

OIL INDIA LIMITED  
( A Government of India Enterprise )  
P.O. Udayan Vihar -781171  
Guwahati, Assam(India)

OIL INDIA LIMITED invites Indigenous Competitive Bid under single stage composite bid system through its e-Procurement portal <https://etender.srm.oilindia.in/irj/portal> for the following item:

| <b>e-Tender no. &amp; Bid Closing date</b>    | <b>Material Description</b>   |
|---|---|
| <b>SGI4746P15<br/>BC date:<br/>30.10.2014</b> | <b>Procurement, Installation &amp; Commissioning and Training of PLC Workstation cum Simulator cum Card Testing Station</b> |
| <b>SGI4777P15<br/>BC date:<br/>30.10.2014</b> | <b>Procurement, Installation &amp; Commissioning of Lightning &amp; Surge Protection Solution</b>                           |

Application showing full address/ e-mail address with tender fee (Non-refundable) of **Rs. 1000.00 only (Excepting PSUs and SSI units registered with NSIC) in favour of M/s. Oil India Limited and payable at Guwahati** is to be sent to **Chief Materials Manager (PL), Oil India Limited, P.O. Udayan Vihar , Assam-781171** only between 10.09.2014 **and one week prior to bid closing date**. The envelope containing the application for participation should clearly indicate **“Request for participation”** for easy identification and timely issue of authorization. No physical tender documents will be provided. On receipt of requisite tender fee **USER-ID** and initial **PASSWORD** will be communicated to the bidder (through e-mail) and will be allowed to participate in the tender through OIL’s e-procurement portal. Bidders who are already having vendor code / user Id are advised to log in using user Id. & password and register against the respective e-tender and indicate the same while making application along with tender fee for participation. **Details of bidding document can be viewed using “Guest Login” provided in the e-procurement portal**. The link to e-procurement portal has been provided through OIL’s website [www.oil-india.com](http://www.oil-india.com) .



Oil India Limited  
(A Govt. of India Enterprise)  
PO : Udayan Vihar , Guwahati – 781171  
Assam (India)

TELEPHONE NO. (91-361) 2594287

FAX NO: (91-361 2643686)

Email: aparajita@oilindia.in ; erp\_mm@oilindia.in

**Tender No.& Date** : **SGI 4777P15 dated 04/09/2014**  
Tender Fee : INR 1000.000  
Bid Security : As mentioned in the Basic Data of the tender in OIL's e-portal.  
**Bidding Type** : **SINGLE STAGE TWO BID SYSTEM**  
Bid Closing on : As mentioned in the Basic Data of the tender in OIL's e-portal.  
Bid Opening on : As mentioned in the Basic Data of the tender in OIL's e-portal.  
Performance Guarantee : Applicable  
Integrity Pact : Applicable

**OIL INDIA LIMITED** invites Indigenous Tenders for item detailed below:

| Item Srl No | Item Description                        | UOM      | Qty Required |
|-------------|---|----------|--------------|
| 10          | Lightning and surge protection solution | NO       | 1            |
| 20          | INSTALLATION & COMMISSIONING            | Lump sum | 1            |

### **DETAILED TECHNICAL SPECIFICATIONS PROVIDED IN ANNEXURE -AAA**

#### **Special Notes :**

1.0 The tender will be governed by “General Terms & Conditions” for e-Procurement as per Booklet No. MM/LOCAL/E-01/2005 for E-Procurement LCB Tenders.

2.0 This Bidding document consists of :

Technical specifications and Quantity as per **Annexure – AAA**,  
Bid Evaluation & Bid Rejection Criteria as per **Annexure-BBB**,  
Checklist as per **Annexure-CCC**  
Technical bid check list as per **Annexure –EEE** ,  
Response sheet as per **Annexure -FFF** and  
Bank Details as per **Annexure-GGG**.

**Integrity Pact as per Annexure-DDD, Vendor User Manual and LCB Doc Booklet (revised)** have been uploaded separately in the Technical RFx -> External Area -> Tender Documents.

3.0 The tender shall also be governed by the Bid Rejection & Bid Evaluation Criteria given in enclosed **Annexure-BBB**. However, if any of the Clauses of the Bid Rejection Criteria / Bid Evaluation Criteria (as per **Annexure-BBB**) contradict the Clauses of the tender and / or “General Terms & Conditions” as per Booklet No. MM/LOCAL/E-01/2005 for E-procurement (LCB Tenders) elsewhere, those in the BEC / BRC shall prevail.

4.0 Bidders are advised to fill up the Technical bid check list (**Annexure EEE**) , Response sheet (**Annexure FFF**) and Bank Details (**Annexure GGG**) given in the bidding document uploaded in Technical RFx -> External Area -> Tender Documents. The above filled up document to be uploaded in the Technical RFX Response.

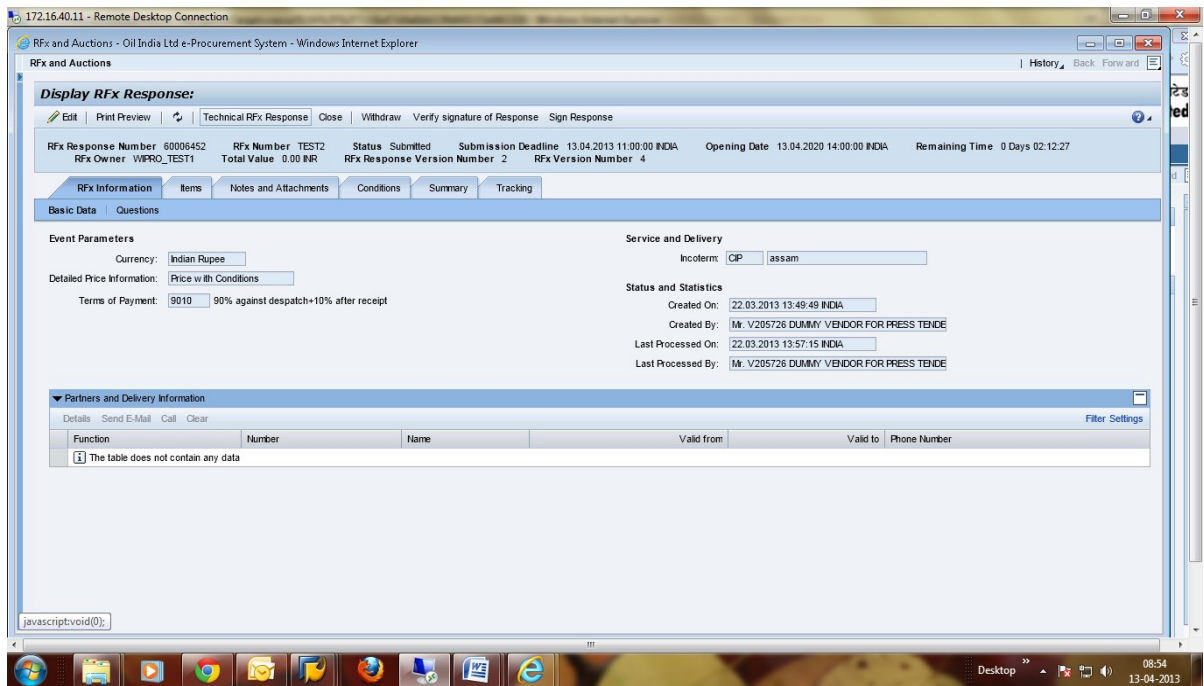
5.0 Please do refer the User Manual provided on the portal on the procedure ‘How to create Response for submitting offer’.

6.0 In case of SINGLE STAGE-TWO BID SYSTEM, bidders shall prepare the “Techno-commercial Unpriced Bid” and “Priced Bid” separately and shall upload through electronic form in the OIL's e-Tender portal within the Bid Closing Date and Time stipulated in the e-Tender. The “Techno-commercial Unpriced Bid” shall contain all technical and commercial details **except the**

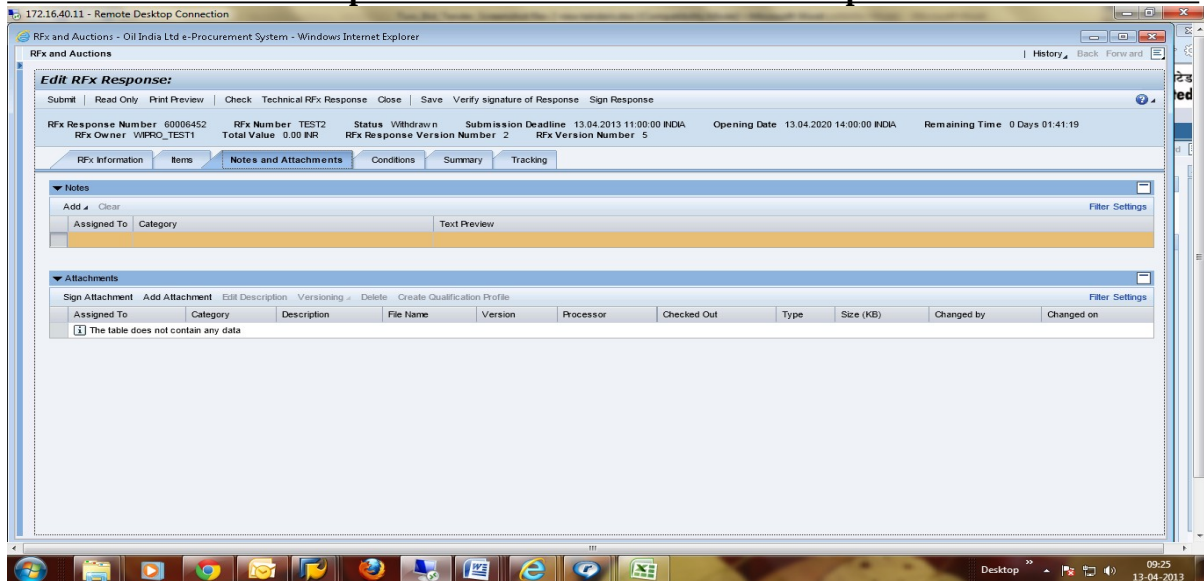
**prices which shall be kept blank. Details of prices as per Bid format / Commercial bid to be uploaded as attachment in the Attachment Tab “Notes and Attachments”.**

**6.1 A screen shot in this regard is given below.**

Any offer not complying with above submission procedure will be rejected as per Bid Rejection Criteria mentioned in the tender.



**On “EDIT” Mode- The following screen will appear. Bidders are advised to Upload “Techno-Commercial Unpriced Bid” and “Priced Bid” in the places as indicated above:**



**Note :**

- \* The “Techno-Commercial Unpriced Bid” shall contain all techno-commercial details **except the prices.**
- \*\* The “Price bid” must contain the price schedule and the bidder’s commercial terms and conditions. For uploading Price Bid, first click on Sign Attachment, a browser window will open, select the file from the PC and click on Sign to sign the file. On Signing a new file with extension .SIG will be created. Close that window. Next click on Add Attachment, a browser

window will open, select the .SSIG signed file from the PC and name the file under Description, Assigned to General Data and click on OK to save the File.

**IMPORTANT NOTE : NO PRICE SHOULD BE INDICATED IN TECHNICAL BID**

7.0 Priced bids of only those bidders will be opened whose offers are found to be techno-commercially acceptable.

### 8.0 General Qualification Criteria:

In addition to the general BRC/BEC, following criteria on Bidders' Experience and their financial capabilities shall be considered (**documentary evidence to be provided along with the bid in Technical RFX -> External Area -> Tender Documents**) as on the Bid Closing Date:

- i). **Successful execution of a single order of value not less than Rs.25.54 Lakhs for supply of similar items during last 3 years .**
- ii). **Annual turnover of the firm in any of the last 3 financial years or current financial year should not be less than Rs. 85.14 Lakhs.**

9.0 Application showing full address/email address with Tender Fee (Non-refundable) of Rs. 1,000.00 in favour of M/s Oil India Limited and payable at Guwahati is to be sent to Chief Material Manager , Oil India Limited (Pipeline Headquarter ) , P.O. Udayan Vihar, Guwahati -781171. Application shall be accepted only upto one week prior to Bid Closing date. The envelope containing the application for participation should clearly indicate "REQUEST FOR ISSUE OF USER ID AND PASSWORD FOR E TENDER NO ... " for easy identification and timely issue of user ID and password. On receipt of requisite tender fee, USER ID and initial PASSWORD will be communicated to the bidder (through e-mail) and will be allowed to participate in the tender through OIL's e- Procurement portal. No physical tender documents will be provided. Details of NIT can be viewed using "Guest Login" provided in the e-Procurement portal. The link to e-Procurement portal has been also provided through OIL's web site [www.oil-india.com](http://www.oil-india.com).

NOTE: PSUs and SSI units are provided tender documents Free of Cost (as per govt guidelines), however they have to apply to OIL's designated office to issue the tender documents before the last date of sale of tender document mentioned in the tender.

10.0 Please note that all tender forms and supporting documents are to be submitted Through OIL's e-Procurement site only except following documents which are to be submitted manually in sealed envelope super scribed with **Tender no.** and **Due date** to **Chief Material Manager , Oil India Limited (Pipeline Headquarter ) , P.O. Udayan Vihar, Guwahati -781171** on or before the Bid Closing Date and Time mentioned in the Tender.

- a) **Original Bid Security**
- b) **Detailed Catalogue (if any)**
- c) **Any other document required to be submitted in original as per tender requirement**

All documents submitted in physical form should be signed on all pages by the authorised signatory of the bidder and to be submitted in triplicate.

11.0 Bidders are requested to examine all instructions, forms, terms and specifications in the bid. Failure to furnish all information required as per the bidding document or submission of offers not substantially responsive to the bidding document in every respect will be at the bidders risk and may result in rejection of its offer without seeking any clarifications.

12.0 Bidders must ensure that their bid is uploaded in the system before the tender closing

Date and time. Also, they must ensure that above documents which are to be submitted in a sealed envelope are also submitted at the above mentioned address before the bid closing date and time failing which the offer shall be rejected.

13.0 Bid must be submitted electronically only through OIL's e-procurement portal. Bid submitted in any other form will be rejected. All the Bids must be Digitally Signed using "Class 3" digital certificate (*e-commerce application*) as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India. The bid signed using other than "Class 3" digital certificate, will be rejected.

14.0 Any sum of money due and payable to the contractor (including Security Deposit refundable to them) under this or any other contract may be appropriated by Oil India Limited and set-off against any claim of Oil India Limited (or such other person or persons contracting through Oil India Limited) for payment of sum of money arising out of this contract or under any other contract made by the contractor with Oil India Limited (or such other person or persons contracting through Oil India Limited).

15.0 In the event of receipt of only a single offer against the tender within B.C. date, OIL reserves the right to extend the B.C. date as deemed fit by the Company. During the extended period, the bidders who have already submitted the bids on or before the original B.C. date, shall not be permitted to revise their quotation.

16.0 To ascertain the substantial responsiveness of the bid OIL reserves the right to ask the bidder for clarification in respect of clauses covered under BRC also and such clarifications fulfilling the BRC clauses in toto must be received on or before the deadline given by the company, failing which the offer will be summarily rejected.

Yours Faithfully  
Sd-  
(Ms A. Gogoi)  
SENIOR MANAGER MATERIALS (PL)  
FOR CHIEF MANAGER

MATERIALS (PL)

FOR : GENERAL MANAGER (PLS)

**ANNEXURE AAA**

| Item SRL No | Technical Specification  | Qty  |
|-------------|--|------|
| 10          | <p>To supply and install surge protection devices, Earthing system and lightning protection system to all the equipments installed , against direct and indirect lightning strikes and surge, at 6(six) Nos. of Repeater stations RS-3 and RS-4 in Assam, RS-12 and RS-13 in West Bengal and RS-14 and RS-15 in Bihar.</p> <p><b><u>A) Technical Specifications for Surge Protection Devices:</u></b></p> <p>1.Universal lightning current and surge arrester combination for Three Phase AC Surge protection at generator output with a combination of Class B &amp; Class C which is going to Battery Charger Panel.<br/>IEC Category: I, II</p> | 1 NO |

Arrester rated voltage: 255 V AC, 50 Hz  
Lightning impulse current (at 10/350 microsecond) and Nominal Discharge Current (at 8/20 microsecond) (Line to Neutral): 25 kAmps  
Lightning impulse current (at 10/350 microsecond) and Nominal Discharge Current (at 8/20 microsecond) (Neutral to Earth): 100 kAmps  
Voltage Protection Level (Up) - L-N & N-E Device: # 2.5 kV  
Follow current quenching capacity: 50 kA rms  
Operating temperature Range: - 40 °C to + 80°C  
Type of Mounting: DINrail Mountable  
Remote Indication Potential Free Contact: For Operating state/Fault indication  
Test standards : IEC 61 643-11:2002-12  
IEC 61 643-1:1998-02  
UL 1449 ed.2  
IEEE C62.1; C62.45  
Approval: ATEX, DGMS or equivalent.

2. Universal lightning current and surge arrester combination for Three Phase AC Surge protection at Battery Charger Input from Generator with a combination of Class B & Class C which is going to Battery Charger Panel.

**Quantity: 6 Nos.**

IEC Category: I, II  
Arrester rated voltage: 255 V AC, 50 Hz  
Lightning impulse current (at 10/350 microsecond) and Nominal Discharge Current (at 8/20 microsecond) (Line to Neutral): 25 kAmps  
Lightning impulse current (at 10/350 microsecond) and Nominal Discharge Current (at 8/20 microsecond) (Neutral to Earth): 100 kAmps  
Voltage Protection Level (Up) - L-N & N-E Device: # 2.5 kV  
Follow current quenching capacity: 50 kA rms  
Operating temperature Range: - 40 °C to + 80°C  
Type of Mounting: DINrail Mountable  
Remote Indication Potential Free Contact: For Operating state/Fault indication  
Test standards : IEC 61 643-11:2002-12  
IEC 61 643-1:1998-02  
UL 1449 ed.2  
IEEE C62.1; C62.45  
Approval: ATEX, DGMS or equivalent.

3. Single Phase 230VAC Surge Protection in different panels and lighting system with a combination of Class C.

**Quantity: 18 Nos.**

IEC Category: II  
Arrester rated voltage (L-N): 335 V AC, 50 Hz  
Arrester rated voltage (N-PE): 260 V AC, 50 Hz  
Nominal Discharge Current (at 8/20 microsecond) (L-N): 20 kAmps  
Nominal Discharge Current (at 8/20 microsecond) (L-PE): 20 kAmps  
Nominal Discharge Current (at 8/20 microsecond) (N-PE): 20 kAmps  
Voltage Protection Level (Up) (L-N):less than or equal to 1.6 kV  
Voltage Protection Level (Up) (L-PE):less than or equal to 1.75 kV

Voltage Protection Level (Up) (N-PE):less than or equal to 1 kV  
Type of Mounting: DINrail Mountable  
Remote Indication Potential Free Contact: For Operating state/Fault indication  
Standards/regulations: IEC 61643-1

DIN EN 61643-11/A11  
E DIN VDE 0675-6  
E DIN VDE 0675-6/A1  
DIN VDE 0675-6/A2  
NF C61-740

Approval: ATEX, DGMS or equivalent.

4. Surge Protection for - 48 VDC

**Quantity: 30 Nos.**

IEC Category: II

Arrester Rated Voltage: 48 V (AC), 60 V (DC)

Lightning Impulse Current (at 10/350 microsecond) & Nominal Discharge Current (at 8/20 microsecond): 10 KAmps

Voltage Protection Level (Up) - L-N & N-E Device: less than or equal to 0.3 KV

Operating temperature Range: - 40 °C to + 80°C

Type of Mounting: DINrail Mountable

Remote Indication Potential Free Contact: For Operating state/Fault indication

Standards/regulations : IEC 61643-1

DIN EN 61643-11  
DIN EN 61643-11/A11  
UL 1449  
IEEE C62.1 / C62.34 / C62.45

Approval: ATEX, DGMS or equivalent.

5. Surge Protection for Analog 4-20mA

**Quantity: 28 Nos.**

IEC Category: C1, C2, C3, D1

Arrester Rated Voltage: 36 V DC

Lightning Impulse Current (at 10/350 microsecond) per line & Nominal Discharge Current (at 8/20 microsecond) per line: 2.5 kAmps (10/350 microsecond)/10 kAmps (8/20 microsecond)

Voltage Protection Level line-line at 1 kV/  $\mu$ s C3( Up ):less than or equal to 45 V

Operating temperature Range: - 40 °C to + 80°C

Type of Mounting: DINrail Mountable

Standards/regulations : IEC 61643-21

DIN EN 61643-21

Approval: ATEX, DGMS or equivalent.

6. Surge Protection for 24 VDC

**Quantity: 12 Nos.**

IEC Category: C1, C2, C3, D1

Arrester Rated Voltage: 30 V DC

Nominal Discharge Current (at 8/20 microsecond): 10kAmps

Response Time:less than or equal to 25 ns  
Voltage Protection Level (Up): less than or equal to 1 kV  
Type of Mounting: DINrail Mountable on base element  
Standards/regulations : IEC 61643-21  
DIN EN 61643-21  
UL 497B

Approval: ATEX, DGMS or equivalent.

7. Surge Protection for Temp. Transmitter mounted in field

**Quantity: 8 Nos.**

IEC Category: C1, C2, C3, D1  
Arrester Rated Voltage: 36 V DC  
Nominal Discharge Current (at 8/20 microsecond): 20kAmps  
Voltage Protection Level (Up):less than or equal to 1.1 kV  
Type of Mounting: 1/2 inch NPT, Screw-in module  
Response Time:less than or equal to 100 ns  
Standards/regulations :EN 61643-21

EN 60079-0  
EN 60079-1  
EN 60079-11  
EN 60079-26  
EN 61241-0  
EN 61241-1  
EN 61241-11

Approval: ATEX, DGMS or equivalent.

8. Surge Protection for Digital Inputs for Cathodic Panel and different alarms both for Crude and Product Pipelines

**Quantity: 72 Nos.**

IEC Category: C1, C2, C3, D1  
Arrester Rated Voltage: 36 V DC  
Nominal Discharge Current (8/20  $\mu$ s): 20 kAmps  
Voltage Protection Level (Up):less than or equal to 60 V  
Type of Mounting: DINrail Mountable  
Response Time:less than or equal to 1 ns  
Operating temperature Range: - 40 °C to + 80°C  
Standards/regulations : IEC 61643-21

DIN EN 61643-21

Approval: ATEX, DGMS or equivalent.

9. Surge Protection for Analog Inputs for Cathodic Panel both for Crude and Product Pipelines

**Quantity: 18 Nos.**

IEC Category: C1, C2, C3, D1  
Arrester Rated Voltage: 36 V DC  
Nominal Discharge Current (8/20  $\mu$ s): 20 kAmps



|  |  |  |
|--|--|--|
|  | <p>Voltage Protection Level (Up):less than or equal to 350 V<br/> Type of Mounting: DINrail Mountable<br/> Response Time:less than or equal to 100 ns<br/> Standards/regulations : IEC 61643-21<br/> DIN EN 61643-21</p> <p>Approval: ATEX, DGMS or equivalent.</p> <p>10. Surge Protection for Ethernet CAT6 , RJ45 at OFC Panel<br/> <b><u>Quantity: 66 Nos.</u></b></p> <p>IEC Category: B2, C1, C2, C3, D1<br/> Maximum Continuous operating DC Voltage pair to pair, Uc: 57 V<br/> Nominal Discharge Current (8/20 <math>\mu</math>s): 10 kAmps<br/> Voltage Protection Level (Line-line), Up:less than or equal to 180 V<br/> Type of Mounting: Connection-specific attachment plug and DIN rail, 35 mm<br/> Operating Temperature Range: - 40 °C to + 80°C<br/> Standards/regulations : IEC 61643-21<br/> EN 50173-1<br/> ISO/IEC 11801-Am.1</p> <p>Approval: ATEX, DGMS or equivalent.</p> <p>11. Surge Protection for POE Ethernet CAT6 , RJ45 at OFC Panel<br/> <b><u>Quantity: 6 Nos.</u></b></p> <p>IEC Category: B2, C1, C2, C3, D1<br/> Maximum Continuous operating DC Voltage pair to pair, Uc: 57 V<br/> Nominal Discharge Current (8/20 <math>\mu</math>s): 10 kAmps<br/> Voltage Protection Level (Line-line), Up:less than or equal to 180 V<br/> Type of Mounting: Connection-specific attachment plug and DIN rail, 35 mm<br/> Operating Temperature Range: - 40 °C to + 80°C<br/> Standards/regulations : IEC 61643-21<br/> EN 50173-1<br/> ISO/IEC 11801-Am.1</p> <p>Approval: ATEX, DGMS or equivalent.</p> <p>12. Surge Protection for Telephone, RJ11<br/> <b><u>Quantity: 6 Nos.</u></b></p> <p>IEC Category: B2, C1, C2, C3, D1<br/> Maximum Continuous operating DC Voltage pair to pair, Uc: 170 V<br/> Nominal Discharge Current (8/20 <math>\mu</math>s): 10 kAmps<br/> Voltage Protection Level (line-line), Up:less than or equal to 240 V<br/> Type of Mounting: Connection-specific attachment plug and DIN rail, 35 mm<br/> Operating Temperature Range: - 40 °C to + 80°C<br/> Standards/regulations :IEC 61643-21<br/> Approval: ATEX, DGMS or equivalent.</p> |  |
|--|--|--|

13. Surge Protection for RS-232 connection between Multiplexer and RTU210

**Quantity: 4 Nos.**

Maximum Continuous operating DC Voltage: 15 V DC  
Nominal Discharge Current (8/20  $\mu$ s)line-SG: 0.1 kAmps (line-SG)/0.1 kAmps (SG-PG)

Voltage Protection Level line-SG at 1kV/ $\mu$ s C3 Up:  
< 21 kV

Type of Mounting: Mounting on D Sub  
Operating Temperature Range: - 40 °C to + 80°C  
Standards for air and creepage distances :IEC 60664-1

VDE

0110-1

Standards/regulations : IEC 61643-21

Approval: ATEX, DGMS or equivalent.

**B) Technical Specifications for earthing:**

The specification covers the supply, installation testing and commissioning of Earthing system.

Standards:

IS 3043 : Code of practice for earthing

Indian Electricity Rules : 1956

Indian Electricity Act : 1910

CEIG Regulations :Should comply "OISD (Oil Industries Safety Directorate) regulations and recommendations.

**NOTE:**

**The vendor has to carry out soil resistivity tests at the concerned locations and then has to submit the earthing plan for consideration.**

**The existing Earthing Layouts of the concerned stations are supplied along with the PR.**

**DETAILS OF EARTHING SYSTEM:**

Unless otherwise specified main earthing shall not be less than 25x4 mm G.I.flat  
The minimum size of earthing conductor of various equipment shall be as follows :

a.Main Earth Grid Selected for Mechanical Strength - 25x4mm GI Flat

b.DG Panels, Interconnection of Earth Electrodes - 25x4mm GI Flat

c.25KVA Transformer Neutral - 8 SWG Cu.wire

d.DBs -25x4 mm GI Flat

-GI Flat must be used

e.Equipment Earthing

i. upto 5KVA -25x4 mm GI Flat

ii. 5 KVA-100 KVA -25x4 mm GI Flat

**i) EARTH ELECTRODE:**

**Maintenance Free Earthing (Chemical earthing)-**

"Dual pipe with flat technology" earthing electrode filled with highly conductive compound.

Outer shell dimension: 80 mm dia.; 3.65mm thickness.

Inner shell dimension: 50 mm dia.; 3.25mm thickness.

Terminal size (mm): 38 x 10

Length: 3000 mm

Galvanization: 80- 100 microns outside and 200 - 300 microns inside.

A chemical compound having character of absorbing and retaining the moisture contents for a long period to make it a maintenance free earthing should be used.

(Based on the IS code of practice IS: 3043-1987)

Ground Enhancing Material (Back-fill compound):

Electrical grounding powder based backfill compound should be used which is a superior highly conductive compound and improves the grounding effectiveness, especially in areas of low conductivity. It should possess the following properties:

1. Suitable for any kind of Soil.
2. Environmentally friendly.
3. Installed in dry/slurry form.
4. Does not contain any hazardous material.
5. Simple to install.
6. Not affected to dry areas.
7. Suitable for any kind of Soil.
8. Contain a corrosion resistance material for protection of material.
9. Highly conducting compound
10. Water retains capacity much more higher than Charcoal and salt.

**ii) EARTHING LAYOUT:**

Earthing conductors in outdoor shall be buried atleast 600mm below finished grade level unless state otherwise.

Wherever earthing conductors cross cable trenches, underground service ducts, pipes, tunnels, etc. it shall be laid minimum 300 mm below and shall be re-routed in case it fouls with equipment structure foundations.

Tap-connections from the earthing grid to the equipment/structure to be earthed shall be terminated on earthing terminals of the equipment/structure, if the equipment is available at the time of laying the grid, otherwise, "earth riser" shall be provided near the equipment foundation/pedestal for future connections to the equipment earthing terminals.

Earthing conductors along their run on cable trench ladder columns, beams, walls, etc shall be supported by suitable cleating at intervals of 750mm. Earthing

conductors along cable trenches shall be cleated to the wall nearer to the equipment. Cable trays and supports shall be passes through walls, floors etc. GI sleeves shall be provided for the passage of the conductor.

Earthing conductor around the building shall be buried in earth at a minimum distance of 1500 mm from the outer boundary of the building.

**iii) EQUIPMENT EARTHING:**

**a) External Earthing:**

All electrical power items shall be earthed by two separate and distinct earth connections from main earth bus.

Earthing pads shall be provided by the supplier of the apparatus/equipment at accessible position. The connection between earthing pads and the earthing grid shall be made by short and direct earthing lead free from kinks and splices. In case earthing pads are not provided on the item to be earthed, same shall be provided in consultation with the Engineers incharge.

Diesel storage tank will be connected with earthing grid at minimum two anode points of the grid system.

Electrical continuity shall be ensured by bonding the different sections of hand-rails and metallic stairs.

Metallic pipes, and cable tray sections for cable installation shall be bonded to ensure electrical continuity and connected to earthing conductors at regular interval. Apart from intermediate connections, beginning points shall also be connected to earthing system.

Metallic conduits shall not be used as earth continuity conductor.

Wherever earthing conductor crosses or runs along metallic structures such as gas, water, steam, conduits, pipes etc, and steel reinforcement in concrete, it shall be bonded to the same.

Cable end boxes, glands, etc shall be connected to the earthing conductor running along with the supply cable which, in turn, shall be connected to earthing grid conductor at minimum two points.

The metallic screens of the single core cable, shall be connected to earth at one end only.

**b) Internal Earthing:**

The earthings of the individual equipments in the Battery Charger Room, Communication Room and Generator Room should be connected internally to form a earthing ring. These individual earthing rings should also be interconnected to each other.

**iv) JOINTING:**

Earthing connections with equipment earthing pads shall be bolted type. Contact surface shall be free from scale, paint enamel, grease, rust or dirt. Two bolts shall be provided for making each connections. Bolted connections, after being checked and tested shall be taped with PVC tape.  
Resistance of the joint shall not be more than the resistance of the equivalent length of the conductor.

**v)GENERAL:**

Excavation and refilling of earth necessary for laying of underground earth bus and earth pipes shall be responsibility of the contractor .

All earth electrodes shall be tested for earth resistance by means of standard earth resistance tester.

Earthing resistance of the main bus shall be measured after connecting all the electrodes to the bus and the resistance shall not exceed one (1) ohm. If required, additional earth pits, shall be provided by the contractor, to achieve required earth resistance.

Complete earthing drawing, showing the locations of earth, anodes and grid should be made. Earth pits are to be given number in figures.

**EARTHING GRID DIAGRAMS SHOULD BE SENT FOR APPROVAL FROM OIL IN THE EVENT OF PLACEMENT OF ORDER.**

**vi) EQUIPOTENTIAL BONDING:**

Isolation Spark Gap (ISG) shall be used to bond all the earth which cannot be connected directly to equi-potential Bus Bar.

**EARTH BONDING SYSTEM:**

Equipotential Bonding is very important measure to reduce equipment damage life hazard for any site to be protected from lightning. Equipotentiality is to be achieved by means of bonding all circuits and conductors in a manner that reduces potential differences between elements of the lightning protection system. ISG should remain open under normal condition but forming close circuit under transient conditions. It is to be installed between lightning earth, communication earth & mains power.

**C) Technical Specifications for Lightning Protection:**

**CODES AND STANDARDS:**

The lightning protection system shall comply with IS : 2309 and all currently applicable standards, regulations and safety codes of the locality where the installation is to be carried out. The installation work shall conform to the latest applicable Electricity Rules, standards and codes of practices indicated.

|    |  |  |
|----|--|--|
|    | <p><b>SCOPE OF SUPPLY:</b></p> <p>The lightning protection system shall consist of the following:</p> <p>a. <b>Vertical Air termination:</b> Advanced piezoelectric ceramic based lightening protection system suitable for protection against direct lightning strike complete with <b>Early Streamer Emission</b> (with piezoelectric exciter device for corona effect), Stainless Steel lightning down conductor air terminal With Event counter with sensitivity 1KA to 100KA for 8/20 micro second impulse, without additional power supplies requirement. The 'Early Streamer Emitter' Terminal has to create free charges in the air surrounding the lightning conductor and to create, within a cloud-ground electric field, a channel of high relative conductivity constituting a preferential path for lightning. The device will be placed at the highest point of the area (Existing Communication tower of height 100 metres) connected with high current carrying handling capacity down-conductor. The pre triggering time ranges between 15 microseconds to 60 micro seconds. In compliance with NFC 17-102. <b>(Quantity: 6 Nos.)</b></p> <p>b. <b>Down conductors:</b> Suitably sized GI flats, running from the roof to the ground, on the outermost edge of the tower. These shall be supported at 0.75 metres intervals using hylam/SMC insulators and required fasteners. The down conductor shall be connected to the maintenance free earthing (chemical earth) system consisting of highly conducting materials, which increase the earth's systems efficiency. <b>(Quantity: 6 Nos.)</b></p> <p>c. <b>Lightning Strike Counter (Quantity: 6 Nos.):</b></p> <p>It should have the following specifications:</p> <ol style="list-style-type: none"> <li>1. Number of counts : 0-9999</li> <li>2. Minimum Metering Current (A) 250</li> <li>3. Maximum Metering Current (kA) 100</li> <li>4. IP Rating : IP 67</li> <li>5. No external power source required.</li> </ol> <p><b>BIDDERS ARE REQUESTED TO PROVIDE THE PRICE BREAK UP OF ALL THE ITEMS MENTIONED ABOVE.</b></p> |  |
| 20 | <p>Installation and Commissioning of lightning and surge protection devices and earthing system in six repeater stations as in item Sl. no. 10 along with Dismantling and Clearing of the existing earthing system.</p> <p>The address of the Repeater stations are as under :</p> <ol style="list-style-type: none"> <li>i) RS-3 (PIN No. 785612) and RS-4 (PIN 782142) in Assam,</li> <li>ii) RS-12(PIN 735203) and RS-13 (PIN 735222 ) in West Bengal</li> <li>iii) RS-14( PIN 855107) and RS-15 (PIN 854315) in Bihar.</li> </ol> <p>The party shall depute their authorized engineers/ workers for installation &amp; commissioning of earthing system, lightning protection and surge protection devices along with dismantling and clearing of existing earthing system.</p> <p>The scope of commissioning shall include the following:-</p>  |  |

|  |  |
|--|--|
| <ol style="list-style-type: none"><li>1. Installation of the surge protection devices.</li><li>2. Installation of new earthing system with earthing grid, equipotential bonding and isolation spark gaps.</li><li>3. Installation of Lightning protection with early streamer emission.</li><li>4. Testing the performance of the newly installed system.</li><li>5. Submission of commissioning reports.</li><li>6. Performance guarantee for 10(Ten) years.</li></ol> <p>The scope of dismantling shall include dismantling and clearing of the existing lightning protection and earthing system.</p> <p>NOTES:</p> <ol style="list-style-type: none"><li>1. Vendor must have successfully executed similar nature of jobs in other organizations of repute. Documentary evidence in support of his job has to be submitted.</li><li>2. Vendor should quote for <b>both the items (sl. no. 10 &amp; 20)</b> and it is mandatory.</li><li>3. The bidder shall have a pool of trained and experienced manpower and required number of tools to execute the job in time. The selected bidder shall complete the job within the <b>quoted time. No extension will be granted in any circumstances.</b></li><li>4. It is the sole responsibility of the vendor to ensure that safety guidelines laid by Mines Safety Act are followed by his workers at the worksite while commissioning.</li><li>5. All the materials required for earthing is in the scope of the vendor.</li><li>6. The vendor's personnel or contractors will have their own accommodation, transportation, loading and unloading arrangement at their own cost during the installation and commissioning jobs at each repeater station.</li><li>7. A <b>complete work plan and layout detail</b> shall be submitted along with the bid for each of the six Repeater station.</li><li>8. OIL will not be responsible for any injury or accident to the vendor's personnel at site.</li></ol> |  |
|--|--|

**Bid Rejection Criteria (BRC) & Bid Evaluation Criteria (BEC)**

**1.0 BID REJECTION CRITERIA (BRC)**

The bid shall conform generally to the specifications and terms and conditions given in this bidding document. Bids shall be rejected in case the goods/materials offered do not conform to required parameters stipulated in the technical specifications. Notwithstanding the general conformity of the bids to the stipulated specifications, the following mandatory requirements will have to be particularly met by the Bidders without which the same will be considered as non-responsive and rejected. All the documents related to BRC must be uploaded alongwith the Technical Bid.

**A. TECHNICAL:**

1. The Earthing system should conform to the following standards:

IS 3043 : Code of practice for earthing

Indian Electricity Rules : 1956

Indian Electricity Act : 1910

CEIG Regulations : Should comply "OISD (Oil Industries Safety Directorate) regulations and recommendations.

2. The lightning protection system shall comply with IS: 2309 and all currently applicable standards, regulations and safety codes of the locality where the installation is to be carried out.

3. The Surge protection Devices should conform to the required technical minimum/ maximum parameters stipulated in the technical specifications and to the respective international/ national standards wherever stipulated.

**B. Bidder's Qualification:**

1. The bidder shall be an Original Equipment Manufacturer (OEM) of Lightning protection devices, Earthing devices and Surge Protection Devices (SPDs).

OR

The bidder shall be an authorized dealer of OEM for Lightning protection devices, Earthing devices and Surge Protection Devices (SPDs).

2. In case the bidder is an authorized dealer of OEM for Lightning protection devices, Earthing devices and Surge Protection Devices (SPDs), shall enclose a Certificate in original in support of authorization of dealership with back up warranty and Guarantee from the OEM to quote for this tender and the certificates for authorization and back up warranty and Guarantee have to be submitted along with the bid.

3. The bidder must have successfully supplied, installed and commissioned at least 2 (two) similar nature of orders in other organizations of repute during the last 10 (ten) financial years. Documentary evidence in support of his job has to be submitted along with the quotation failing which the offer will be rejected.

4. The bidder should also furnish a certificate for the satisfactory performance of the services installed in other organizations of repute.

5. The bidder should quote for both the items (sl. no. 10 & 20) and it is mandatory.

6. A complete work plan and layout detail shall be submitted along with the bid for each of the six Repeater stations.

**(B) COMMERCIAL :**



- i) The Bidder shall furnish requisite Bid Security by way of a Bank Guarantee/Bank Draft in the manner and as specified in Section 'Bid Security' which shall be furnished alongwith the 'Techno-Commercial Bid'. Any bid not accompanied by a proper bid security will be rejected.
- ii) Bids are to be submitted in a single stage two bid system, i.e. Technical Bid (Unpriced) and Priced Bid separately. Bids shall be rejected outright if the technical bids contain the prices.
- iii) Validity of the bid shall be minimum 120 days from the Bid Closing Date, otherwise the bid shall be rejected.
- iv) The prices offered will have to be firm through delivery and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and rejected.
- v) Bids received after the bid closing date and time will be rejected.
- vi) All the Bids must be Digitally Signed using #Class 3# digital certificate (e-commerce application) as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India. The bid signed using other than #Class 3# digital certificate, will be rejected.
- vii) C folder is meant for Technical bid only. Therefore, No price should be given in C folder, otherwise the offer will be rejected.
- viii) The User ID & Password are not transferable. Bids submitted by parties to whom the User ID & Password was not issued by the Company will be rejected.
- ix) Conditional offers will be rejected.
- x) Bids received in any form or media other than through OIL's e-Procurement portal will not be accepted.
- xi) Bid documents uploaded in the e-Procurement Portal shall be typed/written and scanned clearly and contain no inter lineation, erasures or overwriting except as necessary to correct errors made by bidder, in which case such corrections must be initialed by the person(s) signing the bid. Any bid not meeting this requirement shall be rejected.
- xii) Bidder must accept and comply with the following clauses as given in the Bidding document in toto, failing which offer will be rejected:
  - a. Performance Bank Guarantee clause
  - b. Force Majeure Clause
  - c. Tax Liabilities clause
  - d. Arbitration clause
  - e. Liquidated damage clause

xiii). Integrity Pact:

(a) OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide Annexure DDD of the tender document. This Integrity Pact proforma has been duly signed digitally by OIL's competent signatory. The proforma has to be returned by the bidder (along with the technical bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the bid. Any bid not accompanied by Integrity Pact Proforma duly signed (digitally) by the bidder shall be rejected straightway. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact has been signed by the bidder's authorized signatory who sign the Bid.

**b) The name of the OIL's Independent External Monitors at present are as under:**

**i) SHRI N. GOPLASWAMI, I.A.S. (Retd.),**

**Former Chief Election Commissioner of India**

**E-mail Id : [gopaldaswamin@gmail.com](mailto:gopaldaswamin@gmail.com)**

**ii) SHRI RAMESH CHANDRA AGARWAL, IPS (Retd.)**

**Former Director General of Police**

**E-mail Id : [rcagarwal@rediffmail.com](mailto:rcagarwal@rediffmail.com)**

**C. GENERAL:**

- i) In case bidder takes exception to any clause of Bidding Document not covered under

BEC/BRC, then the Company has the discretion to load or reject the offer on account of such exception if the bidder does not withdraw/modify the deviation when/as advised by the Company. The loading so done by the Company will be final and binding on the Bidders. No deviation will however, be accepted in the clauses covered under BRC.

ii) In case any of the clauses in the BRC contradict with other clauses of Bidding Document elsewhere, then the clauses in the BRC will prevail.

iii) Any exceptions/deviations to the Bidding Document and applicable statutory duties and levies must be spelt out by bidder in their 'Technical' bid only. Any additional information/terms/conditions furnished in sealed 'Price Bid' will not be considered by OIL for evaluation/award of contract.

iv) The originals of such documents (furnished by bidder(s)) shall have to be produced by bidder(s) to OIL as and when asked for.

## 2.0 BID EVALUATION CRITERIA (BEC):

i) The bids confirming to the technical specifications, term and conditions stipulated in the bidding documents and considered to be responsive after subjecting to Bid Rejection Criteria will be considered for further evaluation as per the Bid Evaluation Criteria.

ii) To evaluate the inter-se-ranking of the offers, Assam entry tax on purchase value will be loaded as per prevailing Govt. of Assam guidelines as applicable on bid closing date. Bidders may check this with the appropriate authority while submitting their offer.

iii) Price bids of only those bidders will be opened whose offers are found technically acceptable. The technically acceptable bidders will be informed before opening of the "price bid".

iv) Other terms and conditions of the enquiry shall be as per General Terms and Conditions vide MM/LOCAL/E-01/2005 for E-Procurement LCB Tenders. However, if any of the Clauses of the Bid Rejection Criteria / Bid Evaluation Criteria (BRC / BEC) contradict the Clauses of the Bidding document or MM/LOCAL/E-01/2005 elsewhere, those in the BRC / BEC shall prevail.

v) To ascertain the inter-se-ranking, the comparison of the responsive bids will be made as per price format given in Appendix-I.

## Appendix-I

Bidders are required to submit the summary of the prices in their commercial bids as per bid format (Summary), given below :

### **Priced Bid Format ( SUMMARY):**

| Item Srl No | Item Description                                     | UOM     | Qty Required | Unit Price | Total Price |
|-------------|--|---------|--------------|------------|-------------|
| 10          | Lightning and surge protection solution              | No.     | 1            |            |             |
| 20          | Installation and commissioning including dismantling | Lumpsum | 1            |            |             |

- (A) Total material value of Item no 10
- (B) Packing and Forwarding Charges, if any
- (C) Total Ex-works value (A+B)
- (D) Excise Duty including Cess, (Please indicate applicable rate of Duty)
- (E) Total Ex-works value including Excise Duty & Cess (C+D)
- (F) Sales Tax, (Please indicate applicable rate of Tax)
- (G) Total FOR Despatching station value (E+F)
- (A) Road Transportation charges to sites (Lumpsum)

- (H) Insurance Charges
- (I) Assam Entry tax
- (J) Total FOR Destination Value (G+H+I+J)
- (K) Total Installation & Commissioning charges (Lumpsum)
- (L) Service tax on Commissioning charges, if any  
(please indicate the percentage)
- (M) Total Value, (K+L) above
- (N) Total value in words :
- (O) Gross Weight :
- (P) Gross Volume :
- (Q) Payment Terms:

\*\*\*\*\*

**Annexure EEE**

Bidder's Name:

| Sl. No. | <b>BEC / TENDER REQUIREMENTS</b>  | Indicate 'Confirmed' / 'Not Confirmed' / Not applicable | Indicate Corresponding page ref. of bid |
|---------|---|---|---|
| 1       | Bidder to confirm that he has not taken any exception/deviations to the bid document .  |   |   |
| 2       | Confirm that the product offered strictly conforms to the technical specifications.   |   |   |
| 3       | Confirm that the Offer has been made with Bid Bond / Bank Guarantee / Earnest Money along with the offer ?  |   |   |
| 4       | Confirm unconditional validity of the bid for 120 days from the date of opening of techno-commercial bid.   |   |   |
| 5       | Confirm that the prices offered are firm. Conditional offer will be liable for rejection ?  |   |   |
| 6       | Confirm that all relevant fields in the on-line bidding format been filled in by the bidders for the items quoted by them.  |   |   |
| 7       | Confirm that the price bid is in the format as per Appendix-I   |   |   |
| 8       | Confirm that the Bid comply with all the terms & conditions ?   |   |   |
| 9       | Confirm that the offers and all attached documents are digitally signed using digital signatures issued by an acceptable Certifying Authority (CA) as per Indian IT Act 2000. |   |   |
| 10      | Confirm that you have shall submit performance bank guarantee as per bidding document in the event of placement of order on you   |   |   |
| 11      | <b>Confirm that you have submitted the duly signed Integrity pact document</b>  |   |   |
| 12      | <b>Confirm that you have submitted documents as per General qualification criteria</b>  |   |   |

**Bidders Response Sheet**

| <b>Sl No.</b> | <b>Description</b>   | <b>Remarks</b> |
|---------------|--|----------------|
| 1             | Name of Bidder   |                |
| 2             | Place of Despatch (Ex-Works)   |                |
| 3             | Whether Freight charges have been included in your quoted prices   |                |
| 4             | Whether Insurance charges have been included in your quoted prices   |                |
| 5             | Make of quoted Product   |                |
| 6             | Offered Validity of Bid from Bid Closing Date  |                |
| 7             | Delivery Period in weeks from placement of order   |                |
| 8             | Complied to Standard Payment Terms of OIL or not.  |                |
| 9             | <p style="text-align: center;"><b>Bid Security Submitted (if applicable)</b></p> <p><b>Details of Bid Security Submitted to OIL (if applicable)</b></p> <p>a) Bid Security Amount (In Rs):</p> <p>b) Bid Security Valid upto:</p> <p>c) Name and Full Address of Issuing Bank:</p> |                |
| 10            | Confirm that the Bid Security submitted (In case of Bank Guarantee) is in toto as per format provided in the tender.   |                |
| 11            | Bid Security if Not submitted reasons thereof  |                |
| 12            | Whether you shall submit Performance Security in the event of placement of order on you (if applicable)  |                |
| 13            | Integrity Pact submitted (Yes/No)  |                |
| 14            | Confirm that the Integrity Pact submitted is in toto as per format provided in the tender.   |                |
| 15            | Whether submitted documents in support of General Qualification criteria of NIT  |                |

|    |   |  |
|----|---|--|
| 16 | If bidder is Small scale unit whether you have quoted your own product                                  |  |
| 17 | If bidder is Small scale unit whether you are eligible for purchase preference (as per Govt guidelines) |  |
| 18 | If bidder is a Small scale unit ,whether you are owned SC/ST entrepreneur.                              |  |

**ANNEXURE - GGG**

**(TO BE FILLED UP BY ALL THE VENDOR IN THEIR OWN LETER HEAD)  
(ALL FIELDS ARE MANDATORY)**

**Tender No.** :

.....

**Name of Beneficiary**  
:M/s.....

**Vendor Code** :

.....

**Address** :..

.....

..

.....

**Phone No. (Land Line)** :..

.....

**Mobile No.** :..

.....

**E-mail address** :..

.....

**Bank Account No. (Minimum Eleven Digit No.)** :..

.....

**Bank Name** :..

.....

**Branch** :..

.....

**Complete Address of your** :..

.....

**Bank** :..

.....

**IFSC Code of your Bank**

a) **RTGS** :

.....

b) **NEFT** :

.....

**PAN** :

.....

**VAT Registration No.** :

.....

**CST Registration No.** :

.....

**Service Tax Registration No.** :

.....

**Provident Fund Registration** :

.....

**I/We confirm and agree that all payments due to me/us from Oil India Limited can be remitted to our above mentioned account directly and we shall not hold Oil India Limited responsible if the amount due from Oil India Limited is remitted to wrong account due to incorrect details furnished by us.**

**Office Seal**

**Signature of Vendor**

**Counter Signed by Banker:  
Seal of Bank:**

**Enclosure: Self attested photocopies of the following documents-**

- 1) **PAN Card**
- 2) **VAT Registration Certificate**
- 3) **Service Tax Registration**
- 4) **CST Registration**
- 5) **Provident Registration Certificate**

6) **Cancelled cheque of the bank account mentioned above (in original).**

7) **Bank Statement not older than 15 days on the date of submission.**

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