materials, Mechanical Design etc. as compared to at least TWO UNITS designed, manufactured, tested and supplied for an onshore plant installation from the proposed manufacturing plant and at least ONE of these units shall have successfully operated in an onshore plant in India for at least 8000 hours (including normal maintenance shutdowns / auxiliary parts replacement) without any major problems as on the date of issue of bidding.

Vendor must fill the form entitled “Experience Record Proforma – Diesel Engine and submit along with the bid.

Diesel engine of fire water pumps shall be quick sta`Xrting type with the help of push buttons located on or near the pumps or located at a remote location.

Vendor shall also submit along with the proposal a general reference list of the offered type of diesel engine.

2.3.2 PROVEN TRACK RECORD (PTR)

2.3.2.1 CENTRIFUGAL PUMP

The vendor shall complete the Experience Record Proforma to amply prove that the offered pumps meet the EQC for technical acceptance. Special attention is drawn to applications involving high suction pressure, high/low operating temperature and low NPSHR. Vendor shall also identify the imported components against each specific reference in the PTR. Vendor may furnish

additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for Centrifugal Pumps shall also be furnished along with the proposal.

2.3.2.2 DIESEL ENGINE

The vendor shall furnish PTR for the offered Engine model in the prescribed format attached with the bid package. Since this reference list will be used for establishing proven-ness of proposed model for operating under specified operating conditions, it is in vendor's own interest to select such references, where the proposed model is supplied and operating at conditions similar to those specified for item against which the proposed model is offered. In addition, manufacturer's catalogue and general reference list for the Engine shall also be furnished.

2.3.3 EXPERIENCE CRITERIA - PACKAGE

a) The packager shall have engineered, manufactured, packaged, installed and commissioned at least two (2) packages of similar or higher sizes for fire water service for onshore and same (2 packages) shall have been operating successfully / satisfactory for a period of at least 03 (Three) years in India.
b) Vendor must fill the form entitled “Experience Record Proforma – DG Set Packager” and submit along with the bid.
c) Packager shall also submit along with the proposal a general reference list to indicate his overall experience in packaging of such equipments.

2.4 FLASH GAS COMPRESSION PACKAGE

2.4.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM/authorised packager/ authorised dealer of flash Gas Compression Package. The OEM/packager/dealer of the proposed flash Gas Compressor Package shall have adequate engineering, manufacturing & testing facilities for the same. The packaging of the compressor shall be as per standard ISO-13631.

The Flash Gas Compressor Package model offered shall be from regular manufacturing range of the manufacturer and shall meet the following minimum service and manufacturing experience requirements.

Flash Gas Compression Package shall be identical in type i.e. Discharge pressures, Inlet temperatures, Actual Inlet flow, Process Gas, Mechanical Design, Materials etc. as compared to at least TWO UNITS designed, manufactured, tested and supplied from the proposed plant and at least ONE of these units (Parallel Operation 2 x 100%) shall have successfully operated in an onshore installation in India for at least 8000 hrs. continuously in similar applications (including normal maintenance shutdowns /replacement of spares etc.) or 5 years intermittently without any major problems as on the date of bidding.

2.4.2 PROVEN TRACK RECORD (PTR)

Flash Gas Compressor Package vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Flash Gas Compressor Package vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.4.3 OTHER REQUIREMENTS

The vendor shall have total responsibility for the flash Gas Compression Package being designed, fabricated and tested at the vendor’s facility in accordance with the requirements of this specification, referenced codes, regulations, standards.

2.5 GAS METERING SYSTEM

2.5.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM/ authorised dealers of Gas metering system. The manufacturer of the proposed Gas metering system shall have the adequate engineering, manufacturing & testing facilities for the same.

2.5.2 PROVEN TRACK RECORD (PTR)

Vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.5.3 OTHER REQUIREMENTS

The vendor shall have total responsibility for the Gas metering system Package being designed, fabricated and tested at the vendor's facility in accordance with the requirements of this specification, referenced codes, regulations, standards.

2.6 HOT OIL HEATER & BURNER MANAGEMENT

2.6.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM/ authorised packager/ authorised dealers of the equipment. The OEM/packager/dealer of the proposed equipment shall have the adequate engineering, manufacturing & testing facilities for the same.

The equipment offered shall be from regular manufacturing range of the manufacturer and shall meet the following minimum service and manufacturing experience requirements.

Equipment shall be identical in type i.e. Design pressures, temperatures, Design capacity, Mechanical Design, Materials etc. as compared to at least TWO UNITS designed, manufactured, tested and supplied from the proposed manufacturing plant and at least ONE of these units shall have successfully operated in an onshore installation for at least 7(seven) years without any major problems as on the date of bidding.

2.6.2 PROVEN TRACK RECORD (PTR)

Equipment vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Equipment vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.7 HP/LP FLARE TIP & IGNITION PANEL

2.7.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM/ authorised dealers of HP/LP Flare tip & Ignition panel system. The manufacturer of the proposed HP/LP Flare tip & Ignition panel system shall have adequate engineering, manufacturing & testing facilities for the same.

2.7.2 PROVEN TRACK RECORD (PTR)

Vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Vendor must have supplied at least ONE unit of similar flare of same or higher capacity supplied in India for natural gas application and running satisfactorily for 8000 hrs at the time of bid. Vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.7.3 OTHER REQUIREMENTS

The Vendor shall have total responsibility for the flare tip & its auxiliary system being designed, fabricated, and tested at Vendor's facility in accordance with the requirements of this specification, referenced codes, regulations, standards and project PFDs & P&IDs.

Flare tip shall be ground flare type.

The vendor shall guarantee a maximum noise level of 75 dB (A) for continuous gas burning at any point where human presence is possible during operation and maintenance.

2.8 IA/UA COMPRESSOR PACKAGE

2.8.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM/ authorised packagers/authorised dealers of oil free type screw compressor (electric motor driven). The manufacturer/ packagers/dealers of the proposed compressors shall have the adequate engineering, manufacturing & testing facilities for the same.

The compressor model offered shall be from regular manufacturing range of the manufacturer and shall meet the following minimum service and manufacturing experience requirements.

Compressors shall be identical in frame designation and type i.e. dry and validly similar in terms of Frame number, Rotational Speed, Discharge pressures, Inlet temperatures, Actual Inlet flow, Process Gas, Mechanical Design, Type of Rotor, Rotor Dynamics, Materials, Type of shaft seals etc. as compared to at least TWO UNITS designed, manufactured, tested and supplied from the proposed manufacturing plant

and at least ONE of these units shall have successfully operated in an onshore installation in India for at least 5 Years intermittently or 8000 hrs continuously (including normal maintenance shutdowns /replacement etc.) without any major problems as on the date of bidding.

2.8.2 PROVEN TRACK RECORD (PTR)

Compressor vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Compressor vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal

2.9 IA DRYER PACKAGE

2.9.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM/ authorised packagers/authorised dealers of IA dryer package. The manufacturer/ packagers/dealers of the proposed IA dryer package shall have the adequate engineering, manufacturing & testing facilities for the same.

2.9.2 PROVEN TRACK RECORD (PTR)

Vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.9.3 OTHER REQUIREMENTS

The Vendor shall have total responsibility for the Dryer Package being designed, fabricated, and tested at the Vendor's facility in accordance with the requirements of this specification, referenced codes, regulations, and standards.

2.10 NITROGEN GENERATION PACKAGE

2.10.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM/ authorised packagers/authorised dealers of Nitrogen generation package. The manufacturer/ packagers/dealers of the proposed Nitrogen

generation package shall have the adequate engineering, manufacturing & testing facilities for the same.

The Nitrogen Generator model offered shall be from regular manufacturing range of the manufacturer and shall meet the following minimum service and manufacturing experience requirements as per standard.

Nitrogen Generator shall be identical in type i.e. Rating, Operation method, Electrical Design etc. as compared to at least TWO UNITS designed, manufactured, tested and supplied from the proposed manufacturing plant and at least ONE of these units shall have successfully operated in an onshore installation for at least 5 years of past operation with an additional clause of 25 years future design service life as on the date of bidding.

2.10.2 PROVEN TRACK RECORD (PTR)

Vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.10.3 OTHER REQUIREMENTS

The Vendor shall have total responsibility for the Nitrogen generation Package being designed, fabricated, and tested at the Vendor's facility in accordance with the requirements of this specification, reference codes, regulations and standards.

2.11 OIL METERING SYSTEM

2.11.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM/ authorised packagers/authorised dealers of Oil metering system. The manufacturer/ packagers/dealers of the proposed Oil metering system shall have adequate engineering, manufacturing & testing facilities for the same.

2.11.2 PROVEN TRACK RECORD (PTR)

Vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Vendor may furnish additional information to justify that the EQC is being met. In addition,

manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.11.3 OTHER REQUIREMENTS

The Vendor shall have total responsibility for the Oil metering system Package being designed, fabricated, and tested at the Vendor's facility in accordance with the requirements of this specification, reference codes, regulations and standards.

2.12 UV STERILIZATION UNIT / WATER MAKERS (RO-UNIT)

2.12.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit shall be an OEM/ authorised packagers/authorised dealers of UV sterilizer unit / Water makers (RO Unit). The manufacturer/ packagers/dealers of the proposed UV sterilizer unit / Water makers (RO Unit) shall have the adequate engineering, manufacturing & testing facilities for the same.

2.12.2 PROVEN TRACK RECORD (PTR)

Vendor shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.13 PRESSURE VESSELS/ HEAT EXCHANGERS/MANUAL VALVES

2.13.1 EQUIPMENT QUALIFICATION CRITERIA (EQC)

The vendor for the complete unit/items shall be an OEM/ authorised packagers/authorised dealers of pressure vessels/heat exchangers/manual valves. The manufacturer/ packagers / dealers of the proposed items shall have adequate engineering, manufacturing & testing facilities for the same.

The pressure vessels/heat exchangers/manual valves model offered shall be from regular manufacturing range of the manufacturer and shall meet the following minimum service and manufacturing experience requirements.

The Offered equipment shall be identical in type i.e. Rating, Operation method, etc. as compared to at least TWO UNITS

designed, manufactured, tested and supplied from the proposed manufacturing plant and at least ONE of these units shall have successfully operated in an onshore installation for at least 5 years of past operation.

For each category of valves, vendor to ensure that at least 2 units/category which is identical in type, rating, operating methodology etc., should have been designed, manufactured, tested and supplied from the proposed manufacturing plant. At least one unit/category should have been successfully operated for at least 5yrs of plant operation.

2.13.2 PROVEN TRACK RECORD (PTR)

Pressure vessels/heat exchangers/pumps/ manual valves manufacturer shall complete the Experience Record Performance to amply prove that the Equipment offered meets the EQC for technical acceptance. Pressure vessels/heat exchangers/pumps vendor may furnish additional information to justify that the EQC is being met. In addition, manufacturer's catalogue and general reference list for all the above equipment shall also be furnished along with the bid/proposal.

2.13.3 OTHER REQUIREMENTS

The vendor shall have total responsibility for the pressure vessels/heat exchangers/pumps being designed, fabricated and tested at the vendor’s facility in accordance with the requirements of this specification, referenced codes, regulations, standards.

2.14 PLATES/ PIPES/ FLANGES/ FITTINGS/ GASKETS/ FASTENERS

For these items vendor has to arrange for procurement by strictly complying with the tender specifications and the responsibility of ensuring the quality of these items as per tender specification is EPC responsibility. Vendors who has supplied similar materials matching to this tender specification and as per codes & standards shall be accepted.

3.0 INSTRUMENTATION SYSTEM / SUB-SYSTEM

3.1 REQUIREMENT FOR FIELD PROVEN QUALITY OF ITEMS

3.1.1 The system/sub-system/bought out items and services as offered should have been supplied and working satisfactorily for a period of minimum 8000 hrs. in a similar application.

3.1.2 The instrumentation selected shall be rugged in design and must be field proven. Prototype design or equipment of experimental nature or design undergoing testing etc. shall not be selected and supplied.

3.1.3 Following criteria must be applied before selecting a particular instrument item:

a) For Instrument Items (Other than Systems)

The instruments as being offered / supplied should have been operating satisfactorily in similar process conditions for at least 8000 hrs. in the last seven years.

b) For System Oriented Item

The system (with all its sub-systems) as being offered / supplied should have been installed and operating satisfactorily in similar application for at least 8000 hrs. (as collaborated by user certificate).

3.1.4 Contractor is responsible to comply with the total scope of work indicated in the package regarding the Plant Control, Monitoring and Interlock system and meeting all the functional requirements specified in this package for the same, through hardware and software, during detail engineering. Accordingly the Bill of Material (BOM) is contractor's responsibility. Any Change, modification or addition necessary in the proposed BOM or scope of work necessary to achieve the functional requirements during detail engineering shall be carried out by contractor within the project schedule and without any implications.

3.1.5 Contractor shall be fully responsible for proper engineering, integration, installation, performance and operation of all equipments including I/O and marshalling racks, and bought-out items supplied by them (when integrated with the main system) as per the requirements.

3.1.6 Further the following are Contractor's scope/responsibility:

a) 230 V AC UPS/230VAC Non UPS/24 V DC Power Distribution shall be prepared by contractor.
b) Spares as specified in the package are included.
c) BOM shall be finalized during detail engineering.
d) Contractor shall be bound to incorporate owner's comments in line with package requirements without any implication.

e) Contractor shall be responsible to engineer the system based on the inputs provided by owner. In case of any conflict or interpretational understanding owner decision shall be final.

f) Functional Schematics and logic diagrams prepared by contractor to be furnished of Owner review before development of application software.

g) Contractor shall be responsible to incorporate owner comments during engineering and demonstrate the same during integrated FAT.

h) Contractor shall be responsible to incorporate all pre-commissioning and commissioning comments of owner.

i) Contractor shall be responsible to involve sub-vendors for all engineering, engineering reviews, system definition and software definition meeting, drawing/document review meeting without any exception as per responsibility chart.

j) It is contractor's responsibility to furnish instrument installation standards based on the base drawing furnished with this bid package.

k) Contractor shall provide detailed System Architecture diagram in line with this package and indicating major hardware models and software loaded in each machine to meet the functional requirements of this package.

l) Contractor shall provide all system related documentation and loop drawing complete with terminal numbers and locations before the system integrated factory acceptance.

4.0 ELECTRICAL SYSTEM / SUB-SYSTEM

4.1 REQUIREMENT FOR FIELD PROVEN QUALITY OF ITEMS

4.1.1 The system/sub-system/bought out items and services as offered should have been supplied from a vendor who has been supplying electrical items and services for last 5(five) years to any Govt./Semi-Govt./PSU/Public Limited Company and the model/item offered in the bid should have been working satisfactorily for a period of minimum 8000 hours in a single similar application.

4.1.2 The electrical item/ system/sub-system selected shall be rugged in design and must be field proven. Prototype design or equipment of experimental nature or design undergoing testing etc. shall not be selected and supplied.

4.1.3 Following criteria must be applied before selecting a particular electrical item:

a) For electrical Items (Other than Systems)

The electrical items being offered / supplied should have been operating satisfactorily in similar process conditions for at least 8000 hrs. in a single application in last seven years.

b) For System Oriented Item
The system (with all its sub-systems) as being offered / supplied should have been installed and operating satisfactorily in similar application for at least 8000 hrs. (as collaborated by user certificate).

4.1.4 Contractor is responsible to comply with the total scope of work indicated in the package regarding the Plant Control, Monitoring and Safety Interlock system and meeting all the functional requirements specified in this package for the same, through hardware and software, during detail engineering. Accordingly the Bill of Material (BOM) is contractor's responsibility. Any Change, modification or addition necessary in the proposed BOM or scope of work necessary to achieve the functional requirements during detail engineering shall be carried out by contractor within the project schedule and without any cost/time implications.

4.1.5 Contractor shall be fully responsible for proper design, engineering, integration, installation, performance and operation of all electrical equipment including switch gear panels/racks and bought-out items supplied by them (when integrated with the main system) as per the requirements.

4.1.6 Further the following are Contractor's scope/responsibility:

a) 230 V AC UPS/230VAC Non UPS/24 V DC Power Distribution shall be prepared by contractor.
b) Spares as specified in the package are included.
c) BOM shall be finalized during detail engineering.
d) Contractor shall be bound to incorporate owner's comments in line with package requirements without any implication.
e) Contractor shall be responsible to engineer the system based on the inputs provided by owner. In case of any conflict or interpretational understanding owner decision shall be final.
f) Functional Schematics and diagrams prepared by contractor are to be furnished for Owner's review before development of application software.
g) Contractor shall be responsible for incorporation of owner's comments during engineering and demonstrate the same during integrated FAT.
h) Contractor shall be responsible for incorporation of all pre-commissioning and commissioning comments of owner.
i) Contractor shall be responsible for involvement of sub-vendors for all engineering, engineering reviews, system definition and

software definition meeting, drawing/document review meeting without any exception as per responsibility chart.

j) It is contractor's responsibility to furnish instrument installation standards based on the base drawing furnished with this bid package.

k) Contractor shall provide detailed Single Line diagram in line with this package and indicating major hardware models and software loaded in each machine to meet the functional requirements of this package.

l) Contractor shall provide all system related documentation and loop drawing complete with terminal numbers and locations before the system integrated factory acceptance.

4.1.7 In addition to the above, the Contractor shall also ensure the electrical equipment/accessories/bought out items to be supplied conform to the statutory safety norms as detailed in (Indian) Central Electricity Authority Regulations (Measures relating to Safety and Electric Supply)- 2010 and (Indian) Oil Mines Regulations-2014, with latest amendments.

4.1.8 As per present statutory norms and CEA regulations, the following minimum electrical safety issues are required to be addressed in Hazardous areas of Oil and Gas Mines.

a) Valid DGMS approval for all Electrical Equipments to be used in Hazardous Zones 1 & 2.
Suitable Earth leakage protection devices to be used in every motor starter or supply feeder so as to trip the incomer to that motor starter or supply feeder instantly on the occurrence of earth fault or earth leakage current. ELCB shall be used for all power feeders up to 63A rating and motor feeders upto 7.5kW rating. For rating higher than these CBCT, earth leakage relay and timer along with indication lamps shall be provided.

b) Resistance Grounding system for generator neutral to limit the ground fault current to 750 mA in installations of voltages exceeding 250 V up to 1100 V [CEA Regulation # 100].
Since generator neutral will be resistance grounded, neutral will not be used throughout the system.
In case the neutral is required, it shall be generated through the employment of a separate unity isolation transformer (415/415, Dyn11).

c) Voltage shall not exceed 240V between phases used for lighting purpose. This has to be done by employing 415/240 V phase-to-phase lighting transformer. [CEA Regulation # 102 (ii) (b)]

d) Remote Push Button Station for starting of motors shall be intrinsically safe and remote starter control supply voltage shall not exceed 30 Volts. [CEA Regulation # 102 (iv) & 110 (4) (i)].

4.2 AREA CLASSIFICATION AND EQUIPMENT SELECTION

a) For Hazardous Area locations, i.e., Zone 1 and Zone 2, electrical equipment (motors, light fittings, pushbutton stations, junction boxes etc.) shall comply with the requirement of IS: 5572/ IS/IEC 60079. No electrical equipment shall be installed in Zone 0.

b) Irrespective of the extent of hazardous areas, electrical equipment used in these areas shall invariably be of FLP type-'d' (Flameproof/Explosion-proof only). For flameproof enclosure located in hazardous areas, Gas group classification i.e. IIA and IIB will be as per IS: 2148.

5.0 CEMENT AND STRUCTURAL STEEL

5.1 THE SELECTION CRITERIA FOR VENDOR OF CEMENT

5.1.1 CLAUSE FOR ACCEPTANCE OF CEMENT MANUFACTURERS

Cement manufacturers having valid BIS certificate and listed in the BIS website as on date of procurement of cement shall be allowed for supply of cement and contractor shall procure cement from them with prior intimation to Engineer-in-Charge.

Tests after receipt of cement at site: Each batch of cement (week wise as mentioned on cement bags) supplied by the contractor after delivery at site shall be subjected to the tests and analysis required by the relevant Indian Standard Codes. The contractor shall carry out and bear the cost of all tests and analysis to ensure quality of cement before using in actual works.

5.2 THE SELECTION CRITERIA FOR VENDOR OF STRUCTURAL STEEL

5.1.2 CLAUSE FOR STRUCTURAL STEEL

Structural steel shall be procured from manufacturers having BIS License. Structural steel shall confirm to IS: 2062 & IS:808 and will meet the technical specifications of the contract. This shall be subject to establishment of correlation with manufacturer's MTC for conformance to the applicable code.

In case of non availability of Structural steel from the listed Manufacturers (SAIL, TISCO, RINL, ESSAR, JINDAL, JSIW steel & other listed Manufacturer in the CPWD approved list), Engineer in Charge may accord Project specific approval to the Contractor to use structural steel procured from other reputed manufacturer of structural steel, fulfilling the Technical requirements. However, such approvals shall be considered subject to the contractor offering rebate as per following:

Rebate rate per MT shall be difference in Base Price for Structural Steel as per the Memorandum issued by CPWD corresponding to the period of procurement of structural steel by contractor (sample Memorandum attached) and the price of Structural Steel as per the tax invoice of the material procured by contractor from other than listed Manufacturer.

Note:

a) For working out the rebate rate, price of structural steel as per tax invoice exclusive of taxes & duties shall be considered.

b) The sample memorandum of CPWD mentioned above shall be applicable irrespective of the geographical locations.

c) In addition to establishment of traceability with manufacturer's MTC, for structural steel procured from other than listed manufacturers, for each category/size of steel procured, one sample from every 50 Tons or part there of shall be drawn and tested.

d) In case of assorted lot, sample shall be drawn from each lot, irrespective of lot size.

5.1.3 APPROVED MANUFACTURERS FOR TMT BARS AND METHODOLOGY FOR REBATE

5.1.3.1 LIST OF APPROVED MANUFACTURER OF TMT BARS:

Sl. No.	Name of Company	Product
1.	SAIL	All types of bars having validity of BIS approval on the date of ordering.
2.	RINL	All types of bars having validity of BIS approval on the date of ordering.
3.	TATA STEEL LTD (TSL)	All types of bars having validity of BIS approval on the date of ordering.
4.	JINDAL STEEL & POWER LIMITED	All types of bars having validity of BIS approval on the date of ordering.

5.	JSW STEEL LIMITED	All types of bars having validity of BIS approval on the date of ordering.

5.1.4 CLAUSE FOR OBTAINING REBATE ON TMT REINFORCEMENT BARS

In case of non availability of steel from the listed Producers as above and forming part of the contract, Engineer In charge may accord Project specific approval to the Contractor to use TMT reinforcement bars procured from other reputed producers of TMT bars subjected to fulfilling Technical requirements. However, such approvals shall be considered subject to the contractor offering rebate as per following:

Difference in Base price of TMT reinforcement bars procured from "Primary manufacturer" (Listed) & "Secondary Manufacturer" (Non Listed) shall be as per Memorandum issued by CPWD (Sample Memorandum attached for reference and available on CPWD website) & shall be considered as rebate rate per MT. The Memorandum of CPWD as applicable on the date of receipt of material at site shall be considered for working out the rebate rate. Base price of TMT bars issued by CPWD shall be applicable for all types/grade of reinforcement bars. The sample memorandum of CPWD mentioned above shall be applicable irrespective of the geographical locations.

5.1.5 TECHNICAL REQUIREMENTS APPLICABLE TO TMT BARS

a) Availability of valid BIS license shall be verified from BIS website.

b) Availability of valid ISO Certification from recognized body.

c) Inspection reports of the products from the reputed third party inspection like DNV, LRS, CEIL, TU, BV, etc.

d) Infrastructural and testing facilities with methodology of quality control of products.

e) List of products being manufactured in the plant.

f) The contractor shall furnish documentary evidence towards non availability of TMT bars from the listed suppliers.

g) Materials supplied by producers having Integrated steel plants shall have capacity of production of crude steel of 0.5 million tons per annum.

h) The producers must have valid license from BIS to produce High Strength Deformed (HSD) rebars/TMT bars conforming to IS: 1786. In addition to BIS license for HSD rebars, the producers must have valid license from any of the firms Tempcore, Thermex, Evcon Turbo & Turbo Quench to produce Thermo-Mechanically Treated (TMT) rebars and shall conform to the specifications laid by these firms for particular grade of TMT rebars.

i) Steel material procured shall meet the provisions of IS:1786 for respective grade of TMT rebars like Fe500, Fe500D, etc. and shall preferably have IS mark on them.

j) The contractor shall furnish manufacturer's test certificates to the Engineer-in-charge in respect of all supplies of rebars brought by him to site for incorporation in permanent work.

k) In addition to verification of delivery orders and delivery challans of the steel manufacturer, samples shall be taken and got tested by the Engineer-in-Charge in an approved test house duly witnessed by Reputed third party agency like DNV, LRS, CEIL, TU, BV, etc. as per the provisions laid down in EIL Specifications/BIS codes.

l) The sample size shall be as under in case of TMT bars.

Size of Bar	**For consignment below 100 MT**	**For consignment above 100 MT**
Under 10 mm dia bars	One sample for each 25 MT or part thereof	One sample for each 40 MT or part thereof
10 mm to 16 mm dia bars	One sample for each 35 MT or part thereof	One sample for each 45 MT or part thereof
Over 16 mm dia bars	One sample for each 45 MT or part thereof	One sample for each 50 MT or part thereof

m) The cost for all the tests and the test certificates shall be borne by the contractor. In case the test results indicate that the rebars arranged by the contractor does not conform to the specifications, the same shall stand rejected as per discretion of EIC, and shall be removed immediately from the site of work by the contractor at his own expense and without any claim for compensation due to such rejection.