

This tender floated in GeM portal. Bidder has to submit their offer through GeM only.



Unleashing Values



आईआरईएल (इंडिया) लिमिटेड IREL (India) Limited

(पूर्वमेंडियनरेअरअर्थ्सलिमिटेड Formerly Indian Rare Earths Ltd.)

रेअरअर्थ्सप्रभाग Rare Earths Division,

उद्योगमंडल Udyogamandal, कोची Kochi-683501

CIN: U15100MH1950GOI008187

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 COMPANY

GST ID No. 32AAACI2799F2ZM



भारत 2023 INDIA
वसुधैव कुटुम्बकम्
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IREL/RED/P/24-25/32948/

निविदा आमंत्रण सूचना NOTICE INVITING TO TENDER

SCHEDULE OF TENDER (SOT)

| | | |
|----|-----------------------------|--|
| a. | Description of supply | Supply, Erection, Commissioning and Performance Testing of Instrumentation & Automation package for URP + Y & Dy stream. |
| b. | Mode of tender | Open tender invited in two parts. Part-I: Techno-Commercial Bid Part - II: Price Bid. |
| | Pre-Bid meeting | 02-04-2025, 11.00Hrs, at IREL, RED, Udyogamandal |
| c. | Estimated Value | Rs.1,03,66,640/- (all inclusive) |
| d. | Earnest Money Deposit (EMD) | Rs.1,75,706/- |
| e. | Validity of Tender | 90 days from the date of opening of Techno-Commercial bid. |

NOTE

EMD EXEMPTION: For this tender, Under MSE category, only manufacturers for goods are eligible for exemption from EMD. Traders are excluded from the purview of this Policy. The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category along with Udyam Certificate otherwise offer will be rejected without any further clarification.

BIDDING SYSTEMS

This is a two-part tender. The tenderers should bifurcate their quotations in two parts (Part-I & II).

PART-I “Techno-commercial bid”:

It contains the eligibility, technical quality and performance aspects, EMD, commercial terms and conditions and documents sought in the tender, **except the price and relevant financial details.**

PART-II “Financial bid”:

It contains the price quotation along with other financial details.

PART-I shall be opened first and evaluated by a committee constituted by competent authority.

PART-II: the financial bid of Techno-commercially eligible bidders shall be opened on recommendation of above committee on a notified date and time after sending advance notice to all qualified bidders for being present.

CONTACT PERSONS OF TENDERING AUTHORITY

| Purpose | Name | E-mail ID | Contact No. |
|---|---|---------------------------|----------------------------|
| For Bid/tender related query | Shri. V A Anil Kumar CM-Technical (Purchase) | purchase-red@irel.co.in | 0484-2545199 9443482644 |
| For Technical Specification / Scope of work related query | Shri. K A Joshy M-Technical (Electrical) | electrical-red@irel.co.in | 91 7593880813 |
| For Consignment/Goods Transportation related query | Shri. Sanjaykumar Vind SM-Technical (Stores) | stores-red@irel.co.in | 91 8301997625 |
| For Payment/refund related query | Smt. P Kamalam DGM – Finance (A & E) | finance-red@irel.co.in | 91 8593994144 |

EARNEST MONEY DEPOSIT (EMD)/ BID SECURITY

- 1.0 Earnest Money Deposit (EMD) is a deposit received from the tenderers in token of their earnestness in submitting their offer to undertake the supplies/works/services/consultancy contracts and conclude a contract if entrusted to them on the basis of their tender. **The offers received from tenderers without EMD shall be summarily rejected except where an exemption is provided in the tender.**
- 2.0 EMD is to be remitted by way of 'Insurance Surety Bonds' or 'account payee demand draft' or 'fixed deposit receipt' or 'bankers cheque' or 'Bank Guarantee from any scheduled commercial Banks' or "online payment" in favour of IREL. In case of online payment, bidders should submit the UTR no. enabling verification of receipt of the amount.
- 3.0 Government Body/Public Sector Undertakings may be exempted from payment of EMD with the approval of Competent Authority.
- 4.0 EMD amount in rupee value is to be mentioned as a fixed amount in the tender and not as a percentage of the estimated cost and no interest is payable on the EMD.
- 5.0 EMD shall be exempted to MSEs and Start-ups as per prevailing guidelines in this regard. Under MSE category, only manufacturers for goods and Service Providers for Services are eligible for exemption from EMD.
- 6.0 EMD is liable to be forfeited if:
- a) The tenderer changes the terms and conditions or prices or withdraw his quotation subsequent to the date of opening/ The tenderer impairs or derogates from the tender in any respect within the period of validity of the tender
 - b) The tenderer fails to accept the order when placed or fails to commence supplies/works/services after accepting the order.
 - c) In case bidder submits false/fabricated documents. d) In case bidder fails to submit SD as stipulated in the tender.
- 7.0 EMD may be adjusted against security deposit / performance security of the successful bidder. EMD of the unsuccessful bidders should be returned to them at the earliest after expiry of the final bid validity period and latest by the 30th day after the award of the contract. Bid security should be refunded to the successful bidder on receipt of performance security. However, in case of two stage bidding/ 2or 3 envelope bidding, EMD of unsuccessful bidders during first stage i.e. technical evaluation etc. should be returned within 30 days of declaration of result of first stage i.e. technical evaluation etc.
- 8.0 In case where the EMD is provided in form of BG in the prescribed format to be attached with the tender, the BG shall be obtained from a scheduled commercial Bank with validity of 45 days beyond final bid validity period.

GUIDELINES FOR PROCUREMENT FROM MSEs

1.0 Procurement from Micro, Small and Medium Enterprises (MSEs):

The Procurement Policy for Micro and Small Enterprises, 2012 [as amended time to time] has been notified by the Government in exercise of the powers conferred in Section 11 of the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006. In line with Government Policy, the prevailing guidelines in this regard as issued from time to time is to be strictly adhered to.

2.0 As per the Government notified Public Procurement Policy for Micro & Small Enterprises (MSE), it is mandated that 25% of procurement of annual requirement of goods and services will be sourced from the Micro and Small Enterprises.

3.0 In tender, participating Micro and Small Enterprises (MSE) quoting price within price band of L1+15 (fifteen) per cent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a MSE and such MSE shall be allowed to supply up to 25(twenty-five) per cent of total tendered value. The 25(twenty - five) per cent quantity is to be distributed proportionately among these bidders, in case there are more than one MSEs within such price band.

4.0 Within this 25% (Twenty Five Percent) quantity, a purchase preference of four (4) per cent s reserved for MSEs owned by Scheduled Caste (SC)/ Scheduled Tribe (ST) entrepreneurs and three (3) percent is reserved for MSEs owned by women entrepreneur (if they participate in the tender process and match the L1 price).However, in event of failure of such MSEs to participate in tender process or meet tender requirements and L1 price, four percent sub-target for procurement earmarked for MSEs owned by SC/ST entrepreneurs and three (3) percent earmarked to women entrepreneur will be met from other MSEs.

5.0 MSEs would be treated as owned by SC/ ST entrepreneurs:

a) In case of proprietary MSE, proprietor(s) shall be SC /ST;

b) In case of partnership MSE, the SC/ ST partners shall be holding at least 51% (fifty-one percent) shares in the unit;

c) In case of Private Limited Companies, at least 51% (fifty-one percent) share shall be held by SC/ ST promoters.

6.0 If subcontract is given to MSEs, it will be considered as procurement from MSEs.

7.0 In case of tender item cannot be split or divided, etc. the MSE quoting a price within the band L1+15% may be awarded for full/ complete supply of total tendered value to MSE, considering the spirit of the Policy for enhancing Govt. Procurement from MSEs.

8.0 Where any Aggregator has been appointed by the Ministry of MSME, themselves quote on behalf of some MSE units, such offers will be considered as offers from MSE units and all such facilities would be extended to these also.

9.0 **Traders/ distributors/ sole agent/ Works Contract are excluded from the purview of the policy.**

10.0 To reduce transaction cost of doing business, Micro and Small Enterprises is to be facilitated by providing them tender sets free of cost, exempting Micro and Small Enterprises from payment of Earnest Money (EMD), adopting e-procurement to bring in transparency in tendering process. However, exemption from paying Performance Security / Performance Bank Guarantee is not covered under the Public Procurement policy.

11.0 MSEs may also be given relaxation in prior turnover and prior experience criteria during the tender process, subject to meeting of quality and technical specifications. However, there may be circumstances (like procurement of items related to public safety, health, critical security operations and equipment, etc.) where the vendor having prior experience may be preferred rather than giving orders to new entities.

12.0 Payment to the MSME vendors is to be made within 30 days from the date of receipt and acceptance of goods/ services.

13.0 In case Bidder is a Micro or Small Enterprise under the Micro, Small and Medium Enterprises Development Act, 2006, the Bidder is to be asked for submitting the following along with tender:

14.0 Ministry of MSME has notified criteria for classifying the enterprises as Micro, Small and Medium Enterprises as combination of investment in Plant & machinery or Equipment and Turnover. Mandatory registration in Udyam Registration Portal for all new and existing MSME has been prescribed. Accordingly, Micro and Small Enterprises (MSEs) shall be required to submit Udyam Registration Certificate for availing benefit.

15.0 RXIL (TReDS) PLATFORM

IREL is registered with RXIL (TReDS) platform. MSE bidders are requested to get registered with RXIL (TReDS) platform to avail the facility as per the GOI guidelines.

IREL (India) Limited is onboard with TReDS platform of M/s RXIL for facilitating Bill Discounting for MSME's.

As per DPE/7(4)/2007-Fin dt 21/08/2020, it is mandatory to get all the MSME vendors registered on the platform.

Vendors can get themselves registered at: <https://onboarding.rxil.in/customerapp/home>.

The registration fees of MSMEs on TReDS Platform is Free of Cost as per the new guidelines provided by SIDBI.

For any registration queries, vendors may please contact,

RXIL Relationship manager Mr. Satyajeet Jathar: +91 99201 00784 / +91 9004100784 **email:** satyajeet.jathar@rxil.in

RXIL Relationship manager Mr Kirti musale : +91 90048 17501 **email:** kirti.musale@rxil.in

IREL (India) Limited Unit Administrator Mr. V A Anil Kumar: +91 9443482644
email : purchase-red@irel.co.in

IREL (India) Limited Nodal Officer Mr. K.V.Ramakrishna: +918104997177 **email:** kramakrishna@irel.co.in

SECURITY DEPOSIT (SD), PERFORMANCE BANK GUARANTEE & RETENTION MONEY

1.0 SECURITY DEPOSIT (PERFORMANCE SECURITY) & PERFORMANCE BANK GUARANTEE

1.1 Security deposit (SD) shall be uniformly levied @ 5% of contract value (excluding Taxes) towards satisfactory completion of the order/ works as under:

a) For supply & service contract valued more than Rs.5 lakhs. Performance Security is to be furnished by a specified date (generally 14 (fourteen) days after notification of the award) and it should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier/ contractor, including warranty obligations/ defect liability period (DLP).

1.2 Submission of SD/PBG, if called for in the tender can also be paid through Insurance Surety Bonds' or 'account payee demand draft' or 'fixed deposit receipt from a Scheduled Commercial bank' or 'Bank Guarantee issued/ confirmed from any Scheduled Commercial Banks in India' or online payment to be confirmed sharing Unique Transaction Reference (UTR) to the tender inviting authority as called for in tender.

1.3 Bank Guarantees towards Bid Security/ Security Deposit/ PBG issued by Nationalised Banks/ Scheduled Commercial Banks (other than Cooperative Banks) only acceptable.

1.4 EMD/ Bid Security may be adjusted towards SD. However, if EMD is submitted in the form of Bank Guarantee, fresh Bank Guarantee in the prescribed format or demand draft/ bankers cheque is to be submitted towards SD.

1.5 The SD shall not bear any interest and is liable to be forfeited for unsatisfactory completion or on abandonment of the supply/ work order.

2.0 RETENTION MONEY

In contract, where payment is made on progressive billing of supply made/ work executed, 5% of the bill value is to be retained at the time of making payment towards rectification/ defective work/ supply made as retention money.

3.0 SECURITY DEPOSIT & RETENTION MONEY

The total SD and retention money together towards performance guarantee shall not exceed 10% of contract value. The performance security should be refunded to the supplier/ contractor without interest, after he duly performs and completes the contract in all respects but not later than 60(sixty) days of completion of all such obligations including the warranty under the contract/ 365 days beyond DLP.

4.0 REFUND OF SD & RETENTION MONEY

a) Before releasing SD or retention money in respect of supplies/works, a "No Dues Certificate" shall be issued by EIC/ OIC duly countersigned by Head of the department after ensuring that no amounts are recoverable from the supplier/ contractor.

b) EIC/OIC shall recommend release of SD and retention money after compliance by the contractor towards guarantee/ warranty/ performance guarantee & other related clauses as stipulated in the purchase/work order and on submission of formal claim by supplier/contractor.

c) On receipt of "no dues certificate" from EIC/OIC, SD or retention money may be refunded at the earliest, if the contractor is not liable to pay any money to IREL under any other contract.

5.0 **FORFEITURE OF SD & RETENTION MONEY**

The SD & retention money shall stand forfeited in favour of IREL, without any further notice to the contractor in the following circumstances:

- (i) In case of any failure whatsoever on the part of the Supplier/ Contractor at any time during performance of his part of the contract including the extended periods of contract, where notice is given and time for rectification allowed.
- (ii) If the Supplier/ contractor indulges at any time in any subletting/ subcontracting of any portion of the work without approval of IREL.

PRE-QUALIFICATION CRITERIA (POC)

1.0 The bidder should be experienced in having successfully executed similar Instrumentation System to any Public Sector Undertaking, Central/State Government or reputed private organizations.

2.0 The bidder shall provide documentary evidence viz. Work order, completion and satisfactory performance certificate for the minimum W.O values as follows.

a. Three similar completed works costing not less than the amount equal to Rs. 41.5 Lakhs.

or

b. Two similar completed works costing not less than the amount equal to Rs. 52 Lakhs.

or

c. One similar completed work costing not less than the amount equal to Rs.83 Lakhs.

Similar Instrumentation system means the work includes supply, erection and commissioning Installation of:

1) Field instruments- flow meter, Rotameter, etc.

2) Development of SCADA & PAC system NI LABVIEW platform at any chemical Industry with minimum 1000 IOs.

3.0 Average annual financial turnover during the last 3 years ending 31st March 2024 of the previous financial year should be at least Rs.31 Lakhs

4.0 The Bidder shall submit the Technical Datasheet of Supply items with make, model, dimensional details specification along with Techno-Commercial bid.

5.0 Site inspection mandatory. The Tendered shall submit site inspection certificate issued by IREL, RED along with the tender document (Technical Bid).

PART - I

TECHNO-COMMERCIAL BID

REQUIRED DOCUMENTS TO BE SUBMITTED ALONGWITH TECHNO-COMMERCIAL BID.

| Sl. No. | Description | Up-loaded Yes/No |
|---------|---|---------------------|
| 1 | PROOF OF SUBMISSION OF EMD / VALID EXEMPTION CERTIFICATE (If Applicable). | |
| 2 | DOCUMENTS AS PER PRE-QUALIFICATION CRITERIA. | |
| 3 | DULY FILLED, SIGNED AND SEAL AFFIXED IREL TENDER DOCUMENTS (Techno-Commercial Bid) (Page 1 - 58). | |
| 4 | COPY OF GST & PAN CERTIFICATES. | |
| 5 | ANY OTHER DOCUMENTS AS PER TENDER CONDITIONS. | |

4.0 SCADA SYSTEM

- 4.1 **The SCADA** - system shall operate as stand-alone, autonomous system comprises of monitoring sensor, displaying data, output controls, activating alarms and logging information to facilitate and optimize the plant processes and ongoing operations etc. It shall be capable of polling, transmitting and receiving data, both analog and digital, at high rate of speed using secure digitizing protocols and error avoiding methods. The SCADA shall be capable of remote interrogating and re-configuration. Access shall be provided for remote viewing and control of screen, logos and files -via internet and LAN network- all with multi-level password security.
- 4.2 **SCADA Station-** The existing PAC-6 provision shall be used for Automation package for Y & Dy stream at SEP with appropriate modification/corrections in the existing SCADA or if required, rebuild new SCADA programme as per new requirement. The SCADA shall be configured for Operation Station (Client) also. The SCADA (Server Cum client) shall include – multitasking computer, a hard drive and a CD-ROM drive, along with a keyboard and mouse, a larger (as per data sheet) color monitor, a sound and graphic cards. An Ethernet LAN Network card also shall be included enabling network connection to any LAN hub. The Station shall be powered from 230-240V AC, 15A main connections with backup security provision.

5.0 SCADA FEATURES

- 5.1 The main computer shall run 32-bit multi-tasking monitoring software under Windows-XP or the latest higher operating system. Real-time monitoring software shall include a pulling function, a graphics user interface with screen customizing tools, on-line screen configuration capability with a setup tool bar, selectable data and alarm logging, graphical control/alarm setup utilities and toolbars, preconfigured status and diagnostic screen and provision for safe auto-shutdown on loss of mains power and subsequent depletion of UPS battery.
- 5.2 Any number of actions and alarm threshold shall be settable using graphics click and drag utilities, for activating any or all output form any or multiple analog thresholds or digital input conditions. A means to restrict alarm and control to one or more confirming sensor alarm threshold crossing shall be standardized. A numerical “communication reliability” index shall be generated and shall be usable in the same manner as any analog signal as any analog sensor signal, using preset threshold for activating alarm and controls. Sensors and digital status parameter causing alarm or control actions shall be shown graphical in real time, with the active control path highlighted in red for easy alarm source recognition.
- 5.3 The communication system shall be fast operating having sensor data updates and control execution not exceeding 500ms when system is normally loaded in typical operational configuration. A security features shall permit function-specific password to secure the various setup.
- 5.4 Initial setup and subsequent reconfigurations shall be possible anytime without interrupting ongoing monitoring, alarming and logging functions. Sensor alarm and/or service advisories shall be indicated on the screen in distinctive colors. Time delay, event sequencing, calendar overrides and other time related programing function shall be easy to setup and modify without interrupting ongoing monitoring /control process.

6.0 CLIENT COMPUTER OPERATOR STATION

- 6.1 The existing computer cabinet shall be used with new high end latest version computer. The supply of computer shall be under the scope of contractor.
- 6.2 The SCADA shall include software for client access, providing real time access to files, screens, logs, printout, controls etc. as are available. However, client shall not be permitted to change any setups or actions in the main processes.
- 6.3 Screen drawing tool pallet shall be included within the package, which shall include line, circle, ellipses, boxes, text, hot buttons, sliders, digital and analog` meter icons, dynamic bar, charts and graphics and shall be permit loading of bitmap files (Scanned drawing, photo graphs, logos).
- 6.4 Automatic report print out shall be executed on a present schedule, calendar date, work shift/or time of day basis. Selection of report print out format shall be encompass any available screen print out.

7.0 STANDARD SETUP AND DIAGNOSTIC SCREEN

A details summary of communication fault shall be viewable by right clicking on the specific card address. A features shall be included locking the computer communication on to any selected address, and similarly there shall be an automatic return to normal after reasonable duration. The scrollable screen displays every I/O sensor and tag name, along with type of I/O device, the communication address, on-line/off-line status, the engineering max/min and actual engineering values for each particular channels. Signal screen shall be printable.

8.0 DATA LOGGING TO HARD DRIVE FOR OFF-LINE VIEWING

Automatic analog and digital data logging to hard disc shall be at selectable frequency ranging from once every second to half hour. Each file shall be identified in the directory by starting date and time. To minimize file size, an option shall allow analog data logging only when triggered by percentage of value changes, with the change threshold settable independently for each sensor. Graphs and historical data for sensor or group of up to eight sensors shall be printable in color.

9.0 ALARM

Alarm shall be generated on set points and interlocks. If the process variables cross the set point and interlock failure shall be logged in SCADA with time and details and process data. Alarm shall be installed in Control cabin process wise.

10.0 ANNUNCIATOR

The existing Alarm annunciator shall be used with microprocessor based design, super bright LED facia window and programed sequence as per ISA standard throughout provision for troubleshooting and maintenance the communication between annunciator and system shall be through RS 232 cable.

11.0 COMMUNICATION

The communication between I/O controller and I/O- supervisor shall be through PROFINET. It shall be 100% Ethernet compactible as defined in IEEE standards. It shall provide application interface for exchanging I/O data, alarm and diagnostic and for transmitting data records and log book information. This shall provide real-time solution and the response time in the range of 5ms. Also this shall provide protocol definition for (i) Address resolution for field services, (ii) Cyclic transmission of IO data (RT), (iii) Acyclic transmission of alarm to be acknowledged and etc.

Make: SEIMENS, Allen-Bradley, National Instruments, Invensys

12.0 DETAILS OF CONTROL AND AUTOMATION

- 12.1 Control and Automation mechanism of whole system shall be based on 9.0 (Operation sequence and Interlock) and 10.0 (Set points) as stated. In the system there are flow meters and level instruments which shall provide Analog input to PLCs. Metering pump motor and mixer settler agitator motor shall give digital input to PLCs and also receive digital output from PLCs.
- 12.2 The system shall have above I/O and shall be configured as per 9.0 and 10.0. Metering Pump motors (8 numbers) shall be provided with VFD for the speed control in accordance with the required flow rate measure by flow meters works in closed loop for the automatic controlling to the set flow rate.
- 12.3 All measuring instrument signal shall be shown through SCADA/HMI. There shall be facility for setting all level and flow rate set point through SCADA/HMI. The set point setting shall be flexible from 0-100% of measuring range. The system shall be having flexibility to increase and decrease the speed from 0-100% of measuring range through SCADA/HMI means.
- 12.3.1 All the 30 motors of six mixer settler for the URP operation shall be considered as one motor system. (All the 30 motors will be electrically interlocked in such a way that if any of the motor is OFF/Triped, all the 30 motors will be electrically isolated). The status of this unit shall be control (ON/OFF) by PLC system. There shall be facility in SCADA/HMI system to ON/OFF the system and run time visibility i.e. blinking icon. There shall be facility of starting the group of motors in Auto-mode and Manual mode.

12.3.2 Similarly, All the motors of mixer settlers (stream wise) for the Y & Dy streams shall be considered as one motor system. (All the motors of mixer settlers (stream wise) will be electrically interlocked in such a way that if any of the motor is OFF/Tripped, all the motors of that particular stream will be electrically isolated). The status of this unit shall be control (ON/OFF) by PLC system. There shall be facility in SCADA/HMI system to ON/OFF the system and run time visibility i.e blinking icon. There shall be facility of starting the group of motors in Auto-mode and Manual mode.

12.4 Motor ON/OFF control shall be through PLC system. There shall be facility in SCADA/HMI system to ON/OFF the system and run time visibility i.e blinking icon. In case of failure of agitator motors and metering pump motor, there shall be facility for auto OFF of the entire system on Auto mode. In manual mode each motor can i.e metering pump motors and mixer settler motor (as single motor) can be manually operate separately.

The entire Automation package for Y & Dy stream at SEP Operation should have

- The automation system shall Auto / Manual facility.
- There shall be multi-screen facility for physical variable to monitor.
- Each measuring variable shall have facility to change set point in 0 – 100% of measuring range.
- Each variable shall have by pass facility in separate SDCADA or HMI screen.
- There shall be multilevel pass word for security.

13.0 ERP FACILITY

13.1 As per above details, the SCADA software employed shall be a server application with full access to the PAC control system. It should be able to communicate with the Server cum client station and should have provision for expansion with Web client if required.

13.2 There shall be facility storing process data to server computer and facility to retrieve. Desired data and values need to be exported from SCADA to a desired Data base (SQL Data Base) as required so as to integrating it directly with ERP system.

13.3 The development and implementation of the software will be based on the standard operation management ERP facility. The specification for ERP will be provided before the development of software PURCHASER side.

13.4 It should also contain options for trends of the desired data variables. The system should also have different levels of access rights like, administrator, user, guest etc.

14.0 LAYING OF CABLES

14.1 All cable shall be meggered and tested to ascertain any transit damages

14.2 All cables routes shall be carefully measured and cable cut to the required lengths. Leaving sufficient length for the final termination.

14.3 Cable shall have complete uncut length from one termination to another.

14.4 All cable shall be indicated close either termination point by cable no. as per cable schedule/junction Box schedule. PVC ferrule or tag plate shall be used and these identification shall be securely fastened to the cable.

14.5 While laying cables in ducts/trays/trenches/burying them care shall be taken to ensure low signal cable like alarm analyser, special cable, compensating cable etc. are separated from other power cables.

14.6 Installation of single pair and multicore cables:

14.6.1 Single pair or multicore cables shall be laid on ducts/trays/underground and shall be properly dressed with cable ties or aluminium tag. They shall be connected inside junction box or marshalling racks strictly according to the number system mentioned in the cable schedule.

14.6.2 All single pair or multicore cable shall cut as after the exact site measurements are taken between the ends. The cable drums shall be selected before cutting the length so as to avoid any wastage.

15.0 ERECTION

15.1 The Contractor shall provide competent Supervisors/Engineers & approved by EIC who shall be constantly at site and shall give his whole time to supervise the erection work at site. You are requested to collect passes for your workmen and supervisors by writing to us immediately the total strength of laborers' likely to be brought in for erection work.

- 15.2 You shall carry out the work under close supervision without any damage to the Company's existing setup. You should provide necessary Personnel Protective Equipment for workmen and display necessary signboards at site without fail.
- 15.3 You shall carry out the work as per the details given in the Technical Bid. The work shall be carried out as directed by the EIC and the materials brought inside the Company shall be recorded in a register to be maintained by the Contractor for the purpose, duly signed by the EIC/authorised IREL official and Security Department. Copies of the relevant pages shall be submitted along with bills of payment.

16.0 COMPLETE ERECTION & START-UP

- 16.1 The Contractor has to undertake erection of all materials and equipment supplied by him as per the approved drawings, specifications or bills of materials. This shall include the complete erection of equipment, system, structure etc. supplied under the Contract including aligning, levelling of equipment's, starting up and operating the Equipment's to meet specified performance guarantee and handing over the equipment's to the Purchaser.
- 16.2 On completion of the erection work, the Contractor shall promptly notify the Purchaser/EIC of the proposed date of the commencement of the start-up operations. The EIC will provide facilities such as fuel, power, water and utilities to the Contractor (free of cost) as required for operating the equipment during such period and during this period the equipment shall be operated under the supervision of the Contractor.
- 16.3 Should the start-up period extend beyond the scheduled period due to difficulties encountered with the equipment supplied under the Contract or due to inadequacy of the Contractor's staff or due to any incorrectness in erection work or due to any other reason for which the Contractor is responsible, the EIC will have the right to realize such amount from the Contractor as may be deemed reasonable by the EIC for the facilities provided by the EIC/Purchaser as mentioned in clause above for the extended period.

17.0 SUPPORTS TO THE INSTRUMENTS

- 17.1 This part of specification is applicable to all structural supports, angle and ladder trays.
- 17.2 The surface to be painted shall be thoroughly cleaned with wire brush/sand paper to remove all scales. After cleaning, the surface is painted with one coat of red oxide zinc chromate primer conforming to IS 2074 and allow to dry completely.
- 17.3 The primer coated surface is painted with one coat of paint to the color nearest to the final paint and allow to dry. The colour no. shall be specified by IS-5
- 17.4 Final second coating shall be with the paint of desired colour and shall be selected from IS-5

18.0 INSTALLATION OF INSTRUMENTS

- 18.1 All instruments shall be generally installed on supports and should be easily accessible.
- 18.2 All instruments and gauges shall be hooked up from pipes and tanks.

19.0 TESTING

- 19.1 Electrical cables for signals, power supply shall be checked for megger value and continuity before final termination and ferruling.
- 19.2 The testing shall be carried for individual instruments independently after installing after technical specification.
- 19.3 After individual testing of instruments, they shall be in line with automation system. The all system shall be functionally tested for sequence operation and inter lock and set points etc.

20.0 CALIBRATION

- 20.1 All instruments shall be calibrated strictly as per manufactures instruction prior to installation. The scope of calibration includes all field and control room instrument of all types namely, flow meter, level indicator and automation system.
- 20.2 Conversion from one unit to another for the purposes of calibration is not allowed in exceptional case with prior permission.

- 20.3 All flow meters shall be calibrated to the settings as per instrument data or specification sheets.
- 20.4 All field instrument shall be calibrated for 0%, 25%, 50%, 75% and 100% of range. These shall be set finally at require values indicated on the data sheet.

21.0 LOOP CHECKING

- 21.1 Loop checking shall be performed after calibration, interconnection and leak testing of signal lines is carried out for all instruments. Loop test are conducted to check the functional performance all elements comprising the loop, thereby ensuring proper inter connection and operation.
- 21.2 Loop testing for all analog closed and open loop shall be generally by simulating process condition for at least 0%, 25%, 50%,75% and 100% of full scale inputs and for binary loops by simulating the changeover conditions.
- 21.3 After the loop test complete the bidder shall connect back any termination and connections removed for loop checking.

22.0 PERFORMANCE TESTS AND PROVISIONAL ACCEPTANCE

- 22.1 The Contractor shall be responsible for carrying out performance tests on all equipment supplied by him and/or procured by the Purchaser/EIC as indicated in the Technical specifications covered in this Tender document, in the presence of the EIC/authorised IREL official. This responsibility shall rest with the Contractor regardless of whether the erection has been carried out by him or any other agency.
- 22.2 The Contractor shall inform the Purchaser/EIC of the proposed date of the commencement of the performance tests. The duration of the performance test shall be 4 hours continuous operation unless otherwise directed by the EIC.
- 22.3 During the performance test, the plant will be operated with the assistance of the Contractor. The EIC will provide fuel, power, utilities and other relevant supplies.
- 22.4 Should the continuous operation of the plant during the performance test be interrupted due to either difficulties with the plant and equipment supplied by the Contractor or the inadequacy of his staff or defects in case the erection has been carried out by the Contractor, then the performance test shall be restarted and run again for a continuous period of four (4) hours.
- 22.5 On the satisfactory completion of the performance test, the EIC will issue an Acceptance certificate on written request from the Supplier.
- 22.6 The date of the Acceptance certificate shall be considered to be the date of satisfactory completion of the performance test.

23.0 SCOPE OF IRE

- 23.1 Electric power, water, at single point on free of cost. Contract shall make their own arrangement for the safe use of the same.
- 23.2 It shall be the responsibility of the Contractor to provide and maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and installation shall comply in all respects with the appropriate statutory requirements given in the following:
- i. Indian Electricity Act 1910 (as amended)
 - ii. Electricity Supply Act, 1948 (as amended)
 - iii. Indian Electricity Rules, 1956 (as amended)
 - iv. Central Electricity Regulation 2010 (as amended)

and shall be subject to approval of the Purchaser/EIC. Any expenses on the inspection required by an authorized inspector under the above regulations shall be borne by the Contractor.

- 23.3 The power supply will also be regulated as per terms and conditions of supply of the Kerala State Electricity Board.
- 23.4 The Purchaser/EIC will not be liable for any loss or damage to the Contractor's equipment as a result of variations in the voltage or frequency or interruptions in power supply. In the event of any power failure/ interruption / stoppage of power supply for a continuous period not exceeding 24 hours, the Contractor shall have no claim whatsoever against the Purchaser/EIC. For any power failure/stoppage resulting in

interruptions for continuous period exceeding 24 hours, the Contractor will be eligible only for reasonable extension of time and not for any compensation on this account.

23.5 The Purchaser/EIC will not be liable for any loss to the Contractor arising from interruption, failure or stoppage of works and any attendant delays consequent upon such interruptions, failure or stoppage of power supply or variations in voltage or frequency.

23.6 Electric Energy drawn by the Contractor for the works will be free of charge.

23.7 After completion of the works, the Contractor shall promptly dismantle the distribution and other facilities that he may have erected, at his own cost.

24.0 SCOPE OF CONTRACTOR

24.1 All Material/instruments/tool required for the execution and completion of work shall be under the scope of contractor.

24.2 Any material/works not mentioned in the order but required for the completion of the project shall be under the scope of contractor.

24.3 The Contractor shall provide necessary supervisory personnel, staff, skilled and unskilled labour, including electrical personnel with approved license as per Indian Electricity Rules 1956, CEA regulation 2010 as amended from time to time, to ensure that the whole of the erection work is completed in all respect within the period specified in the Contract. The Contractor shall ensure, when local laws require, the concerned employees obtain and hold certificates of competency for their work from the competent authority.

24.4 Unless otherwise provided in the Contract, the Contractor shall arrange all construction / erection equipment, welding equipment, erection and lifting tools and tackles, instruments and appliances required for the erection work, as well as equipment, tools and tackles for the transportation to site of erection of all equipment supplied under the Contract.

24.5 Tentative action plan of the scheduled date of supply of item, erection & commissioning, performance test for the above tender may be given within 30 days of receipt of order.

25.0 WORKING TIME

The normal time of work is between 0800Hrs to 1600 Hrs on any working day. The contractor may be allowed to work extra time as and when required but it should not exceed more than 1800Hrs with prior intimation and approval of Engineer-in-charge. The contractor has to take work necessary safety permit from the safety department before starting the work.

26.0 SITE VISIT

26.1 The tenderer or his representative shall be deemed to have inspected and examined the site and surroundings before submitting his tender and shall obtain the necessary information as to risks, contingencies and other circumstances which may influence or affect his tender.

26.2 The tenderer shall advised to know the labour practice followed at Eloor industrial belt before submitting the quote to avoid the confusion/conflict with the labour unions

26.3 Site inspection is mandatory. The tenderer shall submit Site inspection certificate issued by IREL, RED along with tender documents (Technical Bid).

27.0 COMMENCEMENT AND COMPLETION OF WORK

27.1 Qualified supervisor shall be present for supervising the work.

27.2 Work shall be commenced within 10 days from the acceptance of the work order or 10 days from the date handing over the site whichever is later. The date of acceptance of the work order is defined as the date of signing of the letter of acceptance of the order or 10 days from the date of dispatching of the order whichever is earlier.

27.3 The entire work as specified in the work order shall be completed within 300 days from the date of issue of work order. In case of any stoppage of work by IREL after commencement of work, the number of days stopped shall be extended for the completion of work.

28.0 PRE-BID MEETING

The pre bid meeting shall be conducted on 02/04/2025. The bidder's site visit and clarification should be completed before the pre bid meeting. After the pre bid meeting no technical clarification will be entertained.

29.0 RATE

- 29.1 Contractors shall advised to quote for entire work as per price schedule
- 29.2 The quantity mentioned in the price schedule is approximate.
- 29.3 The payment will paid for actual quantity of work carried out.
- 29.4 Rate should be quoted including the cost of material supplied by the contractor as per the price schedule.
- 29.5 All taxes, P &F, Fright charge etc. may be included in the price schedule.
- 29.6 Partial quote/incomplete quote shall not be considered for L1 status.

30.0 PAYMENT

- 30.1 Party is eligible for part payment.
- 30.2 70% of the supplied part shall be made within 30 days after submitting neat and clear bill, duly recommended by engineer-in-charge for the supplied items in the supply part (Part - A) of the Price schedule.
- 30.3 10% of the supply part (Part - A) and 80% for the erection part (Part - B) shall be made within 30 days after submitting neat and clear bill, duly recommended by engineer-in-charge after completion of erection part.
- 30.4 10% of the supply part and 10% of erection part shall be made within 30 days after submitting neat and clear bill, duly recommended by engineer-in-charge after commissioning and handing over the site to IREL.
- 30.5 Balance 10% shall be retained by IREL as retention money and it will be released after completion of the warranty/Gurantee period.
- 30.6 The contractor is responsible and liable to remit all statutory dues collected/included in the Price Schedule of the contract, to the Statutory Authorities without fail. IREL is not responsible for remittance of such tax collections.

31.0 SAFETY & HOUSEKEEPING

- 31.1 The supervisors and labours engaged by the contract for the work shall undergo half day safety training conducted by company safety department before the commencement of field work at IREL, RED.
- 31.2 It is the sole responsibility of contractor to carry out the work in an utmost safe manner.
- 31.3 Successful contractor will have to carry out the work as per the rules laid down by IREL Safety department.
- 31.4 The debris generated during the course of erection needs to be cleared then and there and the work spot shall be kept clean. If such waste is not removed, the expenses incurred for the waste removal will be deducted from the contractor bill amount.
- 31.5 All Activity in connection with work has to be carried out in consultation with Engineer In-charge of company

32.0 GUARANTEE

- 32.1 The entire Instrumentation & Automation package for URP Operation and Y & Dy streams operations shall be guaranteed for a period of 12 months for any damage/complaint for the items supplied and defective workmanship for the work executed, from the date of handing over the site to IREL. Any supplied items found complaint during the warranty period shall be replaced/repared immediately without hampering the regular operation of the working plants. If the replacement/repair happens to be time consuming nature, party shall arrange spare component on temporary basis for continue the regular operation of the plant. Party shall take back their spare component once the repaired component put in the system for normal operation.
- 32.2 Regarding the equipment's installed at site, the Supplier shall give the following guarantees in respect of the equipment supplied by him for a period of 12 (twelve) months after commissioning and performance testing or 18 (eighteen) months after the supply of the material whichever is later.

- 32.3 The Supplier shall be responsible for any defects that may be noticed therein notwithstanding that such defects could have been noticed at the time of inspection or any defects therein are found to have developed under proper use, arising from faulty materials, design or workmanship or fails to fulfill the performance testing or other requirement of the order and the Supplier shall remedy all such defects as aforesaid at his own cost. Purchaser, who shall state in writing in what respect the goods are faulty and further if in the opinion of the Purchaser the defects are of such a nature that it is necessary to replace or renew any defective stores, such replacement or renewal shall be made by Supplier forthwith without any extra costs to the Purchaser.
- 32.4 If the Supplier fail to rectify such defects to the full satisfaction of the Purchaser within a reasonable time, the Purchaser may reject and replace at the cost of the Supplier the whole or any part of the equipment as the case may be which is defective or fails to fulfill the requirements of the order. Such replacement at the cost of the Supplier shall be carried out by the Purchaser within a reasonable time with equipment of the same particulars or when the equipment conforming to the stipulated particulars are, in the opinion of the Purchaser, not readily procurable, such opinion being final, then with the nearest substitutes.

33.0 PERFORMANCE WARRANTY

- 33.1 The Contractor shall be responsible for erection of all the items supplied against the work order. All the filed instruments like flow meters/level transmitters shall be interconnected with the VFDs and drive motors (already available with IREL) in closed loop through SCADA and PAC system to get the desired flow output for each field instruments separately as desired by EIC & Production department.
- 33.2 The desired flow output for each field instruments separately shall be demonstrated to EIC & Production department through the closed loop system of field instruments-VFDs-Motors-SCADA - PAC system.
- 33.3 For commissioning and acceptance, the contract shall demonstrate the running of automation system in auto mode (Close loop condition) for 4 Hrs continuously in each day for 4 days. The entire system shall be warrantied for 1 year for the work man ship and the items supplied against the work order.

34.0 OWNERSHIP OF DRAWINGS AND SPECIFICATIONS

All drawings, technical specifications, manuals and other materials specification designs furnished by the IREL, or developed for IREL by the contractor shall be treated strictly as confidential property of the IREL. All such documents along with final as build drawings and circuit diagrams shall be returned to the IREL upon the completion of the work under this contract. The Contractor without the consent of the IREL shall retain no copies, duplications or Photostats of these documents. The Contractor shall not disclose or share any of such drawings, technical specifications, manuals and other materials specification designs furnished by the IREL, or developed for IREL by the contractor to any other third parties.

35.0 WORK IN OR AROUND AN OPERATING PLANT

When the work is being carried out in or around an operating plant, where the plant must run uninterrupted, the Contractor shall only work at specified places and times as mutually arranged between the Contractor and the IREL. The Contractor shall take sufficient care in moving his erection of instruments/ shifting equipment from one place to another in an operating plant so that they may not cause any damage to the property of the IREL, and, in the event of the Contractor's failure to do so, the cost of such damages, including eventual loss of working hours as estimated by the IREL, is to be borne by the Contractor.

36.0 RESPONSIBILITY FOR PERFORMANCE OF CONTRACT

The Supplier shall be entirely responsible for the performance of the contract in all respects in accordance with the terms and conditions as specified in the Contract. The Supplier shall not sublet, transfer or assign the contract without the written permission of the IREL. In case permission is given by the IREL, Supplier shall be liable to any loss or damage which the IREL may sustain in consequence or arising out of such subletting of the contract.

37.0 BILL OF QUANTITIES (BOQ)

| Sl No | Item Description | Qty | Unit |
|-----------------|--|-----|-------|
| PART - A | | | |
| 01 | Supply of PAC 9074/CRIO9067 as per attached technical specification Annexure -I-A. | 02 | Nos. |
| 02 | Supply of DI 32-9425 with accessories as per attached technical specification Annexure -I-B. | 01 | Nos. |
| 03 | Supply of DO 32-9476 with accessories as per attached technical specification Annexure -I-C. | 01 | Nos. |
| 04 | Supply of AI 16-9208 with accessories as per attached technical specification Annexure -I-D. | 03 | Nos. |
| 05 | Supply of AO 4-9265 with accessories as per attached technical specification Annexure -I-E. | 09 | Nos. |
| 06 | Supply of Magnetic Flow meter (Tantalum Electrode & SS Ground Ring) as per attached technical specification Annexure -I-F. | 04 | Nos. |
| 07 | Supply of Digital Rotameter as per attached technical specification Annexure -I-G. | 04 | Nos. |
| 08 | Supply of Radar Level Transmitter as per attached technical specification Annexure -I-H. | 01 | Nos. |
| 09 | Supply of 3KVA online UPS with battery as per attached technical specification Annexure -I-I. | 01 | Set |
| 10 | Supply of FRP cable Tray as per attached technical specification Annexure -I-J. | 250 | Mtr.. |
| 11 | Supply of High End computer as per attached technical specification Annexure -I-K. | 02 | Nos. |
| 12 | Supply of Control Cable 24 C x 1Sq.mm. as per attached technical specification Annexure -I-L. | 750 | Mtr.. |
| 13 | Supply of Control 12pair x 1Sq.mm. as per attached technical specification Annexure -I-L. | 750 | Mtr.. |
| 14 | Supply of Control Cable 12 C x 1Sq.mm. as per attached technical specification Annexure -I-L. | 300 | Mtr. |
| 15 | Supply of Control 1pair x 1Sq.mm. as per attached technical specification Annexure -I-L. | 300 | Mtr. |
| 16 | Supply of Thermoplastic Junction box 300mm x 400mm x 170mm with transparent lid and gland knock outs as per attached technical specification Annexure -I-M. | 04 | Nos. |
| 17 | Supply of Thermoplastic Junction box 300mm x 300mm with transparent lid and gland knock outs as per attached technical specification Annexure -I-M. | 05 | Nos. |
| 18 | Supply of control relays with base (24V DC Coil). | 40 | Nos. |
| 19 | Supply of control relays with base (230V AC Coil) | 40 | Nos. |
| 20 | Supply of Miscellaneous items like JB's, Cable gland, crimping sockets, connector blocks, cable ties, fasteners etc. as per attached technical specification Annexure -I-N | 01 | Set. |
| 21 | Supply of PLC cum computer console as per attached technical specification Annexure -I-O. | 01 | Nos. |
| 22 | Supply of Computer chair as per attached technical specification Annexure -I-P. | 02 | Nos. |
| 23 | Supply of structural material, (includes supply of 4 inch flange and MS pipe 4inch 20cm length for radar instruments and angle for cable laying) and any other | 300 | Kg |

| | | | |
|-----------------|---|-----|----------|
| | MS structural as per site requirements | | |
| 24 | Supply and Installation of HDPE pipe, bend etc as per site requirement. | 1 | Lumpsum |
| PART - B | | | |
| 25 | Labour charge for Erection and commissioning of PAC 9074/CRIO9067. | 02 | Nos. |
| 26 | Labour charge for Erection and commissioning of DI 32-9425 with accessories. | 01 | Nos. |
| 27 | Labour charge for Erection and commissioning of DO 32-9476 with accessories. | 01 | Nos. |
| 28 | Labour charge for Erection and commissioning of AI 16-9208 with accessories. | 03 | Nos. |
| 29 | Labour charge for Erection and commissioning of AO 4-9265 with accessories. | 09 | Nos. |
| 30 | Labour charge for Erection and commissioning of Magnetic Flow meter (Tantalum Electrode & SS Ground Ring). | 04 | Nos. |
| 31 | Labour charge for Erection and commissioning of Digital Rotameter. | 04 | Nos. |
| 32 | Labour charge for Erection and commissioning of Radar Level Transmitter. | 01 | Nos. |
| 33 | Labour charge for Erection and commissioning of 3KVA online UPS with battery. | 01 | Set. |
| 34 | Labour charge for Laying/fixing/Erection of FRP cable Tray. | 250 | Mtr. |
| 35 | Labour charge for Laying, glanding and termination of Control Cable 24C x 1Sq.mm. | 750 | Mtr. |
| 36 | Labour charge for Laying, glanding and termination of Control Cable 12 pair x 1Sq.mm. | 750 | Mtr. |
| 37 | Labour charge for Laying, glanding and termination of Control Cable 12 C x 1Sq.mm. | 300 | Mtr. |
| 38 | Labour charge for Laying, glanding and termination of Control 1pair x 1Sq.mm. | 300 | Mtr. |
| 39 | Labour charge for Erection and commissioning of Thermoplastic Junction box 300mm x 400mm x 170mm with transparent lid and gland knock outs. | 04 | Nos. |
| 40 | Labour charge for Erection and commissioning of Thermoplastic Junction box 300mm x 300mm x 170mm with transparent lid and gland knock outs. | 05 | Nos. |
| 41 | Labour charge for Erection and commissioning of control relays with base (24V DC Coil). | 40 | Nos. |
| 42 | Labour charge for Erection and commissioning of control relays with base (230V AC Coil). | 40 | Nos. |
| 43 | Labour charge for Erection and commissioning of PLC Panel with computer console. | 01 | Nos. |
| 44 | Labour charge for Erection and commissioning of High End computer. | 02 | Nos. |
| 45 | Labour charge for Structure works | 300 | Kg |
| 46 | Labour charge for Installation of HDPE pipe , bend etc as per site requirement. | 1 | Lumpsum |
| 47 | Labour charge for Software programming, installation, performance testing, commissioning of parallel stream. | 02 | Lumpsum. |

Note: Overall lowest of (Part A + Part B) will be considered as L1

Technical Specifications for PAC 9074-CRIO 9067

Processor

| | |
|-------------------------------------|--|
| Type | Xilinx Zynq-7000, XC7Z020 All Programmable SoC |
| Architecture | ARM Cortex-A9 |
| Speed | 667 MHz |
| Cores | 2 |
| Flash reboot endurance ¹ | 100,000 cycles |

Operating System

| | |
|----------------------------|---|
| Supported operating system | NI Linux Real-Time (32-bit) |
| LabVIEW | LabVIEW 2014 or later, LabVIEW Real-Time Module 2014 or later, LabVIEW FPGA Module 2014 or later ² |
| Drivers software | NI-RIO Device Drivers 14.0 or later |

Memory

| | |
|------------------------|--------|
| Nonvolatile memory | 1 GB |
| Volatile memory (DRAM) | 512 MB |

Network

| | |
|--------------------------|---|
| Network interface | 10Base-T, 100Base-T, 1000Base-T Ethernet |
| Compatibility | IEEE 802.3 |
| Communication rates | 10 Mb/s, 100 Mb/s, 1,000 Mb/s auto-negotiated |
| Maximum cabling distance | 100 m/segment |

Internal Real-Time Clock

| | |
|----------|-------|
| Accuracy | 5 ppm |
|----------|-------|

USB Ports

| | |
|------------------------|---|
| USB device port | |
| Type | USB 2.0 Hi-Speed, with standard B connector |
| Maximum data rate | 480 Mb/s |
| USB host port | |
| Type | USB 2.0 Hi-Speed, with standard A connector |
| Maximum data rate | 480 Mb/s |

Reconfigurable FPGA

| | |
|--|--|
| Type | Xilinx Zynq-7000, XC7Z020 All Programmable SoC |
| Number of logic cells | 85,000 |
| Number of flip-flops | 106,400 |
| Number of 6-input LUTs | 53,200 |
| Number of DSP slices (18 × 25 multipliers) | 220 |
| Available block RAM | 4,480 kbits |
| Number of DMA channels | 16 |
| Number of logical interrupts | 32 |

| | |
|--|----------|
| Typical battery life with power applied to power connector | 10 years |
| Typical battery life in storage at 55 °C | 5 years |

Power Requirements

| | |
|---|---|
| Voltage input range | 9 V DC to 30 V DC |
| Reverse-voltage protection | 30 V DC maximum |
| Maximum power input, with four C Series modules | 25 W |
| Maximum power input, without C Series modules | 17 W |
| Connector securement | |
| Securement type | Screw flanges provided |
| Torque for screw flanges | 0.3 N · m to 0.4 N · m (2.7 lb · in. to 3.5 lb · in.) |

Safety Voltages

Connect only voltages that are within the following limits:

| | |
|--------------------------|--|
| V terminal to C terminal | 30 V DC maximum, Measurement Category I |
| Temperature | |
| Operating | -20 °C to 55 °C |
| Storage | -40 °C to 85 °C |
| Humidity | |
| Operating | 10% RH to 90% RH, noncondensing |
| Storage | 5% RH to 95% RH, noncondensing |
| Ingress protection | IP40 |
| Pollution Degree | 2 |
| Maximum altitude | 5,000 m |
| Random | 5 g RMS, 10 Hz to 500 Hz |
| Sinusoidal | 5 g, 10 Hz to 500 Hz |
| Operating shock | 30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations |

Technical Specification for DI-32 - 9425

Input Characteristics

| | |
|---|--|
| Number of channels | 32 digital input channels |
| Input type | Sinking |
| Digital logic levels | |
| OFF state | |
| Input voltage | ≤ 5 V |
| Input current | ≤ 150 μ A |
| ON state | |
| Input voltage | ≥ 10 V |
| Input current | ≥ 330 μ A |
| Hysteresis | |
| Input voltage | 2 V minimum |
| Input current | 60 μ A minimum |
| Input impedance | 30 k Ω \pm 5% |
| 8 channels | 60 V DC maximum |
| 32 channels | 30 V DC maximum |
| Reverse-biased voltage | |
| 8 channels | -60 V DC maximum |
| 32 channels | -30 V DC maximum |
| Hold time ^[1] | 0 μ s minimum |
| Setup time ^[2] | 1 μ s minimum |
| Update/transfer time^[3] | |
| cRIO-9151 R Series Expansion chassis | 8 μ s maximum |
| All other chassis | 7 μ s maximum |
| MTBF | 1,256,699 hours at 25 °C; Bellcore Issue 2, Method 1, Case 3, Limited Part Stress Method |

Power Requirements

| | |
|---------------------------------------|---------------------------|
| Power consumption from chassis | |
| Active mode | 410 mW maximum |
| Sleep mode | 0.5 mW maximum |
| Thermal dissipation (at 70 °C) | |
| Active mode | 1.45 W maximum |
| Sleep mode | 1 W maximum |
| Connector securement | |
| Securement type | Screw flanges provided |
| Torque for screw flanges | 0.2 N · m (1.80 lb · in.) |

NI-9425 with Spring Terminal Safety Voltages

| | |
|--------------------|--------|
| Channel-to-COM | 60 VDC |
| Isolation | |
| Channel-to-channel | None |

| | | |
|--------------------------------|--|--|
| Channel-to-earth ground | | |
| Continuous | 250 V RMS, Measurement Category II | |
| Withstand Up to 5,000 m | 3,000 V RMS, verified by a 5 s dielectric withstand test | |

NI-9425 with DSUB Safety Voltages

| | | |
|-------------------------|---|---------|
| Channel-to-COM | | 60 V DC |
| Isolation | | |
| Channel-to-channel | | None |
| Channel-to-earth ground | | |
| Continuous | 60 V DC, Measurement Category I | |
| Withstand up to 2,000 m | 1,000 V RMS verified by a 5 s dielectric withstand test | |
| Withstand Up to 5,000 m | 500 V RMS, verified by a 5 s dielectric withstand test | |

Environmental Characteristics

| | | |
|--------------------|--|--------------------------|
| Temperature | | |
| Operating | | -40 °C to 70 °C |
| Storage | | -40 °C to 85 °C |
| Humidity | | |
| Operating | 10% RH to 90% RH, noncondensing | |
| Storage | 5% RH to 95% RH, noncondensing | |
| Ingress protection | | IP40 |
| Pollution Degree | | 2 |
| Maximum altitude | | 2,000 m |
| Random | | 5 g RMS, 10 Hz to 500 Hz |
| Sinusoidal | | 5 g, 10 Hz to 500 Hz |
| Operating shock | 30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations | |

Technical Specification for DO 32 - 9476

Output Characteristics

| | | |
|---|--|----------------|
| Output Characteristics | | |
| Number of channels | 32 digital output channels | |
| Output type | Sourcing | |
| Output Voltage | $V_{sup} - (I_0 \cdot R_0)$ | |
| Power-on output state | Channels off | |
| External power supply voltage range (V_{sup} -to-COM) | 6 V DC to 36 V DC | |
| Continuous output current (I_0) per channel (DO-to-COM) | | |
| With 6 V DC to 30 V DC supply voltage | | 250 mA maximum |
| With 30 V DC to 36 V DC supply voltage | | 200 mA maximum |
| Output impedance (R_0) | 0.3 Ω maximum | |
| Continuous overvoltage protection (V_{sup}) | up to 40 V maximum | |
| Reversed-voltage protection | None | |
| Current limiting | None | |
| Short-circuit protection | Indefinitely protected when a channel is shorted to COM or to a voltage up to V_{sup} | |
| Trip current for one channel | | |
| With all other channels at rated current | | 3 A typical |
| With all other channels off | | 5 A typical |
| V_{sup} current consumption | 28 mA maximum | |
| Maximum update rate | 40 μ s maximum | |
| Propagation delay | 500 μ s maximum | |
| MTBF | 1,091,425 hours at 25 °C; Bellcore Issue 2, Method 1, Case 3, Limited Part Stress Method | |

NI-9476 with Spring Terminal Safety Voltages

| | | |
|--------------------------|--|------|
| V _{sup} -to-COM | 40 V DC maximum | |
| DO | V _{COM} ≤ V _{DO} ≤ V _{sup} | |
| Isolation | | |
| Channel-to-channel | | None |
| Channel-to-earth ground | | |
| Continuous | 250 V RMS, Measurement Category II | |
| Withstand up to 5,000 m | 3,000 V RMS, verified by a 5 s dielectric withstand test | |

NI-9476 with DSUB Safety Voltages

| | | |
|-------------------|------------------------------------|--|
| V_{sup} -to-COM | 40 V DC maximum | |
| DO | $V_{COM} \leq V_{DO} \leq V_{sup}$ | |

| | | |
|--------------------------------|--|------|
| Isolation | | |
| Channel-to-channel | | None |
| Channel-to-earth ground | | |
| Continuous | 60 V DC, Measurement Category 1 | |
| Withstand up to 2,000 m | 1,000 V RMS, verified by a 5 s dielectric withstand test | |

Environmental Characteristics

| | | |
|------------------------------|--|-----------------|
| Temperature | | |
| Operating | | -40 °C to 70 °C |
| Storage | | -40 °C to 85 °C |
| Humidity | | |
| Operating | 10% RH to 90% RH, noncondensing | |
| Storage | 5% RH to 95% RH, noncondensing | |
| Ingress protection | | IP40 |
| Maximum altitude | | |
| NI-9476 with spring terminal | | 5,000 m |
| NI-9476 with DSUB | | 2,000 m |
| Random | 5 g RMS, 10 Hz to 500 Hz | |
| Sinusoidal | 5 g, 10 Hz to 500 Hz | |
| Operating shock | 30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations | |

Power Requirements

| | | |
|--------------------------------|----------------|---------------------------|
| Power consumption from chassis | | |
| Active mode | 250 mW maximum | |
| Sleep mode | 25 μW maximum | |
| Thermal dissipation (at 70 °C) | | |
| Active mode | 1.5 W maximum | |
| Connector securement | | |
| Securement type | | Screw flanges provided |
| Torque for screw flanges | | 0.2 N · m (1.80 lb · in.) |

Technical Specification for AI 16-9208

Input Characteristics

| | |
|--|--|
| Number of channels | 16 analog input channels |
| ADC resolution | 24 bits |
| Type of ADC | Delta-Sigma |
| Sampling mode | Scanned |
| Input range | |
| Minimum | ±21.5 mA |
| Typical | ±22 mA |
| Conversion time (per channel) | |
| High-resolution mode | 52 ms |
| High-speed mode | 2 ms |
| Overvoltage protection, channel-to-COM | ±30 V maximum on one channel at a time |
| Vsup pins | |
| Current | 2 A maximum |
| Voltage | 30 V maximum |
| Input impedance | 85 Ω |

Accuracy

| Calibrated Measurement Conditions | Percent of Reading (Gain Error) | Percent of Range ^[1] (Offset Error) |
|-----------------------------------|---------------------------------|--|
| Maximum (-40 °C to 70 °C) | ±0.76% | ±0.04% |

Input noise

| | |
|----------------------|------------|
| High-resolution mode | 50 nA RMS |
| High-speed mode | 200 nA RMS |

Stability

| | |
|--------------|-----------|
| Gain drift | 20 ppm/°C |
| Offset drift | 62 nA/°C |

NMRR (High-resolution mode only)

| | |
|-------|-------|
| 50 Hz | 66 dB |
| 60 Hz | 68 dB |

Isolation

| | |
|--------------------|------|
| Channel-to-channel | None |
|--------------------|------|

Channel-to-earth ground

| | |
|--------------------------|--|
| Continuous | 250 V RMS, Measurement Category II |
| Withstand, up to 4,000 m | 3,000 V RMS, verified by a 5 s dielectric withstand test |

| | | |
|--------------------------------|---|------|
| Isolation | | |
| Channel-to-channel | | None |
| Channel-to-earth ground | | |
| Continuous | 60 V DC, Measurement Category I | |
| Withstand, up to 2,000 m | 1,000 VRMS, verified by a 5 s dielectric withstand test | |

Environmental Characteristics

| | |
|------------------------------|--|
| Temperature | |
| Operating | -40 °C to 70 °C |
| Storage | -40 °C to 85 °C |
| Humidity | |
| Operating | 10% RH to 90% RH, noncondensing |
| Storage | 5% RH to 95% RH, noncondensing |
| Ingress protection | IP40 |
| Pollution Degree | 2 |
| Maximum altitude | |
| NI-9208 with spring terminal | 4,000 m |
| NI-9208 with DSUB | 2,000 m |
| Shock and Vibration | |
| Operating vibration | |
| Random | 5 g RMS, 10 Hz to 500 Hz |
| Sinusoidal | 5 g, 10 Hz to 500 Hz |
| Operating shock | 30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations |

Power Requirements

| | |
|--------------------------------|----------------|
| Power consumption from chassis | |
| Active mode | 282 mW maximum |
| Sleep mode | 25 μW maximum |
| Thermal dissipation (at 70 °C) | |
| Active mode | 1.29 W maximum |
| Sleep mode | 0.72 W maximum |

Technical specification for AO 4 – 9265

Output Characteristics

| | |
|----------------------------------|--------------------------|
| Number of channels | 4 analog output channels |
| DAC resolution | 16 bits |
| Type of DAC | String |
| Power-on output state | 0 |
| Startup current | 0.0 mA |
| Power-down current | 0.0 mA |
| Full-scale output current | |
| Minimum | 20.1 mA |
| Typical | 20.6 mA |
| Maximum | 21.0 mA |
| Output range | 0 mA to 20 mA |
| Compliance voltage | 12 VDC maximum |
| Maximum load | 600 Ω |

Accuracy

| Measurement Conditions | Percent of Reading (Gain Error) | Percent of Range ¹ (OffsetError) |
|---|---------------------------------|---|
| Calibrated, typical (25 °C, ± 5 °C) | 0.11% | 0.19% |
| Calibrated, maximum (-40 °C to 70 °C) | 0.25% | 0.4% |
| Uncalibrated ² , typical (25 °C, ± 5 °C) | 0.35% | 1.4% |
| Uncalibrated, maximum (-40 °C to 70 °C) | 0.85% | 2.5% |

Stability

| | |
|--|-----------------|
| Gain drift | 30 ppm/°C |
| Offset drift | 45 ppm/°C |
| External power supply voltage range (Vsup) | 9 VDC to 36 VDC |
| Protection (AO, Vsup) | |
| Overvoltage | ± 40 V |
| Short-circuit | Indefinitely |

Update Time

| Number of Channels | Update Time for R Series Expansion Chassis | Update Time for Any Other Chassis |
|--------------------|--|-----------------------------------|
| One | 3.5 μ s | 3 μ s |

| Number of Channels | | Update Time for R Series Expansion Chassis | Update Time for Any OtherChassis |
|--------------------------|---|--|----------------------------------|
| Two | | 6.5 μs | 5 μs |
| Three | | 9 μs | 7.5 μs |
| Four | | 12 μs | 9.5 μs |
| Noise | 600 nArms | | |
| Crosstalk | -90 dB | | |
| Settling time (to 1 LSB) | | | |
| Full-scale step | | | 10 μs |
| 1 mAstep | | | 5 μs |
| Glitch energy | Unmeasurable | | |
| Monotonicity | 16 bits | | |
| DNL | 1 LSB maximum | | |
| INL | ±16 LSB | | |
| MTBF | 1,014,487 hours at 25 °C; Bellcore Issue 6, Method 1, Case 3, Limited Part StressMethod | | |

Power Requirements

| | | | |
|--|---|---------------------------|--|
| Power consumption from chassis | | | |
| Active mode | | 230 mW maximum | |
| Sleep mode | | 25 μW maximum | |
| Thermal dissipation (at 70 °C) | | | |
| Active mode | | 1.5 W maximum | |
| Sleep mode | | 10 mW maximum | |
| Power consumption from external power supply | | | |
| Active mode | | 1.4 W maximum | |
| Sleep mode | | 10 mW | |
| Temperature rating | 90 °C, minimum | | |
| Torque for screw terminals | 0.5 N · m to 0.6 N · m (4.4 lb · in. to 5.3 lb · in.) | | |
| Wires per screw terminal | One wire per screw terminal; two wires per screw terminal using a 2-wire ferrule | | |
| Ferrules | 0.25 mm ² to 2.5 mm ² | | |
| Spring-terminal wiring | | | |
| Gauge | 0.2 mm ² to 2.5 mm ² (26 AWG to 14 AWG) copper conductor wire | | |
| Wire strip length | 10 mm (0.39 in.) of insulation stripped from the end | | |
| Temperature rating | 90 °C, minimum | | |
| Torque for spring terminals | 0.5 N · m to 0.6 N · m (4.4 lb · in. to 5.3 lb · in.) | | |
| Wires per spring terminal | One wire per spring terminal; two wires per spring terminal using a 2-wire ferrule | | |
| Ferrules | 0.25 mm ² to 2.5 mm ² | | |
| Connector securement | | | |
| Securement type | | Screw flanges provided | |
| Torque for screw flanges | | 0.2 N · m (1.80 lb · in.) | |
| Weight | | | |

| | |
|------------------------------|----------------|
| NI-9265 with screw terminal | 165.5 (5.8 oz) |
| NI-9265 with spring terminal | 153 g (5.4 oz) |

Safety Voltages

| | |
|---|----------------------------|
| Connect only voltages that are within the following limits. | |
| Channel-to-COM or Vsup-to-COM | ±40 V maximum ³ |

Isolation Voltages

| | |
|---|--|
| Channel-to-channel | None |
| Channel-to-earth ground, Vsup-to-earth ground, or COM-to-earth ground | |
| Continuous | |
| up to 2,000 m altitude | 250 V RMS, Measurement Category II |
| up to 5,000 m altitude | 60 V DC, Measurement Category I |
| Withstand | |
| up to 2,000 m altitude | 2,300 V RMS, verified by a 5 s dielectric withstand test |
| up to 5,000 m altitude | 1,000 V RMS, verified by a 5 s dielectric withstand test |

Environmental Characteristics

| | |
|------------------------------|--|
| Temperature | |
| Operating | -40 °C to 70 °C |
| Storage | -40 °C to 85 °C |
| Humidity | |
| Operating | 10% RH to 90% RH, noncondensing |
| Storage | 5% RH to 95% RH, noncondensing |
| Ingress protection | IP40 |
| Pollution Degree | 2 |
| Maximum altitude | |
| NI-9265 with screw terminal | 5,000 m |
| NI-9265 with spring terminal | 5,000 m |
| Random | 5 g RMS, 10 Hz to 500 Hz |
| Sinusoidal | 5 g, 10 Hz to 500 Hz |
| Operating shock | 30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations |

Technical Specification for Magnetic Flow Meter (0-600L/Hr.)

| Transmitter | |
|---------------------------------|--|
| Type | Smart Microprocessor based Remote Field Mounted |
| Excitation type | Pulsed DC |
| Display | Required, LCD backlit, alphanumeric |
| Range | User Configurable, 0 - 600 l/h |
| Accuracy | +/- 0.3% |
| Repeatability | 0.1% of MV |
| Output 1 | Analog Output, 4-20 mA DC, HART compatible |
| Output 2 | Pulse Output |
| Maximum Load Impedance | <500 mOhms |
| Power Supply | 110VAC, 50 Hz |
| Display Language | English |
| Display shall include | a) Actual flow rate; forward and reverse |
| | b) Flow units: m ³ /hr, configurable through front panel keypad |
| | c) Totalizer (non-volatile) with Reset facility |
| | d) Totalizer units: m ³ ; liters |
| | e) Status / error messages |
| | f) Empty Pipe Detection |
| Calibration facility | Required through front panel keypad and HART communicator |
| Auto zero Correction | Required |
| Configuration | Required through front panel keypad and HART communicator |
| Memory | Nonvolatile EEPROM |
| Self-Diagnostics | Required |
| Cable entry | 1/2 NPTF |
| Housing | Die Cast Aluminium/SS box |
| Enclosure | Weather proof to IP 65 |
| Mounting | On 2" Pipe |
| Mounting Accessories | Brackets, Fasteners, Washers and U clamps to be supplied |
| M.O.C. for Mounting Accessories | SS304 |
| Sensor | |
| Fluid / State | Water, Ammonium Sulphate / Liquid |
| Pressure (Nor/Max) | 3 / 7 in kg/cm ² g |
| Working Temp. (Nor/Max) | 35 / 50 in deg.C |
| Flange to flange distance | 200mm |
| End connection | Flanged, RF |
| Size/Pressure Rating | DN15 , PN40 |
| Body-FlangeMaterial | SS304 |
| Electrode Material | Tantalum |
| Liner Material | PTFE (2-3 mm thick) or better suited for the process fluid |
| Grounding/Earthing rings | Required, SS316 |
| Housing | Die Cast Aluminium/SS box |
| Hydrostatic test pressure | 1.5 times Maximum Working Pressure |
| Painting | As per manufacturer's standard |

| | |
|--|--|
| Maximum Distance between flowtube and transmitter | 20 m |
| Armoured Interconnection cables for Coil Supply and Signal | 20 meters to be supplied |
| Interchangeability of flow tube & transmitter | Required |
| Instrument details | To be punched on SS plate mounted on flow tube and transmitter |
| Make | Krohne, Emerson and Siemens |
| Model | Vendor to specify |

| Technical Specification for DIGITAL ROTAMETER (Variable Area Flowmeter) | | | |
|---|----------------|----------------------------|--|
| SI No | Section | Parameter | Requirement |
| 1 | Identification | Purpose | DM WATER AND SOLVENT |
| 3 | Sensor/Meter | Type | Metal Tube Variable area flow meter (Digital Rotameter) |
| 4 | | Function | To measure and monitor the flow of solutions locally |
| 5 | | Accuracy | Class 1.6% As per VDI/VDE code 3513 |
| 6 | | Meter Size | DN 15 |
| 7 | | End Connection | ½" ASME |
| 8 | | Indication | Via Magnetic Coupling |
| 9 | | Indicator Housing | Die Cast Aluminium powder coated or Polyester coated Alumiminum |
| 10 | | Measuring Cone | PTFE |
| 11 | | Flange - MOC | SS 316L |
| 12 | | Float - MOC | PTFE |
| 13 | | Maximum Operating Pressure | As per flange standard |
| 14 | | Range ability | 1:10 |
| 15 | | Scale | Analog Angular |
| 16 | | Mounting | Vertical. Flow patterns from Bottom to Top |
| 17 | | Installation Length | 250 mm |
| 18 | | Ingress Protection | IP 68 |
| 19 | | Power Supply | 24 V DC -2 wire |
| 20 | | Output | 4-20 mA and HART |
| 21 | | Area Clasification | Non Hazardous |
| 22 | | Calibration | 3 point |
| 23 | | Flow range | 0-550LPH |
| 24 | | Cable Entry | M20 X 1.5 |
| 25 | Environment | Max Pressure | 10KG/ CM2 |
| 26 | | Operating temperature | Ambient |
| 27 | | Relative Humidity | Less than 99 % non-condensing |
| 28 | | Application | Indoor |
| 29 | General | Certificate | CE & IP68 Factory Calibrated Calibration Certificate Standard test & Guarantee Certificate |
| 30 | | Make | Krohne, Emerson and Siemens |
| 31 | | Model | Vendor to specify |
| 32 | | Warranty/ Guarantee | One Year |
| 33 | | Calibration | Variable Area Flow Meter (Digital Rotameter) should be factory calibrated and calibration certificate shall be provided along with the supply of item. |

| Technical Specification of Radar Level Transmitter | | | |
|--|----------------------------|-------------------------|--|
| Sl. No. | Section | Parameter | Requirement |
| 1 | Identification | TAG Number | Nitric acid - URP |
| 2 | | Tank/Equipment | Nitrate Collection tank |
| 3 | | Service | URP |
| 4 | Sensor & Transmitter | Radar Type | FMCW, W-Band, Continuous, Non-contact type |
| 5 | | Function | Indicate locally and Transmit |
| 6 | | Antenna | Rod type PTFE Lens without extension |
| 7 | | Frequency | 80 G Hz |
| 8 | | Beam Angle | 10° (Maximum) |
| 9 | | Accuracy | +/- 3mm or better |
| 10 | | Range | 0.25 to 10 meter |
| 11 | | Calibration | Through Push bottoms on Transmitter or HART |
| 12 | | Antenna Material | PEEK, PTFE, SS316L or PFA |
| 13 | | Antenna Encapsulation | PEEK/PVDF/PTFE/PFA |
| 14 | | Meter Housing | Die Cast Aluminium powder coated or Polyester coated Aluminum |
| 15 | | Process Seal | FKM/VITON/PTFE/PFA |
| 16 | | Process Connection | 3" Flange, ANSI 150 lb |
| 17 | | Flange MOC | Stainless Steel with PEEK, PTFE or PFA Flaring |
| 18 | | Wetted part lining | PEEK, PTFE or PFA |
| 19 | | Ingress Protection | IP 67 |
| 20 | | Power Supply | Loop powered, 24 V DC |
| 21 | | Output | 4-20 mA and HART |
| 22 | | Response time | Less than 3 sec |
| 23 | | Display | LCD with backlit |
| 24 | | Cable Entry | M20 X 1.5 |
| 25 | | Instrument Installation | Top Mounting |
| 26 | | Application | Outdoor |
| 27 | Environment | Max. Temp at flange | 150 Deg C |
| 28 | | Operating temperature | Ambient |
| 29 | | Relative Humidity | Less than 99 % non-condensing |
| 30 | | Operating Pressure | Ambient |
| 31 | General | Certificate | CE & IP67 |
| 32 | | Make | Krohne, Emerson and Siemens |
| 33 | | Model | Vendor to Specify |
| 34 | | Warranty/ Guarantee | One Year |
| 35 | | Calibration | Radar level transmitter sensor should be factory calibrated and calibration certificate shall be provided along with the supply of item. |

Technical Specification for 3KVA online UPS with Battery bank

| SI No. | Parameter Description | Specification Requirement |
|--------|----------------------------|---|
| 1 | Type | Advance True Sine wave online UPS |
| 2 | Service | Control Room MSP |
| 3 | Rated Power in watt | 2700 (min) |
| 4 | Rated Power in VA | 3000 |
| 5 | Main Output Voltage | 240 V |
| 6 | Output Frequency | 50 Hz \pm 1 % |
| 7 | Crest factor | 3:1 |
| 8 | Output wave | Pure Sine wave |
| 9 | Output Voltage Tolerance | \pm 1% static \pm 5% at 100% Load step |
| 10 | Efficiency | 94.4% (Full Load) 94.5% (half load) |
| 11 | Output Connection | Hard Wire 3-wire (P H N G) |
| 12 | Smart Communication | RS 232 |
| 13 | Battery Mounting | External |
| 14 | Input Voltage | 160-285 V AC |
| 15 | Input Frequency | 40-70 Hz |
| 16 | Input Connection | Hard Wire 3-wire (P H N G) |
| 17 | Input Power factor | 0.95-0.98 |
| 18 | Max. Input Current | 15A |
| 19 | Input Breaker Rating | Suitable |
| 20 | DC Voltage | 72 OR 96 (Programmable type - optional) |
| 21 | No. of Battery | 16 OR 20 (Optional) |
| 22 | Load Power Factor | 0.5 Leading 0.5 Lagging |
| 23 | Harmonic Distortion | Less than 2 % |
| 24 | Output Overload Protection | 60 Second at 125% 30 Second at 150% |
| 25 | Alarm | Battery Low UPS fault |
| 26 | Bypass Type | Built-in Static |
| 27 | Operating Temperature | 0-40° C |
| 28 | Humidity | 95% non-condensing |
| 29 | Ingress protection | IP20 |
| 30 | Warranty | 2 Year Minimum |
| 31 | Compliance | RoHS |
| 32 | Make | APC, KRYKARD, NUMERIC |

Technical Specification for Fire retardant FRP ladder type cable Tray.

- | | | |
|-----------------------------------|---|---|
| 1. Material of Tray | : | Corrosion Resistant Fire Retardant Isophthalic Resin Various Types of Glass Fibres. Glass Content > 60%. |
| 2. Length of Cable Tray | : | 2000/3000mm. |
| 3. Width of cable Tray | : | 300 mm. |
| 4. Depth of cable Tray | : | 75 mm. |
| 5. Thickness of Cable Tray | : | 4 MM. |
| 6. Side Runner | : | C-channel of 75x30x4mm. |
| 7. Rungs | : | Square Hollow Tube Of 25x25x4 mm without Holes. |
| 8. Spacing of Rungs | : | 300 mm C/C. |
| 9. Fixing of Rungs to Side runner | : | By ThermoPlastic Plug. |
| 10. Support Span | : | 1.5 Mtr. |
| 11. Allowable Loading | : | For 300 MM Width 45 Kg/Mtr. (Load test certificate shall be provided along with supply else FRP tray shall be rejected) |
| 12. Concentrated Load | : | 70 Kg at Centre Of Span.(Load test certificate shall be provided along with supply else FRP tray shall be rejected) |
| 13. Coupler plate | : | FRP Coupler Plate With SS-304 fasteners – (2 Coupler Plate with 8 set SS-304 fasteners shall Be Included for Each Cable Tray. |
| 14. Colour | : | Grey. |

Note: Load test certificate shall be (Allowable load and concentrated load) provided along with the supply of material.

Technical Specification for Desk top Personal computer

Desk top personal computer with i7, 12^h generation or higher processor, chipset mother board, 1TB SSD-SATA, 64GB RAM, 23 inch LED monitor, windows 10, 64 bit license. Key board and optical mouse, with integrated HD graphics card & LAN, communication cards. Make: HP/DELL/ACER.

Technical Specification for Instrumentation Control cable-

| | | | |
|---|---------------------|-------------------------------------|---|
| Cables: PVC insulated, PVC sheathed, Copper conductor, Armored, overall shielded control cable suitable for 1100 volts grade as per IS-1554 part - i, 1988. | | | |
| 1 | Conductor | Conductor | High conductivity electrolytic grade Annealed, Tinned Copper Conductor As Per IS- 8130, 1984/ BS 6360 |
| 2 | | Size | 24 Pair x 1Sq mm, 12Pair x 1Sq mm, 12 Core x 1Sq mm & 1 Pair x 1 sq. mm |
| 3 | | Resistance | As per IS: 8130/ 1984 |
| 4 | | Strands/Dia | 7 strands/0.43mm |
| 5 | | Persulphate Test | For Tinning as per IS: 10810 (Pt-1)/1984 |
| | | Material | Extruded PVC Type 'C' 85°C as per IS 58318/1984. |
| 7 | | Thickness (Nom) | 0.8 mm, As per IS: 1554 (Pt-1)/1988 |
| 8 | | Finish | Visual check of smoothness |
| 9 | | Colours | As per IS: 1544(Pt-1)/1988 |
| 10 | | Colour Code | Red and Black for Pair Cable |
| 11 | | Volume resistivity | For insulation resistance as per IS: 5831/1984 |
| 12 | | Tensile strength & Elongation | As per IS: 5831/1984 |
| 13 | | Thermal Stability | As per IS: 5831/1984 |
| 14 | | Material | Extruded Fire Retardant, Low Smoke, PVC type ST-2 having physical properties as per IS 5831 |
| 15 | | Oxygen Index | 30 (min) at room temp. |
| 16 | | Temperature Index | 250 °C (min) at Oxygen Index of 21 |
| 17 | | Flammability Test | As per IEC 332 Part-1 and Part-3 |
| | | Corrosivity of combustion | pH-index > 4.3, Electrolytic Conductivity as per IEC 754-2 |
| 20 | | Thickness | As per IS: 1554 (Pt-1)/1988 |
| 22 | | Size/Dia | As per IS: 3975/1988 |
| 23 | | Tensile strength & Elongation | As per IS: 3975/1988 |
| 24 | | Resistivity | As per IS: 3975/1988 |
| 25 | | Coverage | 100 % |
| 26 | | Overlapping | 25 % |
| 27 | Electrical Property | Maximum DC resistance | 12.1 ohm/Km As per IS: 1554 (Pt-1)/1988 |
| 28 | | Min Insulation Resistance at 200C | 100 M ohm/Km |
| 29 | | Mutual Capacitance | BS 5308 Part-I |
| 30 | | L/R Ratio of adjacent cores/pairs | BS 5308 Part-I |
| 31 | | Drain Wire Resistance at 200 C | 30 ohm/Km |
| 32 | | High Voltage | 1 KV for 1 Minute |
| 33 | General | Testing and Dimension of the Cables | IS: 1554 Part-I, BS 6469/BS 6346 |
| 34 | | Identification | Printing in numerals at an interval of 250 mm on each |
| 35 | Make | LAPP/HELUKABLE/TKD | |

Technical Specification for Junction Box:-

There shall be junction box with accessories for tapping signal from field instruments. The box shall be thermoplastic polycarbonate modular panels enclosure with transparent hinged lid, shock proof, IP65 ingress protection, rust proof, dust proof water proof, corrosion proof and also have internally embedded gaskets confirmed to IP65(IEC 60529) with terminal blocks of suitable size and quantity of Phoenix /Elmak make fitted in c type din rail.. Make Hensel

Technical Specification for Cable Gland:-

All cable gland shall be thermoplastic poly carbonate and compression type. The cable gland shall be dust and water proof. The cable gland size shall be suitable for cable sizes mention in BOM. The cable gland shall be threaded, IP66 with one piece of sealing ring and lock nut.

Technical Specification for PLC cum operator computer console:-

The panel shall be fabricated with 2mm CRCA MS sheet. Panel shall be treated with 7 tank process and powder coated with SIMENS GRAY similar to RITTAL panel. Necessary cable entry cutout shall be provided from the top side. 4mm thick Acrylic sheet for mimc panel cover with seal for 22" LED monitor cabinet shall be provided. Annunciator window of appropriate size shall be provided above the monitor cabinet. There shall be 2 No. cooling fan and with air louvers provided. There shall be locking facility for each cabinet. There shall be two heavy duty lifting hook shall be provided at the top side to lifting/transporting purpose.

Technical Specification for Computer operator chair:-

Chair shall be Godrej make, revolving, with leg wheels, arm rest handle, black in colour

GENERAL CONDITIONS OF CONTRACT (GCOC)
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General Conditions of Contract (GCC-Goods)

Definitions In this document, General Conditions of Contract (GCC-Goods), the following terms shall have the following respective meanings:

- 1.1 BIDDER: Designates the individual or legal entity which has made a proposal, a tender or a bid under the aim of concluding a Contract with the PURCHASER.
- 1.2 CONSULTANT [if engaged] shall mean M/s.having its registered office at..... The term consultant includes successors, assigns of M/s.
- 1.3 CONTRACT shall mean Purchase Order/ Service Contracts and all attached exhibits and documents referred to therein and all terms and conditions thereof together with any subsequent modifications thereto.
- 1.4 CONTRACT PRICE shall mean the price payable to the Seller under the Contract for the full and proper performance of his contractual obligations.
- 1.5 COMPLETION DATE shall mean the date on which the goods are successfully supplied/ commissioned by the Seller and handed over to the PURCHASER.
- 1.6 COMMERCIAL OPERATION shall mean the condition of the operation in which the complete equipment covered under the Contract is officially declared by the PURCHASER to be available for continuous operation at different loads up to and including rated capacity.
- 1.7 DELIVERY terms shall be interpreted as per INCO TERMS 2000 in case of Contract with a foreign Bidder and as the Goods-in-ward date in the case of a contract with an Indian Bidder.
- 1.8 DRAWINGS shall mean and include Engineering drawings, sketches showing plans, sections and elevations in relation to the Contract together with modifications and/or revisions thereto.
- 1.9 OFFICER-IN-CHARGE(OIC)/ENGINEER-IN-CHARGE(EIC): OFFICER-IN-CHARGE (OIC) / Engineer-in-Charge of the Project SITE shall mean the person designated from time to time by PURCHASER/CONSULTANT at SITE and shall include those who are expressly authorized by him/her to act for and on his/her behalf for operation of this CONTRACT.
- 1.10 The Officer/ Engineer-in-charge shall have authority for
- General supervision, Follow up of supply and direction of the work
 - direction to stop the work whenever such stoppage may be necessary to ensure the proper execution of the Contract
 - to reject all works and materials which do not conform to the contract The OIC/EIC shall have neither any authority to relieve the contractor of any of his duties / obligations under the contract nor ordering any work involving delay or any extra payment by IREL or making any variation of or in the work except otherwise expressly provided here-in-under or elsewhere in the contract.
- 1.11 FINAL ACCEPTANCE shall mean the PURCHASER's written acceptance of the Works performed under the Contract after successful completion of performance and guarantee test.
- 1.12 GOODS shall mean articles, materials, equipment, design and drawings, data and other property to be supplied by Seller to complete the contract.
- 1.13 INSPECTOR shall mean any person or outside Agency nominated by PURCHASER/CONSULTANT through CONSULTANT to inspect equipment, stagewise as well as final, before dispatch, at SELLER's works and on receipt at SITE as per terms of the CONTRACT.
- 1.14 INITIAL OPERATION shall mean the first integral operation of the complete equipment covered under the Contract with sub-systems and supporting equipment in service or available for service.
- 1.15 PURCHASER shall mean IREL (India) Limited (IREL) having its registered office at Plot No. 1207, Veer Savarkar Marg, Near Siddhi Vinayak Temple, Prabhadevi, Mumbai -400028. The term PURCHASER includes successors, assigns of IREL.
- 1.16 PERFORMANCE AND GUARANTEE TESTS shall mean all operational checks and tests required to determine and demonstrate capacity, efficiency and operating characteristics as specified in the Contract documents.
- 1.17 PROJECT designates the aggregate of the Goods and/or Services to be provided by one or more Contractors.
- 1.18 QUANTITIES - Bills of quantities designate the quantity calculations to be taken into account when these calculations are made from detailed or construction drawings, or from work actually performed, and presented according to a jointly agreed breakdown of the Goods and/or Services.
- 1.19 SELLER shall mean the person, firm or company with whom PURCHASE ORDER/ SERVICE CONTRACT is placed/ entered into by PURCHASER for supply of equipment, materials and services. The term Seller includes its successors and assigns.
- 1.20 SERVICE shall mean erection, installation, testing, commissioning, provision of technical assistance, training and other such obligations of the Seller covered under the Contract.
- 1.21 SITE designates the land and/or any other premises on, under, in or across which the Goods and/or Services have to be supplied, erected, assembled, adjusted, arranged and/or commissioned.
- 1.22 SPECIFICATIONS shall mean and include schedules, details, description, statement of technical data, performance characteristics, standards (Indian as well as International) as applicable and specified in the Contract.
- 1.23 SUB-CONTRACT shall mean order placed by the Seller, for any portion of the contracted work, after necessary consent and approval of PURCHASER.
- 1.24 SUB-CONTRACTOR shall mean the person named in the CONTRACT for any part of the work or any person to whom any part of the CONTRACT has been sub-let by the SELLER with the consent in writing of the CONSULTANT/PURCHASER and will include the legal representatives, successors, and permitted assigns of such person.
- 1.25 START-UP shall mean the time period required to bring the equipments covered under the Contract from an inactive condition, when construction is essentially complete to the state of readiness for trial operation. The start-up period shall include preliminary inspection and check out of equipment and supporting subsystems, initial operation of the complete equipments covered under the Contract to obtain necessary pre-trial operation data, perform calibration and corrective action, shutdown inspection and adjustment prior to the trial operation period.
- 2.0 TESTS shall mean such process or processes to be carried out by the Seller as are prescribed in the Contract or considered necessary by PURCHASER or his representative in order to ascertain quality, workmanship, performance and efficiency of equipment or part thereof.
- TESTS ON COMPLETION shall mean such tests as prescribed in the Contract to be performed by the Seller before the Works are taken over by the PURCHASER.
- SELLER TO INFORM:**
- The Seller shall be deemed to have carefully examined all contract documents to his entire satisfaction. Any lack of information shall not in any way relieve the Seller of his responsibility to fulfil his obligation under the Contract.
- CONFLICT AND INTERPRETATION OF DOCUMENTS:**
- Words imparting the singular only also include the plural and vice versa where the context requires so; words imparting persons include firms or corporations and vice versa where the context requires.
- Word imparting masculine gender includes the feminine gender and vice versa where the context requires so.
- The several documents forming the contract are to be taken as mutually explanatory of one another.
- In case conflicting statements or directives occur among the contract documents, it shall be the responsibility of the successful bidder to notify IREL, with a copy sent concurrently to the OIC/EIC, immediately in writing and obtain instructions from IREL to eliminate the conflict.
- The successful bidder shall notify IREL, with a copy sent concurrently to the EIC/OIC, promptly of any discrepancies, omissions or doubts it may have, regarding drawings, specifications or other documents. Noted or calculated dimensions shall always be followed
- In the event of conflict between various documents forming the contract, the relevant terms and conditions of the purchase order shall prevail over those of all such other documents forming the contract and binding on the contractor and IREL.
- In case of any conflict between the General Conditions of contract and the Special Conditions of the contract, the Special Conditions of contract shall prevail.
- Country of Origin:** For purposes of this Clause "Origin" means the place where the Goods were produced, or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembling of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
- SCOPE OF CONTRACT:**
- Scope of the CONTRACT shall be as defined in the PURCHASE ORDER/CONTRACT specifications, drawings and Annexure thereto.
- Completeness of the EQUIPMENT shall be the responsibility of the SELLER. Any equipment, fittings and accessories which may not be specifically mentioned in the specifications or drawings, but which are usual or necessary for the satisfactory functioning of the equipment (successful operation and functioning of the EQUIPMENT being SELLER's responsibility) shall be provided by SELLER without any extra cost.
- The SELLER shall follow the best modern practices in the manufacture of high grade EQUIPMENT notwithstanding any omission in the specifications. The true intent and meaning of these documents is that SELLER shall in all respects, design, engineer, manufacture and supply the equipment in a thorough workmanlike manner and supply the same in prescribed time to the entire satisfaction of PURCHASER.
- The SELLER shall furnish minimum three (03) copies in English language of Technical documents, final drawings, preservation instructions, operation and maintenance manuals, test certificates, spare parts catalogues for all equipment to the PURCHASER.
- The documents once submitted by the SELLER shall be firm and final and not subject to subsequent changes. The SELLER shall be responsible for any loss to the PURCHASER/CONSULTANT consequent to furnishing of incorrect data/drawings.
- All dimensions and weight should be in metric system.
- All equipment to be supplied and work to be carried out under the CONTRACT shall conform to and comply with the provisions of relevant regulations/Acts (State Government or Central Government) as may be applicable to the type of equipment/work carried out and necessary certificates shall be furnished.
- The Seller shall provide cross sectional drawings, wherever applicable, to identify the spare part numbers and their location. The size of bearings, their make and number shall be furnished by the SELLER.
- Specifications, design and drawings issued to the SELLER along with NIT/RFQ and CONTRACT are not sold or given but loaned. These remain property of PURCHASER/CONSULTANT or its assigns and are subject to recall by PURCHASER/CONSULTANT. The SELLER and his employees shall not make use of the drawings,

specifications and technical information for any purpose at any time except for manufacture against the CONTRACT and shall not disclose the same to any person, firm or corporate body, without written permission of PURCHASER/CONSULTANT. All such details shall be kept confidential.

SELLER shall pack, protect, mark and arrange for despatch of EQUIPMENT as per instructions given in the CONTRACT.

STANDARDS

The GOODS supplied under the CONTRACT shall conform to the standards mentioned in the Technical Specifications, or such other standards which ensure equal or higher quality, and when no applicable standard is mentioned, to the authoritative standard appropriate to the GOODS' country of origin and such standards shall be the latest issued by the concerned institution.

Instructions, Direction & Correspondence

The materials described in the CONTRACT are to be supplied according to the standards, data sheets, tables, specifications and drawings attached thereto and/or enclosed with the CONTRACT, itself and according to all conditions, both general and specific enclosed with the contract, unless any or all of them have been modified or cancelled in writing as a whole or in part.

a. All instructions and orders to SELLER shall, excepting what is herein provided, be given by PURCHASER/CONSULTANT.

b. All the work shall be carried out under the direction of and to the satisfaction of PURCHASER/CONSULTANT.

c. All communications including technical/commercial clarifications and/or comments shall be addressed to CONSULTANT in quintuplicate with a copy to PURCHASER and shall always bear reference to the CONTRACT.

d. Invoices for payment against CONTRACT shall be addressed to PURCHASER. The CONTRACT number shall be shown on all invoices, communications, packing lists, containers and bills of lading, etc.

e. Invoice must contain seller's GST Registration number, PAN, Bank detail of supplier, GST Registration number of IREL Factory/ Office, HSN Code for products being supplied. Supplier must submit e-way bill, e-invoice from GSTM Portal.

Contract Obligations:

If after award of the contract, the Seller does not acknowledge the receipt of award or fails to furnish the performance guarantee within the prescribed time limit, the PURCHASER reserves the right to cancel the contract and apply all remedies available to him under the terms and conditions of this contract.

Once a contract is confirmed and signed, the terms and conditions contained therein shall take precedence over the Seller's bid and all previous correspondence.

Modification in Contract:

All modifications leading to changes in the CONTRACT with respect to technical and/or commercial aspects including terms of delivery, shall be considered valid only when accepted in writing by PURCHASER/CONSULTANT by issuing amendment to the CONTRACT. Issuance of acceptance or otherwise in such cases shall not be any ground for extension of agreed delivery date and also shall not affect the performance of contract in any manner except to the extent mutually agreed through a modification of contract.

PURCHASER/CONSULTANT shall not be bound by any printed conditions or provisions in the SELLER's Bid Forms or acknowledgment of CONTRACT, invoices, packing list and other documents which purport to impose any conditions at variance with or be supplemental to CONTRACT.

Patent Rights, Liability & Compliance of Regulations:

SELLER hereby warrants that the use or sale of the materials delivered hereunder will not infringe claims of any patent covering such material and SELLER agrees to be responsible for and to defend at his sole expense all suits and proceedings against PURCHASER based on any such alleged patent infringement and to pay all costs, expenses and damages which PURCHASER and/or CONSULTANT may have to pay or incur by reason of any such suit or proceedings.

The SELLER shall indemnify the PURCHASER against all third party claims of infringement of patent, trade mark or industrial design rights arising from use of the GOODS or any part thereof in the PURCHASER's country.

SELLER shall also protect and fully indemnify the PURCHASER from any claims from SELLER's workmen/employees or their heirs, dependants, representatives, etc. or from any other person/persons or bodies/companies etc. for any acts of commissions or omission while executing the CONTRACT.

SELLER shall be responsible for compliance with all requirements under the laws and shall protect and indemnify completely the PURCHASER from any claims/penalties arising out of any infringements.

PURCHASER will promptly notify the SELLER in writing of any such claim, suit, action or proceeding coming to its attention, giving authority and all available information and assistance for the SELLER's defence of the same. If at any time the installation of the plant or any part thereof, or the use thereof in India for the purpose for which it is furnished or the sale of products produced therewith, is prevented or enjoyed because of patent infringement or claimed infringement, the SELLER shall promptly at his own expense, either procure for PURCHASER the rights to use and continue to use such plant or replace the same at his own expense with equally efficient non-infringing plant satisfactory under all requirements of the contract, so that the operation of PURCHASER's plant will not be unduly delayed or interrupted. If shipment of the plant, or any part thereof is prevented by attachment, injunction or otherwise, or in the course of transit from the SELLER's factory or other point of origin to the site of PURCHASER, as a result of any claim of patent infringement the SELLER shall, at his own cost and expense, promptly furnish and post the necessary bond or take such other steps as may be necessary to enable shipment to be made without delay. PURCHASER will have the right to retain counsel of its own choice to collaborate in the defence of any such claim, suit action or proceeding.

Inspection, Testing & Expediting

The PURCHASER or its representative shall have the right to inspect and/or to test the GOODS to confirm their conformity to the CONTRACT specifications. The special conditions of CONTRACT and/or the Technical Specifications shall specify what inspections and tests the PURCHASER requires and where they are to be conducted. The PURCHASER shall notify the SELLER in writing the identity of any representative(s) retained for these purposes.

The inspections and tests may be conducted on the premises of the SELLER or his sub-contractor(s), at point of DELIVERY and/or at the GOODS' final destination. When conducted on the premises of the SELLER or his sub-contractor (s), all reasonable facilities and assistance including access to the drawings and production data shall be furnished to the inspectors at no charge to the PURCHASER.

Should any inspected or tested GOODS fail to conform to the specifications, the PURCHASER may reject them and the SELLER shall either replace the rejected GOODS or make all alterations necessary to meet Specifications' requirements, free of cost to the PURCHASER.

The PURCHASER's right to inspect, test and where necessary reject the GOODS after the GOODS' arrival in the PURCHASER's country shall in no way be limited or waived by reason of the GOODS having previously been inspected, tested and passed by the PURCHASER, or their representative prior to the GOODS shipment from the country of origin.

The INSPECTOR shall follow the progress of the manufacture of the GOODS under the CONTRACT to ensure that the requirements outlined in the CONTRACT are not being deviated with respect to schedule and quality.

SELLER shall allow the INSPECTOR to visit, during working hours, the workshops relevant for execution of the CONTRACT during the entire period of CONTRACT validity.

In order to enable PURCHASER's representatives to carryout the inspection in time, SELLER shall notify PURCHASER 15 days before assembly, testing and packing of main EQUIPMENT. If requested, SELLER shall assist PURCHASER's representatives in getting visas in the shortest possible time (applicable only in case of foreign order).

SELLER shall place at the disposal of the INSPECTOR, free of charge, all tools, instruments, and other apparatus necessary for the inspection and/or testing of the GOODS. The INSPECTOR is entitled to prohibit the use and dispatch of GOODS and/or materials which have failed to comply with the characteristics required for the GOODS during tests and inspections.

SELLER shall advise in writing of any delay in the inspection program at the earliest, describing in detail the reasons for delay and the proposed corrective action.

ALL TESTS and trials in general, including those to be carried out for materials not manufactured by SELLER shall be witnessed by the INSPECTOR. Therefore, SELLER shall confirm to PURCHASER by fax or e-mail about the exact date of inspection with at least 30 days notice. SELLER shall specify the GOODS and quantities ready for testing and indicate whether a preliminary or final test is to be carried out.

If on receipt of this notice, should PURCHASER waive the right to witness the test, timely information will be given accordingly.

Any and all expenses incurred in connection with tests, preparation of reports and analysis made by qualified laboratories, necessary technical documents, testing documents and drawings shall be at SELLER's cost. The technical documents shall include the reference and numbers of the standards used in the construction and, wherever deemed practical by the INSPECTOR, copy of such standards.

Nothing in Article-10 shall in any way release the SELLER from any warranty or other obligations under this CONTRACT.

Arrangements for all inspections required by Indian Statutory Authorities and as specified in technical specifications shall be made by SELLER.

Inspection & Rejection of Materials by consignees:

When materials are rejected by the consignee, the supplier shall be intimated with the details of such rejected materials, as well as the reasons for their rejection, also giving location where such materials are lying at the risk and cost of the supplier. The supplier will be called upon either to remove the materials or to give instructions as to their disposal within 14 days and in the case of dangerous, infected and perishable materials within 48 hours, failing which the consignee will either return the materials to the SELLER freight to pay or otherwise dispose them off at the SELLER's risk and cost. The PURCHASER shall also be entitled to recover handling and storage charges for the period, during which the rejected materials are not removed @ 5% of the value of materials for each month or part of a month till the rejected materials are finally disposed off.

Time Schedule & Progress Reporting

Together with the Contract confirmation, SELLER shall submit to PURCHASER, his time schedule regarding the documentation, manufacture, testing, supply, erection and commissioning of the GOODS.

- Signature and seal of the contractor

SELLER'S expense in which event SELLER shall, without cost to PURCHASER and as promptly as possible, furnish and install proper materials. Repaired or replaced materials shall be similarly guaranteed by the SELLER for a period of no less than twelve (12) months from the date of replacement/repair.

In the event that the materials supplied do not meet the specifications and/or not in accordance with the drawings, data sheets or the terms of the Contract and rectification is required at site, PURCHASER shall notify the SELLER giving full details of differences. The SELLER shall attend the site within seven (7) days of receipt of such notice to meet and agree with representatives of PURCHASER, for taking the action required to correct the deficiency. Should the SELLER fail to attend meeting at Site within the time specified above, PURCHASER shall immediately rectify the work/ materials and SELLER shall reimburse PURCHASER all costs and expenses incurred in connection with such trouble or defect.

PERFORMANCE GUARANTEE OF EQUIPMENT

SELLER shall guarantee that the performance of the EQUIPMENT supplied under the CONTRACT shall be strictly in conformity with the specifications and shall perform the functions specified under the CONTRACT.

If the SELLER fails to prove the guaranteed performance of the EQUIPMENT set forth in the specification, the SELLER shall investigate the causes and carry out necessary rectifications/modifications to achieve the guaranteed performance. In case the SELLER fails to do so within a reasonable period, the SELLER shall replace the EQUIPMENT and prove guaranteed performance of the new equipment without any extra cost to PURCHASER.

If the SELLER fails to prove the guarantee within a reasonable period, PURCHASER/CONSULTANT shall have the option to take over the EQUIPMENT and rectify, if possible, the EQUIPMENT to fulfil the guarantees and/or to make necessary additions to make up the deficiency at Seller's risk and cost. All expenditure incurred by the PURCHASER/CONSULTANT in this regard shall be to SELLER's account.

Prices:

Prices charged by the SELLER for Goods delivered and services performed under the CONTRACT shall not, with the exception of any price adjustments authorized by the Contract vary from the prices quoted by the SELLER in his bid. The price indicated in the Purchase Order is firm and not subject to alteration on any account unless specified otherwise in the terms and conditions of Purchase Order. However, in case of delayed delivery, price reduction clause shall apply.

Subletting and Assignment:

The SELLER shall not without previous consent in writing of the PURCHASER, sublet, transfer or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever. Provided, nevertheless, that any such consent shall not relieve the SELLER from any obligation, duty or responsibility under the contract.

Time as Essence of Contract:

The time and date of delivery/completion of the GOODS/SERVICES as stipulated in the Contract shall be deemed to be the essence of the Contract.

Delays in The Seller's Performance:

If the specified delivery schedule is not adhered to or the progress of manufacture or supply of the items is not satisfactory or is not in accordance with the progress schedule, the PURCHASER has the right to:

- i) hire for period of delay from elsewhere goods which in PURCHASER's opinion will meet the same purpose as the goods which are delayed and SELLER shall be liable without limitation for the hire charges;
- Or
- ii) cancel the CONTRACT in whole or in part without liability for cancellation charges. In that event, PURCHASER may procure from elsewhere goods which PURCHASER's opinion would meet the same purpose as the goods for which CONTRACT is cancelled and SELLER shall be liable without limitations for the difference between the cost of such substitution and the price set forth in the CONTRACT for the goods involved; or
- iii) hire the substitute goods vide (i) above and if the ordered goods continue to remain undelivered thereafter, cancel the order in part or in full vide (ii) above.

Any un-excusable delay by the SELLER or his subcontractor shall render the SELLER liable, without prejudice to any other terms of the Contract, to any or all of the following sanctions: forfeiture of Contract performance guarantee, imposition of Liquidated Damages for delay in delivery, termination of the contract for default and purchase from another source at the risk and cost of the SELLER.

Liquidated Damages Schedule for Delayed Delivery Subject to Article -25, if the SELLER fails to deliver any or all of the GOODS or performance the services within the time period (s) specified in the CONTRACT, the PURCHASER shall, without prejudice to his other remedies under the CONTRACT, deduct from the CONTRACT PRICE, a sum calculated on the basis of the CONTRACT PRICE, including subsequent modifications.

Deductions shall apply as per following formula:

A sum equivalent to 0.5 (Half) per cent of the prices of any portion of stores delivered late, for each week or part thereof of delay. The total damages shall not exceed 10 (Ten) percent of the value of delayed goods. The LD cannot exceed the amount stipulated in the contract.

In case of delay in delivery on the part of SELLER, the invoice/document value shall be reduced proportionately for the delay and payment shall be released accordingly.

In the event the invoice value is not reduced proportionately for the delay, the PURCHASER may deduct the amount so payable by SELLER, from any amount falling due to the SELLER or by recovery against the Performance Guarantee. Both seller and PURCHASER agree that the above percentages of price reduction are genuine pre estimates of the loss/damage which the PURCHASER would have suffered on account of delay/breach on the part of the SELLER and the said amount will be payable on demand without there being any proof of the actual loss/or damage caused by such breach/delay. A decision of the PURCHASER in the matter of applicability of price reduction shall be final and binding.

Rejections, Removal of Rejected Equipment & Replacement

Preliminary inspection at SELLER's works by INSPECTOR shall not prejudice PURCHASER's/ CONSULTANT's claim for rejection of the EQUIPMENT on final inspection at SITE or claims under warranty provisions.

If the EQUIPMENTS are not of specification or fail to perform specified functions or are otherwise not satisfactory the PURCHASER/CONSULTANT shall be entitled to reject the EQUIPMENT/MATERIAL or part thereof and ask free replacement within reasonable time failing which obtain his requirements from elsewhere at SELLER's cost and risk.

Nothing in this clause shall be deemed to deprive the PURCHASER AND/OR AFFECT ANY rights under the Contract which it may otherwise have in respect of such defects or deficiencies or in any way relieve the SELLER of his obligations under the Contract.

EQUIPMENT rejected by the PURCHASER/ CONSULTANT shall be removed by the Seller at his cost within 14 days of notice after repaying the amounts received against the SUPPLY. The PURCHASER shall in no way be responsible for any deterioration or damage to the EQUIPMENT under any circumstances whatsoever.

In case of rejection of EQUIPMENT, PURCHASER shall have the right to recover the amounts, if any, from any of CONTRACTOR'S invoices pending with PURCHASER or by alternative method(s).

Termination for Default

In the event that the SELLER commits a breach of the provisions of this CONTRACT and/or fails to perform any of its obligations under this CONTRACT including but not limited to failing to deliver any or all of the GOODS within the time period (s) specified in the CONTRACT, the SELLER shall be said to have committed a default of the provisions of this CONTRACT. In the event that such default is not cured by the SELLER within 30 days of a notice issued by the PURCHASER of such default, the PURCHASER shall be entitled to terminate this CONTRACT forthwith. The PURCHASER may, at its sole discretion, extend the time for curing the default by the SELLER beyond 30 days. The PURCHASER may, without prejudice to any other remedy for breach of CONTRACT, by written notice of default sent to the SELLER, terminate the CONTRACT in whole or in part:

- A) If the SELLER fails to deliver any or all of the GOODS within the time period(s) specified in the CONTRACT; or
- B) If the SELLER fails to perform any other obligation(s) under the CONTRACT, and
- C) If the SELLER, in either of the above circumstances, does not cure his failure within a period of 30 days (or such longer period as the PURCHASER may authorize in writing) after receipt of the default notice from the PURCHASER

In the event the PURCHASER terminates the CONTRACT in whole or in part, pursuant to Article 24.1.1 the PURCHASER may procure, upon such terms and in such manner as it deems appropriate, goods similar to those undelivered and the SELLER shall be liable to the PURCHASER for any excess costs for such similar GOODS. However, the SELLER shall continue performance of the CONTRACT to the extent not terminated.

In case of termination of CONTRACT herein set forth (under clause 24) except under conditions of Force Majeure and termination after expiry of contract, the VENDOR shall be blacklisted/ Debarred as per prevailing guidelines.

Termination for Insolvency

The PURCHASER, may at any time, terminate the CONTRACT by giving written notice to the SELLER, without compensation to the SELLER, if the SELLER becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the PURCHASER.

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| 25.0 | Force Majeure |
| 25.1 | Force majeure is an event beyond the control of SELLER and not involving the SELLER's fault or negligence and which is not foreseeable, which prevents the SELLER from fulfilling its obligations under the CONTRACT. Force Majeure shall mean and be limited to the following: a) War/hostilities b) Riot or Civil commotion c) Earthquake, flood, tempest, lightening or other natural physical disaster. d) Restrictions imposed by the Government or other Statutory bodies which prevent or delay the execution of the Contract by the SELLER. The decision as to whether an event constitutes force majeure shall rest with PURCHASER which shall be final and binding. |
| 25.2 | If there is delay in performance or other failures by the SELLER to perform obligations under the contract due to event of a Force Majeure, the SELLER shall not be held responsible for such delays/failures. |
| 25.3 | If a Force Majeure situation arises, the SELLER shall promptly notify the purchaser in writing of such conditions and the cause thereof within fifteen days of occurrence of such event. Unless otherwise directed by the Purchaser in writing, the SELLER shall continue to perform its obligations under the contract as far as reasonable/practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. |
| 25.4 | If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period of exceeding 120 days, PURCHASER may at its option terminate the contract without any financial repercussion on either side. |
| 26.0 | <u>Resolution of Disputes/ Arbitration:</u> |
| 26.1 | The PURCHASER and the SELLER shall make every effort to resolve amicably by direct informal, good faith negotiations any disagreement or dispute arising between them under or in connection with the contract. |
| 26.2 | If, after thirty days from the commencement of such informal negotiations, the PURCHASER and the SELLER have been unable to resolve the disagreement or dispute, the same be referred for resolution to the formal mechanism as specified hereunder. |
| 26.3 | Legal Construction: The Contract shall in all respects be construed and operated as an Indian Contract and in accordance with Indian Laws as in force for the time being. |
| 26.4 | <u>Arbitration:</u> a) All disputes and differences of any kind whatsoever arising out of or in connection with the contract or carrying out of the works (whether during the course of works or after their completion and whether before or after termination, abandonment or breach of contract) shall be referred to and settled by the person authorized and notified in writing by PURCHASER who shall state his decision in writing. Such a decision may be in the form of a final certificate or otherwise and shall be made within a period of 30 days from the date of receipt of such reference to them. b) If the SELLER is dissatisfied with the decision of such authorized person, then he may within 30 days of receipt of such decision send a written appeal to PURCHASER, represented by the Chairman and Managing Director at the registered office, Mumbai for the same to be referred to Arbitration by a Sole Arbitrator to be appointed by mutual consent and after due approval of CMD, IREL. The Arbitration proceedings shall be conducted as per the provisions of the Arbitration and Conciliation Act, 1996. It is made clear that this Arbitration Clause shall be applicable to any and all disputes and differences between the Parties arising out of and/or relating to this CONTRACT and the Parties shall be bound to refer the same to arbitration in accordance with the procedure contemplated herein c) If the period of 30 days under Clause (b) has expired at any stage, stipulated in the preceding paras without any response from the SELLER before such expiry, the SELLER is deemed to have communicated his satisfaction to the decision of PURCHASER at the relevant stage and all his rights of further appeal or as the case may be and adjudication are deemed to have been waived once and for all. d) The seat of arbitration will be at Mumbai and language thereof shall be English. e) Notwithstanding the invocation, commencement and/or pendency any dispute resolution proceedings under this Clause 26.0 including arbitration under Clause 26.4, the SELLER shall continue to be bound by the provisions of the CONTRACT, if not terminated by the EMPLOYER, and shall be obligated to discharge its obligations under the CONTRACT including continuation of the WORK under the CONTRACT. f) The Bidder shall not in any way delay or default or cause to delay or default the carrying out of the works by reason of the fact that any matter has been agreed to be referred for dispute resolution under Clause 26.0 including Arbitration under Clause 26.4. |
| 26.5 | Jurisdiction The courts at Kochi only shall, subject to Arbitration Clause, have exclusive jurisdiction to deal with and decide any matter arising out of this contract. |
| 27. | <u>Taxes & Duties</u> |
| 27.1 | A foreign Seller shall be entirely responsible for all taxes, stamp duties, licence fees, and other such levies imposed outside the PURCHASER's country. |
| 27.2 | A domestic Seller shall be entirely responsible for all taxes, duties, licence fees etc. incurred until the delivery of the contracted goods to the PURCHASER. However, GST on finished products shall be reimbursed by PURCHASER. Seller need to prepare E-Invoice under GST and submit monthly/ quarterly GST Return as per GST Rules. Failure to submit GST Return on time as per GST Rules may result into deduction of GST while processing suppliers' Bill. |
| 27.3 | Customs duty payable in India for imported goods ordered by PURCHASER on foreign Seller shall be borne and paid by PURCHASER. |
| 27.4 | Any income tax payable in respect of supervisory services rendered by foreign Seller under the Contract shall be as per the Indian Income Tax Act and shall be borne by SELLER. It is upto the bidder/seller to ascertain the amount of these taxes and to include them in his bid price. |
| 28. | <u>Permits & Certificates</u> |
| 28.1 | SELLER shall procure, at his expense, all necessary permits, certificates and licences required by virtue of all applicable laws, regulations, ordinances and other rules in effect at the place where any of the work is to be performed, and SELLER further agrees to hold PURCHASER and/or CONSULTANT harmless from liability or penalty which might be imposed by reason of any asserted or established violation of such laws, regulations, ordinances or other rules. PURCHASER will provide necessary permits for SELLER's personnel to undertake any work in India in connection with Contract. |
| 29. | <u>Fall Clause</u> |
| 29.1 | The price charged for the materials supplied under the order by the supplier shall in no event exceed the lowest price at which the supplier or his agent/principal/dealer, as the case may be, sells the materials of identical description to any Persons/Organizations including the Purchaser or any Department of the Central Govt. or any Department of a State Govt. or any Statutory Undertaking of the Central or State Govt. as the case may be, during the currency of the order. |
| 29.2 | If at any time during the said period, the supplier or his agent/principal/dealer, as the case may be, reduces the sale price, sells or offers to sell such materials to any persons/organizations including the Purchaser or any Deptt. Of Central Govt. or State Govt. as the case may be, at a price lower than the price chargeable under the order, he shall forthwith notify such reduction or sale or offer of sale to the Purchase Authority who has issued this order and the price payable under the order for the materials supplied after the date of coming into force of such reduction or sale or offer of sale shall stand correspondingly reduced. The above stipulation will, however, not apply to: a) Exports by the Contractor/Supplier or b) Sale of goods as original equipment at prices lower than the prices charged for normal replacement c) Sale of goods such as drugs which have expiry dates. |
| 29.3 | The supplier shall furnish the following certificate to the concerned Paying Authority along with each bill for payment for supplies made against this order:- "I/We certify that there has been no reduction in sale price of the items/goods/materials of description identical to those supplied to the PURCHASER under the order herein and such items/goods/materials have not been offered/sold by me/us to any person/organizations including the Purchaser or any Deptt. of Central Govt. or any Deptt. of State Govt. or any Statutory Undertaking of the Central or State Govt. as the case may be upto the date of bill/during the currency of the order whichever is later, at a price lower than the price charged to the PURCHASER under the order". Such a certificate shall be obtained, except for quantity of items/goods/materials categories under sub-clause (a), (b) & (c) of sub-para 29.2 above, of which details shall be furnished by the supplier. |
| 30.0 | <u>Limitation of Liability</u> Notwithstanding anything contrary contained herein, the aggregate total liability of Seller under the Agreement or otherwise shall be limited to 100% of Agreement / Order price. However, neither party shall be liable to the other party for any indirect and consequential damages, loss of profits or loss of production. |
| 31.0 | <u>Method of blacklisting vendors</u> |
| 31.1 | Any failure by the vendor (SELLER) to supply/execute the contract as per order may result in blacklisting of vendors by the PURCHASER through its competent authority. The blacklisted vendor shall not be considered for a minimum period of one year from the date of blacklisting. |

- 31.2 Further the competent authority may blacklist the bidder, if the bidder changes bid (either techno-commercial and / or price) or withdraw his bid after receipt of the same and during the validity period of bid.
- 31.3 Further, the vendor (SELLER) shall be banned from doing any business with the PURCHASER, indefinitely or for such period as may be determined by the PURCHASER at its sole discretion, in case of :
- a. If security considerations including question of loyalty to the state so warrant.
- b. If the proprietor, partner, Director's representative of the SELLER is convicted by a court of law following prosecution for any offences including offences relating to business commercial dealings.
- c. If there is strong justification, as determined by the PURCHASER at its sole discretion, for believing that the proprietor or employee or representative of the SELLER has been guilty of malpractice such as bribery, corruption, fraud, substitution of tenders, interpolation, misrepresentation, evasion or habitual default in payment of any tax levied by law, etc.
- 31.4 An order for ban/ suspension passed for a certain specified period shall be deemed to have been automatically revoked on expiry of that specified period and it will not be necessary to issue a specific formal order of revocation, except that an order of suspension/ban passed on account of doubtful loyalty or security consideration shall continue to remain in force until it is specifically revoked in writing.
- 31.5 An order of ban on grounds of conviction by Court of Law may be revoked if, in respect of the same facts, the SELLER has been wholly acquitted by a court of law.
- 32.0 **Secrecy**
- The SELLER shall not at any time during the pendency of the contract or thereafter disclose any information furnished to them by PURCHASER or any drawings, designs, reports and other documents and information prepared by the Contractor for this contract, without the prior written approval of PURCHASER except in so far as such disclosure is necessary for the performance of the Contractor's work and service hereunder.
33. **General**
- 33.1 In the event that terms and conditions stipulated in the General Conditions of Contract should deviate from terms and conditions stipulated in the Contract, the latter shall prevail. Any specific Terms / Conditions mentioned in PO will supersede this GCC.
- 33.2 Losses due to non-compliance of Instructions: Losses or damages occurring to the PURCHASER owing to the SELLER's failure to adhere to any of the instructions given by the PURCHASER/CONSULTANT in connection with the contract execution shall be recoverable from the SELLER.
- 33.3 Recovery of sums due: All costs, damages or expenses which the PURCHASER/CONSULTANT may have paid, for which under the contract, SELLER is liable, may be recovered by the PURCHASER (he is hereby irrevocably authorized to do so) from any money due to or becoming due to the SELLER under this Contract or other Contracts and/or may be recovered by action at law or otherwise. If the same due to the SELLER be not sufficient to recover the recoverable amount, the SELLER shall pay to the PURCHASER, on demand, the balance amount.
- 33.4 Payments, etc. not to affect rights of the PURCHASER: No sum paid on account by the PURCHASER nor any extension of the date for completion granted by the PURCHASER shall affect or prejudice the rights of the PURCHASER against the SELLER or relieve the SELLER of his obligation for the due fulfillment of the CONTRACT.
- 33.5 Cut-off Dates : No claims or correspondence on this Contract shall be entertained by the PURCHASER/Consultant after 90 days after expiry of the performance guarantee (from the date of final extension, if any).
- 33.6 Paragraph heading: The paragraph heading in these conditions shall not affect the construction thereof
- 34.0 **RISK PURCHASE CLAUSE**
- After award of the contract, if the tenderer fails to execute the work as per tender or at any time repudiates the order, IREL (India) Limited has the right to forfeit and invoke the security deposit and execute the order from other agencies at the risk and cost of the tenderer. The cost difference between the alternative arrangements and total contract value will be recovered from the tenderer along with other incidental charges. In case of execution of order through alternative sources and if price is lower, no benefit on this account will be passed on to the tenderer.

"ETHICS IN TENDERING & OTHER BUSINESS DEALINGS"

Dear Sir,

IREL (India) LIMITED, a Government of India undertaking under the administrative control of Department of Atomic Energy is doing its business as per the rules and regulation of the Public Sector Undertaking and other statutory agencies. The business is done in an ethical, rational & impartial manner with good corporate governance.

In our endeavour to be more transparent in our dealings and to support our ideology all Vendors, Customers and Business Partners are requested not to provide any gift and / or inducement to any of our employees for securing / being granted favour in dealings with our Company. In assurance of your commitment to the aforesaid, it will be highly appreciated if you fill up, sign and abide by the attached undertakings.

Report of any gifts and / or inducements sought by any employee of the company should be immediately reported to any one of the following:

| | |
|--|---|
| Chairman & Managing Director IREL (India) Limited 1207, V.S. Marg, Prabhadevi Mumbai 400 028. Ph: 022-24225778 E-mail: cmd@irel.co.in | Chief Vigilance Officer IREL (India) Limited 1207, V.S. Marg, Prabhadevi Mumbai 400 028. Ph: 022-24221068 E-mail: cvo@irel.co.in |
|--|---|

We assure you that complaints if any made by you on the subject will be kept confidential and fair investigation will be conducted and appropriate action will be taken. Similarly, we accept your commitment to the undertaking and its violation will have consequences as per prevailing rule of the Company.

Thanking you,

For IREL (India) Limited

Name -----

Designation -----

Date:

आईआरईएल (इंडिया) लिमिटेड IREL (India) Limited

रेअरअर्थ्सप्रभाग Rare Earths Division

TECHNICAL DEVIATION STATEMENT FORM

TENDER NO:

Name of Work:

The bidder has to quote as per technical specification and requirement of the bid. No deviation is expected. However in case of any deviation, the same has to be recorded clearly in the technical deviation statement form.

The following are the particulars of deviations from the requirements of the Tender specifications.

| CLAUSE | DEVIATION (Including Justification) | REMARKS |
|--------|--|---------|
| | | |

Signature & Seal of the Tenderer

Dated:

Note:

- where there is no deviation, the statement should be returned duly signed with an endorsement indicating 'No deviations'. If not endorsed, it will be considered as 'No deviation'.
- The technical specifications furnished in the Tender document shall prevail over those of any other document forming a part of our Tender, except only to the extent of deviations furnished in the statement.

UNDERTAKING TO BE SUBMITTED BY BIDDERS FOR ADOPTING ETHICAL PRACTICES

Date:

IREL (India) Limited
1207, V.S. Marg, Prabhadevi
Mumbai 400 028.

I / We am / are a Vendor / Customer of IREL(India) Limited
(now onwards to be referred as Company).

I / We agree and undertake:

Not to provide any gift and / or inducement to any employee of the Company in connection with securing /
being granted favour (s) in my / our dealings with the Corporate office of the company and / or its any field
units namely MK, Chavara, OSCOM, RED & IRERC.

To immediately report any gift and / or inducement sought by any employee of the Company granting
favour(s) to me / us in my / our dealings with the Company and / or its field units.

Signature.....

Name.....

Title.....

Name of the Company and Address (with Seal).....

IREL Bank Details

| | |
|------------------------|---|
| Name of Bank | State Bank of India, Udyogamandal Branch, Udyogamandal |
| Account Type | Current Account |
| Name of Account holder | IREL(India) Limited |
| Account Number | 57017844321 |
| IFSC Code | SBIN0070158 |
| MICR Code | 682002926 |

Details of payment to be uploaded as attachment during tender submission and the same shall be e-mailed to:
purchase-red@irel.co.in

Bidders (Pl. Provide the details):

- 1. Name of the Bank :**
-
- 2. Account Type :**
- 3. Account Number :**
- 4. IFSC Code :**

| VENDOR UP-DATION DETAILS | | | |
|--------------------------|---|--------------------------------------|----|
| SI # | Organisation Details | | |
| 1 | Name | | |
| 2 | Address Type (Sales office address / Office Address / warehouse Address / Factory Address) | | |
| | Building /House Number | | |
| | Area/Street Name | | |
| | City | | |
| | State | | |
| | Pin Code | | |
| | Contact Details | Ph No: | |
| | | Mobile No. | |
| | | Email: | |
| 3 | Vendor Type (Domestic / Import) | | |
| 4 | Ownership Information (Private Limited Company/ One Person Company/ Limited Liability Partnership/ Partnership Firm / Proprietorship/ Co-Operative Society/ Trust/ Others). | | |
| 5 | Nature Of Business (Manufacturer/ Dealer/ Trader/ Distributor/ Stockiest/ Channel Partner/ Indian Sales Office/ Subsidiary of Registered foreign supplier/ Indian Agents/ Service Provider) | | |
| 6 | Whether Approved By Any Central Government/State Government/ Public Sector Undertakings /Reputed Private Organisations for similar items, for which registration is sought. | | |
| 7 | PAN No. | Copy of the same may be attached. | |
| 8 | GSTIN ID | | |
| 9 | Audited copies of P&L for the last three FY | | |
| 10 | Valid MSE Udyam registration certificate, if any. | Yes | No |
| 11 | MSE ownership details. | | |
| 12 | ISO Certification if any | | |
| 13 | Registered in GEM Portal | Yes | No |
| 14 | MSE to confirm if they are registered from TReDs platform | Yes | No |
| 15 | Whether supplier/Service Provider is a Start- Up Enterprise. If yes provide the details. | | |
| 16 | Whether she Company is under Litigation/Arbitration cases during last 5 | Yes | No |

| | | | |
|----|--|--|--|
| | years? | | |
| 17 | Whether company has been delisted/debarred from business with any PSU in India, and the reasons thereof? | | |
| 18 | Bank Details | | |
| | Name of bank: | | |
| | Name of Bank Branch: | | |
| | City/Place: | | |
| | Account Number: | | |
| | Account Type: | | |
| | IFSC Code: | | |
| | MICR Code: | | |
| | Swift Code | | |
| | Self-attested or Bank attested Bank details on Company letterhead or cancelled cheque | | |
| | Current year Solvency Certificate | | |

PROFORMA FOR BANK GUARANTEE FOR EARNEST MONEY DEPOSIT

In accordance with Notice Inviting Tender (NIT) No. _____ Dated _____ for the work of _____ (herein after referred to as "the said Works") for Rs. _____ (Rupees _____ only), under RED unit of M/s IREL (India) Limited, a company incorporated under Indian Companies Act, having its registered office at Plot No.1207, ECIL building, Opp. to Siddhivinayak Temple, Veer Savarkar Marg, Prabhadevi, Mumbai - 400028, India (herein after referred to as IREL), M/s _____ Address _____ [Herein after referred to as Contractor (s)] wish /wishes to participate in the said tender and a Bank Guarantee for the sum of Rs. _____ (in words) valid for a period of _____ days (in words) is required to be submitted by the Bidder towards the Bid Security.

We the _____ Bank (hereinafter called the said Bank) do hereby undertake to pay to IREL, the sum of Rs. _____ (Rupees _____ only) by reason of the said tenderer's failure to enter into an agreement of contract on intimation of acceptance of his tender and/or to commence the contract works and/or failure to deposit the security deposit within the stipulated period as per the terms and conditions relating to and/or governing the contract and/or specified in the Notice Inviting Tender (NIT). We also agree that any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. We also agree that notwithstanding any dispute or difference or any litigation in respect of or arising from the said contract and/or the acceptance of the tender of the tenderer afore stated by IREL including the question as to the tenability of the claim of the IREL for forfeiting the Earnest Money being the Bank Guarantee herein, we shall forthwith pay the said amount to IREL on demand being made as aforesaid.

We _____ Bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for entering into an Agreement of contract and that it shall continue to be enforceable till all the dues of the IREL under the terms and conditions of the NIT for the work have been fully paid and its claims satisfied or discharged or till IREL certifies, that the terms and conditions of the NIT have been fully and properly carried out by the said tenderer and accordingly discharges the guarantee.

We _____ Bank further agree with the IREL that the IREL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the NIT and/or terms and conditions governing the contract or to extend the time of validity of the offer from the said tenderer from time to time or to postpone for any time or from time to any of the powers exercisable by the IREL against the said tenderer and to forbear or enforce any of the terms and conditions of the NIT and we shall not be relieved from our liability hereunder by reason of any such variation, or extension being granted to the said tenderer or for any forbearance, act or omission on the part of the IREL or any indulgence by the IREL to the said tenderer or by any such matter or thing whatsoever which under the law relating to surety/guarantee would but for this provision have effect of so relieving us.

We _____ Bank do hereby further agree that any change in the Constitution of the said tenderer or the Bank will not affect the validity of this guarantee.

We _____ Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the IREL in writing.

Notwithstanding anything to the contrary contained herein before :

- (i) Our Liability under this Bank Guarantee shall not exceed and restricted to Rs..... (in words)
- (ii) (ii) This Bank Guarantee shall be valid upto, unless extended on demand.
- (iii) (iii) The bank is liable to pay the guaranteed amount or any part thereof under this bank Guarantee only if IREL serve a written claim or demand on or before (Three months from the expiry of Guarantee period)

Dated the _____ day of _____ 20—

_____ Bank

(Signature with name in Block letters with designation,

Attorney as per power of Attorney No.____dt. ____)

Bank's Common seal

Bid Document/ बिड दस्तावेज़

| Bid Details/बिड विवरण | |
|--|--|
| Bid End Date/Time/बिड बंद होने की तारीख/समय | 10-04-2025 15:00:00 |
| Bid Opening Date/Time/बिड खुलने की तारीख/समय | 10-04-2025 15:30:00 |
| Bid Offer Validity (From End Date)/बिड पेशकश वैधता (बंद होने की तारीख से) | 90 (Days) |
| Ministry/State Name/मंत्रालय/राज्य का नाम | Pmo |
| Department Name/विभाग का नाम | Department Of Atomic Energy |
| Organisation Name/संगठन का नाम | Irel (india) Limited |
| Office Name/कार्यालय का नाम | Ho |
| क्रेता ईमेल/Buyer Email | bycon1.irel.kerala@gembuyer.in |
| Total Quantity/कुल मात्रा | 5543 |
| Item Category/मद केटेगरी | Title1 , Title2 , Title3 , Title4 , Title5 , Title6 , Title7 , Title8 , Title9 , Title10 , Title11 , Title12 , Title13 , Title14 , Title15 , Title16 , Title17 , Title18 , Title19 , Title20 , Title21 , Title22 , Title23 , Title24 , Title25 , Title26 , Title27 , Title28 , Title29 , Title30 , Title31 , Title32 , Title33 , Title34 , Title35 , Title36 , Title37 , Title38 , Title39 , Title40 , Title41 , Title42 , Title43 , Title44 , Title45 , Title46 , Title47 |
| GeMARPTS में खोजी गई स्ट्रिंग / Searched Strings used in GeMARPTS | Supply, Erection, Commissioning and Performance Testing of Instrumentation & Automation Package |
| GeMARPTS में खोजा गया परिणाम / Searched Result generated in GeMARPTS | Category not available on GeM for the text string uploaded by the buyer |
| अधिसूचना के लिए चयनित प्रासंगिक श्रेणियाँ / Relevant Categories selected for notification | <ul style="list-style-type: none"> Supervisory Control and Data Acquisition (SCADA) Lab Kit |
| BOQ Title/बीओक्यू शीर्षक | Supply Erection Commissioning and Performance Testing of Instrumentation and Automation package |
| Minimum Average Annual Turnover of the bidder (For 3 Years)/बिडर का न्यूनतम औसत वार्षिक टर्नओवर (3 वर्षों का) | 31 Lakh (s) |
| MSE Exemption for Years Of Experience/अनुभव के वर्षों से एमएसई छूट/ and Turnover/टर्नओवर के लिए एमएसई को छूट प्राप्त है | Yes |

| Bid Details/बिड विवरण | |
|---|--|
| Startup Exemption for Years Of Experience/अनुभव के वर्षों से स्टार्टअप छूट/ and Turnover/ टर्नओवर के लिए स्टार्टअप को छूट प्राप्त है | Yes |
| Document required from seller/विक्रेता से मांगे गए दस्तावेज | Experience Criteria,Bidder Turnover,Certificate (Requested in ATC),Additional Doc 1 (Requested in ATC),Additional Doc 2 (Requested in ATC),Additional Doc 3 (Requested in ATC),Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer |
| Do you want to show documents uploaded by bidders to all bidders participated in bid?/ | No |
| Bid to RA enabled/बिड से रिवर्स नीलामी सक्रिय किया | No |
| Type of Bid/बिड का प्रकार | Two Packet Bid |
| Primary product category | Title1 |
| Time allowed for Technical Clarifications during technical evaluation/तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय | 2 Days |
| Inspection Required (By Empanelled Inspection Authority / Agencies pre-registered with GeM) | No |
| Estimated Bid Value/अनुमानित बिड मूल्य | 10366640 |
| Payment Timelines | Payments shall be made to the Seller within 30 days of issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills (This is in supersession of 10 days time as provided in clause 12 of GeM GTC) |
| Evaluation Method/मूल्यांकन पद्धति | Total value wise evaluation |
| Financial Document Required/वित्तीय दस्तावेज की आवश्यकता है। | Yes |
| Arbitration Clause | No |
| Mediation Clause | No |

EMD Detail/ईएमडी विवरण

| | |
|-----------------------------|---------------------|
| Advisory Bank/एडवाइजरी बैंक | State Bank of India |
| EMD Amount/ईएमडी राशि | 175706 |

ePBG Detail/ईपीबीजी विवरण

| | |
|--|---------------------|
| Advisory Bank/एडवाइजरी बैंक | State Bank of India |
| ePBG Percentage(%) / ईपीबीजी प्रतिशत (%) | 5.00 |
| Duration of ePBG required (Months) / ईपीबीजी की अपेक्षित अवधि (महीने). | 19 |

(a). EMD EXEMPTION: The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category as per GeM GTC with the bid. Under MSE category, only manufacturers for goods and Service Providers for Services are eligible for exemption from EMD. Traders are excluded from the purview of this Policy./जेम की शर्तों के अनुसार ईएमडी छूट के इच्छुक बिडर को संबंधित कैटेगरी के लिए बिड के साथ वैध समर्थित दस्तावेज प्रस्तुत करने हैं। एमएसई कैटेगरी के अंतर्गत केवल वस्तुओं के लिए विनिर्माता तथा सेवाओं के लिए सेवा प्रदाता ईएमडी से छूट के पात्र हैं। व्यापारियों को इस नीति के दायरे से बाहर रखा गया है।

(b). EMD & Performance security should be in favour of Beneficiary, wherever it is applicable./ईएमडी और संपादन जमानत राशि, जहां यह लागू होती है, लाभार्थी के पक्ष में होनी चाहिए।

Beneficiary/लाभार्थी :

DGM (A&E)
IREL (India) Limited, RED, Udyogamandal
(Kamalam.p)

MII Purchase Preference/एमआईआई खरीद वरीयता

| | |
|--|-----|
| MII Purchase Preference/एमआईआई खरीद वरीयता | Yes |
|--|-----|

MSE Purchase Preference/एमएसई खरीद वरीयता

| | |
|---|-----|
| MSE Purchase Preference/एमएसई खरीद वरीयता | Yes |
|---|-----|

1. If the bidder is a Micro or Small Enterprise as per latest definitions under MSME rules, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.
2. If the bidder is a Startup, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to their meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.
3. The minimum average annual financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year, should be as indicated above in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3-year-old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
4. Preference to Make In India products (For bids < 200 Crore): Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local

content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020. Only Class-I and Class-II Local suppliers as per MII order dated 4.6.2020 will be eligible to bid. Non - Local suppliers as per MII order dated 04.06.2020 are not eligible to participate. However, eligible micro and small enterprises will be allowed to participate .The buyers are advised to refer the OM No.F.1/4/2021-PPD dated 18.05.2023.

[OM No.1 4 2021 PPD dated 18.05.2023](#) for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017.

5. Purchase preference will be given to MSEs having valid Udyam Registration and whose credentials are validated online through Udyam Registration portal as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail themselves of the Purchase preference, the bidder must be the manufacturer / OEM of the offered product on GeM. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises and hence resellers offering products manufactured by some other OEM are not eligible for any purchase preference. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service and Buyer will decide eligibility for purchase preference based on documentary evidence submitted, while evaluating the bid. If L-1 is not an MSE and MSE Seller (s) has / have quoted price within L-1+ 15% (Selected by Buyer) of margin of purchase preference /price band defined in relevant policy, such MSE Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total quantity. The buyers are advised to refer the OM No. F.1/4/2021-PPD dated 18.05.2023 [OM No.1 4 2021 PPD dated 18.05.2023](#) for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017. Benefits of MSE will be allowed only if seller is validated on-line in GeM profile as well as validated and approved by Buyer after evaluation of documents submitted.

6. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

Pre Bid Detail(s)

| Pre-Bid Date and Time | Pre-Bid Venue |
|-----------------------|---|
| 02-04-2025 11:00:00 | IREL (India) Limited, RED, Udyogamandal |

Title1

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/कमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

| | |
|------------------------|---------------------------|
| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 2 | 300 |

Title2

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title3

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title4

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 3 | 300 |

Title5

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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BOQ Detail Document[View File](#)

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 9 | 300 |

Title6

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ**Specification Document**[View File](#)**BOQ Detail Document**[View File](#)

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 4 | 300 |

Title7

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|-----------------------|--|---|------------------------|-------------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 4 | 300 |

Title8

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|-----------------------|--|---|------------------------|-------------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title9

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| BOQ Detail Document | View File |

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Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title10

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 250 | 300 |

Title11

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 2 | 300 |

Title12

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 750 | 300 |

Title13

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 750 | 300 |

Title14

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 300 | 300 |

Title15

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| BOQ Detail Document | View File |

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Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 300 | 300 |

Title16

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

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Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 4 | 300 |

Title17

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 5 | 300 |

Title18

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier

respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|-----------------------|--|---|------------------------|-------------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 40 | 300 |

Title19

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
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| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 40 | 300 |

Title20

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title21

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title22

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 2 | 300 |

Title23

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 300 | 300 |

Title24

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title25

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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BOQ Detail Document[View File](#)

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 2 | 300 |

Title26

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ**Specification Document**[View File](#)**BOQ Detail Document**[View File](#)

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title27

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|-----------------------|--|---|------------------------|-------------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title28

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|-----------------------|--|---|------------------------|-------------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 3 | 300 |

Title29

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 9 | 300 |

Title30

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 4 | 300 |

Title31

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 4 | 300 |

Title32

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title33

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title34

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 250 | 300 |

Title35

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 750 | 300 |

Title36

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|-----------------------|--|---|------------------------|-------------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 750 | 300 |

Title37

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|-----------------------|--|---|------------------------|-------------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 300 | 300 |

Title38

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier

respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|-----------------------|--|---|------------------------|-------------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 300 | 300 |

Title39

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|-----------------------|--|--------------------|------------------------|-------------------------------------|
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| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 4 | 300 |

Title40

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 5 | 300 |

Title41

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 40 | 300 |

Title42

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 40 | 300 |

Title43

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title44

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 2 | 300 |

Title45

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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BOQ Detail Document[View File](#)

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 300 | 300 |

Title46

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ**Specification Document**[View File](#)**BOQ Detail Document**[View File](#)

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 1 | 300 |

Title47

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)

Technical Specifications/तकनीकी विशिष्टियाँ

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| Specification Document | View File |
| BOQ Detail Document | View File |

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

| S.No./क्र. सं. | Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी | Address/पता | Quantity/मात्रा | Delivery Days/डिलीवरी के दिन |
|----------------|---|---|-----------------|------------------------------|
| 1 | Anil Kumar.V.A | 683501,IREL (India) Limited; UDYOGMANDAL,Ernakulam. | 2 | 300 |

Buyer Added Bid Specific Terms and Conditions/क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें

1. Generic

OPTION CLAUSE: The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity up to 25% of the contracted quantity during the currency of the contract at the contracted rates. The delivery period of quantity shall commence from the last date of original delivery order and in cases where option clause is exercised during the extended delivery period the additional time shall commence from the last date of extended delivery period. The additional delivery time shall be $(\text{Increased quantity} \div \text{Original quantity}) \times \text{Original delivery period (in days)}$, subject to minimum of 30 days. If the original delivery period is less than 30 days, the additional time equals the original delivery period. The Purchaser may extend this calculated delivery duration up to the original delivery period while exercising the option clause. Bidders must comply with these terms.

2. Generic

Bidder shall submit the following documents along with their bid for Vendor Code Creation:

- Copy of PAN Card.
- Copy of GSTIN.
- Copy of Cancelled Cheque.
- Copy of EFT Mandate duly certified by Bank.

Disclaimer/अस्वीकरण

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. If any clause(s) is / are incorporated by the Buyer regarding following, the bid and resultant contracts shall be treated as null and void and such bids may be cancelled by GeM at any stage of bidding process without any notice:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum issued by DPIIT in this regard.
2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process. (However, in bids for [attached categories](#), trials are allowed as per approved procurement policy of the buyer nodal Ministries)
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

All GeM Sellers / Service Providers are mandated to ensure compliance with all the applicable laws / acts / rules including but not limited to all Labour Laws such as The Minimum Wages Act, 1948, The Payment of Wages Act, 1936, The Payment of Bonus Act, 1965, The Equal Remuneration Act, 1976, The Payment of Gratuity Act, 1972 etc. Any non-compliance will be treated as breach of contract and Buyer may take suitable actions as per GeM Contract.

[This Bid is also governed by the General Terms and Conditions/ यह बिड सामान्य शर्तों के अंतर्गत भी शासित है](#)

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws./जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो। बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्यवाई का आधार होगा।

---Thank You/धन्यवाद---