

आई आर ई एल (इंडिया) लिमिटेड (भारत सरकार का उपक्रम)  
(पहले इंडियन रेअर अर्थ्स लिमिटेड), चवरा-691583, कोल्लमजिला, केरल  
IREL (India) Limited (A Government of India Undertaking)  
(Formerly Indian Rare Earths Limited), CHAVARA - 691 583, KOLLAM DIST., KERALA  
CIN: U15100MH1950GOI008187. GSTIN: 32AAACI2799F1ZN

**घोषणा सहित निविदा विनिर्देश**  
**Tender specifications including declaration**



**REQUEST FOR PROPOSAL (RFP) FOR  
SELECTION OF AGENCY FOR  
PROCUREMENT, SUPPLY, TRANSPORTATION, DISMANTLING, ERECTION AND  
COMMISSIONING OF  
PRE HUS FACILITY  
AT  
IREL (India) Limited, Chavara  
ON  
ENGINEERING PROCUREMENT CONSTRUCTION (EPC) BASIS  
Tender No: IREL/Chavara/180/25-26**

**IREL (India) Limited**  
(Formerly Indian Rare Earths Limited)  
(A Government of India Undertaking)  
**CHAVARA, KOLLAM, KERALA 691 583**  
**CIN: U15100MH1950GOI008187**  
**GSTIN: 32AAACI2799F1ZN**

**Note:** Page No. 4 (containing 'Undertaking' and 'Declaration') and Page No. 28(containing 'Bank/Remittance Details' and 'Registration Details') shall be filled in, signed, seal-affixed and submitted along with the bid.

## **DISCLAIMER**

The information contained in this Request for Proposal document (the “RFP” or “Bidding Document”) or subsequently provided to Bidder(s), whether verbally or in documentary or any other form, by or on behalf of IREL or any of its employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided. The information provided is only for the information and reference of the Bidders.

This RFP is not an agreement and is neither an offer by IREL to the prospective Bidder(s) or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their bid for participation in this RFP (the “Bid”). This RFP includes statements, which reflect various assumptions and assessments arrived at by IREL in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for IREL, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP may not be complete, accurate, adequate or correct. Each Bidder should therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidder(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. IREL accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

IREL, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Bidder, under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way with qualification of Bidders for participation in the Bidding Process. IREL also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFP. IREL may, in its absolute discretion but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFP.

The issue of this RFP does not imply that IREL is bound to select and short-list qualified Bids for Price Bid stage or to appoint the Selected Bidder for the Project, and IREL reserves the right to reject all or any of the Bids without assigning any reasons whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by IREL or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will remain with the Bidder and IREL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Bid, regardless of the conduct or outcome of the Bidding Process.

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### 3. 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 undertaking.

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

<p><b>Shri. S B Mohanty</b> अध्यक्ष एवं प्रबंधक निदेशक / Chairman &amp; Managing Director आईआरईएल (इंडिया) लिमिटेड / IREL (India) Limited 1207, वी एस मार्ग, प्रभादेवी/1207, V.S. Marg, Prabhadevi मुंबई / Mumbai - 400 028 Ph: 022-24225778 Email: <a href="mailto:cmd@irel.co.in">cmd@irel.co.in</a></p>	<p><b>Shri. Ajithkumar Sontakke</b> मुख्य सतर्कता अधिकारी / Chief Vigilance Officer आईआरईएल (इंडिया) लिमिटेड / IREL (India) Limited 1207, वी एस मार्ग, प्रभादेवी/1207, V.S. Marg, Prabhadevi मुंबई / Mumbai - 400 028 Ph: 022-24221068 Email: <a href="mailto:cvo@irel.co.in">cvo@irel.co.in</a></p>
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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 expect your commitment to the under taking and its violation will have consequences as per prevailing rule of the company.

Thanking you,

कृते आई आर ई एल (इंडिया) लिमिटेड / For IREL (India) Limited

विभागाध्यक्ष (वाणिज्य) /HOD (Commercial)

#### 4. UNDERTAKING

Date:

To

M/s. IREL (India) Limited,  
CHAVARA

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

I/We agree and undertake:

1. 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 Company and its field Unit at Chavara, Kerala.
2. To immediately report any gift and / or inducement sought by any employee of the Company in exchange of the Company and/or its field units granting favour(s) to me/us in my/our dealings with the Company and/or its field unit.

Signature: .....

Name: .....

Title: .....

Name of the Company, Address and Contact details: .....

Official Seal

#### 5. DECLARATION

I/ We have remitted:

Rs. .... (.....) towards **Tender Document Cost** vide BG / DD  
No..... dt.....

Rs. .... (.....) towards **Earnest Money Deposit** vide BG / DD  
No..... dt.....

Proof of the same is/are enclosed in a separate cover / uploaded on e- website.

I/ We have read and understood and completely satisfied myself/ourselves of all Terms and Conditions of the tender and hereby accept full responsibility to carry out the supply at the rates indicated in the Price Schedule.

Signature of the tenderer:

Full address:

Place:

## अनुबंध की सामान्य शर्त

### 6. General Condition of Contract (GCOC)

#### 6.1 परिभाषाएँ और व्याख्याएँ / DEFINITIONS & INTERPRETATIONS

**Definition of Terms:**

In this Contract (as defined here-in-after), save where the context otherwise requires, the following words and expressions shall have the meanings respectively assigned to them:

"Approved" means approval in writing including subsequent written confirmation of previous verbal approval(s).

The "Bid /Tender/Offer" means the proposal along with required supporting documents submitted by the Bidder/Service Provider for consideration by the Employer.

The "Bidder/Tenderer" means the person(s) / Firm / company /Corporation /Organization/entity, who participated in the Tender.

"Completion Certificate" means the certificate to be issued by the Engineer In-charge (EIC) when the Services have been completed entirely in accordance with Contract.

"Completion Date" means the date of actual completion of the services by the Service Provider as certified by the Employer.

"Contract" means an agreement between Employer and the Service Provider/Supplier for execution of the Service(s) as per Contract Documents and its subsequent amendment(s), if any in writing thereto.

"Contract Documents" means collectively the Tender Documents, Designs, Drawings, Scope of Services, Specifications, Schedule of Rates (SOR), Letter of Acceptance and agreed variations if any, and such other documents constituting the tender and acceptance thereof.

"Day" means a calendar day of 24 hours from midnight to midnight irrespective of the number of hours serviced in that day.

"Demobilization" means removal of all equipment, machinery, manpower from the site after completion of the services with the due permission of EIC.

"Drawings" means and include all Engineering sketches, general arrangements/ layout drawings, sectional plans, all elevations, etc. related to the Contract together with modification and revision thereto.

The "Employer/Service Receiver/ Company/Owner" means IREL (India) Limited , a Public Sector Undertaking, incorporated under the Company's Act 1956 and having its Registered office at Plot No. 1207, Veer Savarkar Marg, Prabhadevi, Mumbai, Maharashtra-400086 and includes its successors, assigns and Units.

The "Engineer-In-Charge" (EIC) means the person designated from time to time by Employer and shall include those who are expressly authorized by him to act for and on his behalf for operation/execution of this Contract for Services.

"Equipment/Materials/Goods" means and include all equipment, machinery, stores, goods which are required under the Contract for satisfactory performance of Services by the Service Provider.

"Fax of Acceptance" means intimation regarding notification of award by the Employer to the successful Bidder/Service Provider through a Fax/ Letter conveying that the Tender/Bid/Offer has been accepted in accordance with the provisions contained therein.

"Guarantee/Warranty/ Defect Liability Period (DLP)" means the period and other conditions governing the warranty/guarantee/defect liability period of the services as provided in the Contract.

"Metric System": All technical documents are given in the metric system and all service should be carried out according to the metric system. All documents concerning the service shall also be maintained in the metric system.

"Mobilization" means stabilizing adequate infrastructure at designated Site comprising of Equipment, aids, tools, tackles, instruments, Goods & Materials, experienced manpower, supported with supervising personal in order to provide services as per the provision of Contract document.

"Negligence" means any act or failure to act (whether sole, joint or concurrent) by a person or an entity which was intended to cause, or which was reckless disregard of or wanton indifference to, avoidable and harmful consequences such person or entity knew, or should have known, would

result from such act or failure to act. Notwithstanding the foregoing, negligence shall not include any action taken in good faith for the safeguard of life or property.

The "Service(s)" means and include all services and activities/jobs to be performed by the Service Provider in pursuant to and in accordance with Contract or part thereof as the case may be and shall include all extra, additional, altered or substituted services and approvals from any agency/third party & license(s)/permissions from statutory authorities (if any), as required for purpose of the Contract.

The "Service Provider" means Bidder/Tenderer whose tender has been accepted by the Employer and includes the Service Provider's legal representative(s), his successor(s) and permitted assign(s).

"Service Provider's/ Bidder's Representative" means such person(s) duly authorized by the Bidder/Service Provider in writing to the Employer as having authority to act for and on behalf the Bidder /Service Provider in matters affecting the Services and to provide the requisite services to Employer.

"Site" means the place(s) provided by the Employer where the Services are to be carried out/executed and any other place(s) as may be specifically designated in the Contract as forming part of the site.

"Specifications" means and include detailed description, statements to technical data, performance characteristics, and standards (Indian as well as International) as applicable and as specified in the Contract.

The "Sub-Service Provider" means any person / firm / Organization / company / entity (other than the Service Provider) and it's legal representatives, successors and permitted assigns named in the Contract as a Sub-Service Provider for a part of the Services or to whom a part of the Services has been sub-Contracted with the written prior consent of the Employer.

"Value of Contract" or "Total Contract Price" means the sum accepted or the sum calculated in accordance with the prices accepted in the Contract as payable to the Service Provider for the entire execution and full completion of the service, including Amendment(s) to Contract, if any.

"Week" means a period of any consecutive seven Days.

"Willful Misconduct" means intentional disregard of good and prudent standards of performance or proper conduct under the Contract with knowledge that it is likely to result in any injury to any person or loss or damage of property.

"Working Day" means any Day which is not declared by the Employer to be holiday or off-day.

## 6.2 अनुबंध दस्तावेजों की व्याख्या और प्राथमिकता / INTERPRETATIONS & PRIORITY OF CONTRACT DOCUMENTS

6.2.1 The documents forming the Contract are to be read together and interpreted as mutually explanatory of one another. If there is a direct inconsistency in specific obligation(s), then for the purposes of interpretation, and unless otherwise provided in the Contract, the priority of the Contract Documents shall be in accordance with following sequence:

- The Contract Agreement
- Detailed Letter of Acceptance along with its enclosures
- Fax of Acceptance
- Scope of Works/ Job Specifications (specific to particular job only, wherever provided)
- Drawings
- Special Conditions of Contract (SCC)
- Technical Specifications (wherever applicable)
- Instructions to Bidders (ITB)
- General Conditions of Contract (GCC)
- Other Documents

Works shown in the Drawing but not mentioned in the Specifications or described in the Specifications without being shown in the Drawings shall nevertheless be deemed to be included in the same manner as if they had been specifically shown upon the Drawings and described in the Specifications.

Any amendment/change order issued by Employer upon signing of formal Contract shall take precedence over respective clauses of the formal Contract and its annexures.

The higher priority interpretation shall be adopted only to the extent required to deal with an inconsistency. Specific term(s) agreed take priority over general statement(s) and terms in Contract Document created at a later date govern over terms in earlier Contract Document. Subject to foregoing, the terms of the groups of documents set out above have equal importance within their group.



- 6.2.2 Headings and Marginal Notes: All headings and marginal notes to the clauses of these General Conditions of Contract or to the Specifications or to any other Tender Document are solely for the purpose of giving a concise indication and not a summary of the contents thereof, and they shall never be deemed to be part thereof or be used in the interpretation thereof of the Contract.
- 6.2.3 Singular and Plural: In Contract Documents unless otherwise stated specifically, the singular shall include the plural and vice versa wherever the context so requires.
- 6.2.4 Gender: Where the context so requires, words imparting the masculine gender shall also include the feminine gender and the neuter gender and vice versa.
- 6.2.5 Severability: Should any provision of this Contract be found to be invalid, illegal or otherwise not enforceable by any court of law, such finding shall not affect the remaining provision(s)/clause(s) hereto and they shall remain binding on the parties hereto.

### 6.3 अनुबंध की विशेष शर्तें / SPECIAL CONDITIONS OF CONTRACT:

- 6.3.1 Special Conditions of Contract consisting of scope of services, specification of Services & items etc. shall be read in conjunction with the General Conditions of Contract, and any other documents forming part of this Contract wherever the context so requires.
- 6.3.2 Notwithstanding the sub-division of the documents into these separate sections and volumes every part of each section/volume shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the Contract so far as it may be practicable to do so.
- 6.3.3 Where any portion of the General Condition of Contract is repugnant to or at variance with any provisions of the Special Conditions of Contract, unless a different intention appears the provisions of the Special Conditions of Contract shall be deemed to over-ride the provisions of the General Conditions of Contract and shall to the extent of such repugnancy, or variations, prevail.
- 6.3.4 Wherever it is mentioned in the Specifications that the Service Provider shall perform certain Service or provide certain facilities, it is understood that the Service Provider shall do so at his cost and the Value of Contract shall be deemed to have included cost of such performance and provisions, so mentioned.
- 6.3.5 The materials, design and services shall satisfy the relevant Standards, the Job Specifications contained herein and Codes referred to. Where the job specification stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.

### 6.4 सामान्य निर्देश और दायित्व / GENERAL INSTRUCTIONS & OBLIGATIONS

#### 6.4.1 FORMATION OF CONTRACT:

- 6.4.1.1 Employer will be the sole judge in the matter of award of Contract and the decision of Employers shall be final and binding.
- 6.4.1.2 The acceptance of tender will be intimated to the successful Bidder by the Employer either by Fax / E - mail / Letter or like means defined as Service Contract (SC)
- 6.4.1.3 The Contract shall come into force on the date of SC and the same shall be binding on Employer and Service Provider.

6.5 SIGNING OF AGREEMENT: The successful Tenderer/Service Provider shall be required to forward their acceptance of the SC within 15 days. In the event of failure on the part of the Service Provider to furnish their acceptance within the aforesaid stipulated period, the Earnest Money Deposit or initial Security Deposit/Performance Security Deposit (as available, preferably the later) will be forfeited and Employer may consider the Contract as terminated..

6.6 ADDENDA/CORRIGENDA: Addenda/ Corrigenda to the Tender Documents incorporating modification(s) and clarification(s) to the Tender Document issued prior to the due date of bid submission shall become integral part of the Contract.

6.7 SITE VISIT: The Bidder/Service Provider shall be deemed to have visited the Site(s)/work centre(s) and familiarized itself while submitting the Tender. Non-familiarity with the Site conditions by the Bidder/ Service Provider will not be considered a reason either for extra claim(s) or for any delay in performance or any other claim in this regard.

6.8 CONFLICT OF INTEREST: During the currency of Contract and after its termination, the Service Provider and its affiliates, shall be disqualified from providing any goods, works or services for any project resulting from or closely related to the Services.

6.9 ABNORMAL RATES: The Tenderer is expected to quote rate for each item after careful analysis of cost involved for the performance of the completed item considering all specifications and Conditions of Contract. In case, it is noticed that the rates quoted by the Tenderer for any item are unusually higher or unusually lower, it will be sufficient cause for the rejection of the tender/bid unless the Employer is convinced about the reasonableness after scrutiny of the analysis for such rate(s) to be furnished by the Tenderer (on demand). In case of Abnormally High Rated (AHR) item(s), the same shall be dealt as deemed fit.

#### 6.10 GENERAL OBLIGATIONS OF SERVICE PROVIDER:

- 6.10.1 Service Provider shall, in accordance with and subject to the terms and conditions of this Contract:
- 6.10.2 Perform the services in accordance with the Scope of Services /Specifications and Activity Schedule of the Tender Document and carry out its obligations with all due diligence and efficiency, in accordance with generally accepted professional techniques and practices and shall observe sound management practices and employ appropriate advance technology and safe methods. When completed, the job/services shall be fit for the purpose for which the services are intended as specifically defined in the Contract.
- 6.10.3 Provide all labour as required to provide the Service unless otherwise provided in the Scope of Services or Special Conditions of the Contract.
- 6.10.4 Perform all other obligations, jobs / services which are required by the terms of this Contract or which reasonably can be implied from such terms as being necessary for providing necessary service as per the Contract.
- 6.10.5 Be deemed to have satisfied himself before submitting his bid as to the correctness and sufficiency of its bid for the services required and of the rates and prices quoted, which rates and prices shall, except insofar as otherwise provided, cover all its obligations under the Contract.
- 6.10.6 Give or provide all necessary supervision during the performance of the services and as long thereafter within the warranty period/DLP as Employer may consider necessary for the proper fulfilling of Service Provider's obligations under the Contract.
- 6.10.7 Not disrupt the Services of the Employer being carried out by the Service Provider / and shall provide access for carrying out job/services to:
- Employer's personnel(s), and /or
  - any other Contractor(s) / Service Provider(s) employed by Employer, and /or
  - personnel of public authority(ies)/third party(ies)
- 6.10.8 Further, the Service Provider shall execute the job carefully without causing damage to the existing facility(ies) and facility(ies) of third party(ies) and in case of such happening shall immediately bring to the notice of EIC..
- 6.10.9 Further, the coordination and inspection of the day-to-day job under the Contract shall be the responsibility of the Engineer-in-Charge (EIC). The EIC or his authorized representative including any statutory authority shall at all reasonable times, have full power and authority to access and inspect the Services wherever in progress either on the Site or at the Service Provider's premises/workshops and the Service Provider shall afford or procure every facility and assistance to carry out such inspection. Such Inspection shall not release the Service Provider from any obligation under the Contract.
- #### 6.11 SERVICE PROVIDER's REPRESENTATIVE & PERSONNEL:
- 6.11.1 Service Provider shall appoint a person ("Service Provider's Representative") who shall be responsible for and authorized to represent it at all times during the progress of the Service and to receive and to act on any request made by Employer in the performance of the Service pursuant to the terms of this Contract.
- 6.11.2 Service Provider's Representative shall have full authority to represent and bind the Service Provider in relation to any matter concerning the Service Provider's performance of the services under the Contract and Employer shall be entitled to rely on all the decisions of the Service Provider's Representative as if they were the decisions of the Service Provider.
- 6.11.3 Service Provider's Representative shall supervise, coordinate and ensure the quality of all aspects of his obligations under this Contract. Service Provider shall not change its Representative without the prior approval of Employer.
- 6.11.4 Service Provider's Representative shall liaise with Employer for the proper coordination and timely completion of the Services and on any matter pertaining to the same.
- 6.11.5 Service Provider's Representative shall extend full cooperation to Employer's representatives/inspector in the manner required by them for supervision /inspection/ observation of equipment, material, procedures, performance, reports and records pertaining to Services.

6.11.6 Service Provider's Representative shall have complete charge of his personnel engaged in the performance of the Service and to ensure compliance of rules and regulations and safety practice.

6.11.7 If the Service Provider's Representative is found not acceptable to the EIC, the Service Provider shall, as soon as practicable, having regard to the requirement of replacing him, after receiving notice of such withdrawal, remove the representative and shall not thereafter employ him again on the Services in any capacity and shall replace him by another representative acceptable to the EIC.

6.12 SERVICE PROVIDER'S EMPLOYEES / PERSONNEL: The Service Provider in connection with performing the Services and remedying of any defects, shall provide: only such skilled and experienced personnel(s) in their respective areas; and such skilled, semi-skilled and un-skilled labour as is necessary for the proper and timely fulfilling of the Service Provider's obligations under the Contract.

The Service Provider shall provide skilled / qualified /experienced personnel, if specified in the SCC /Scope of Work.

While engaging the contractual manpower, Service Provider is required to make effort to provide opportunity of employment to the people belonging to Scheduled Castes and weaker sections of society also in order to have a fair representation of these sections.

6.13 CONTRACT PERFORMANCE SECURITY (CPS):

6.13.1 The Service Provider shall provide Contract Performance Security (CPS) to the Employer, within the scheduled date specified in the notification of award for an amount mentioned therein. The CPS shall be returned/refunded three months after Contract completion period and Defects Liability Period (DLP), if any. All costs associated with CPS shall be borne by the Service Provider. No charges or interest shall be payable by the Employer even if the CPS is in the form of a Demand Draft.

6.13.2 If the Service Provider or their employees /agents / representatives or Sub-Service Provider (if authorized by Employer) shall damage, break, deface or destroy any property /equipment belonging to the Employer or third party(ies) during the execution of this Contract, the same shall be made good by the Service Provider at his own expenses and in default thereof, the EIC may cause the same to be made good by other agencies and recover expenses from the Service Provider. The decision of EIC in this matter shall be final and binding on the Service Provider.

6.13.3 All compensation, claim or other sums of money payable by the Service Provider to the Employer under terms of this Contract may be deducted from or paid by the encashment of a sufficient part of his Contract Performance Security or from any sums which may be due or may become due to the Service Provider by the Employer on any account whatsoever and in the event of his CPS being reduced by reasons of any such deductions or sale of aforesaid, the Service Provider shall within ten days thereafter make good in form of bank draft(s)/BG (as the case may be) as aforesaid any sum or sums which may have been deducted from or realised by encashment of his CPS, or any part thereof. The Service Provider shall pay to the Employer on demand without protest any balance remaining due. In this regard no interest shall be payable by the Employer to Service Provider for such sum deposited as CPS.

6.13.4 The CPS deposit shall cover the entire Contract value including extra jobs/ services. As long as the CPS submitted at the time of award take cares the extra jobs/ services executed and total executed value are within the awarded Contract price, there is no need for additional CPS . As soon as the total executed value is likely to exceed the ceiling of awarded Contract Value, the Service Provider should furnish additional CPS through DD or submit amendment to existing BG to effect the enhancement of CPS.

6.13.5 Failure of the successful bidder to comply with the requirements of Clause 14.13 shall constitute sufficient grounds for the annulment of the award, the forfeiture of CPS and any other actions or remedies available to the Employer.

6.14 FAILURE BY THE SERVICE PROVIDER TO COMPLY WITH THE PROVISIONS OF THE CONTRACT:

6.14.1 If the Service Provider refuses or fails to provide the Service or any part thereof with such diligence as will ensure its performance within the time specified in the Contract or extension thereof or fails to perform any of his obligation under the Contract or in any manner commits a breach of any of the provisions of the Contract it shall be open to the Employer at its option by written notice to the Service Provider:

6.14.1.1 TO DETERMINE THE CONTRACT in which event the Contract shall stand terminated and shall cease to be in force and effect on and from the date appointed by the Employer on that behalf, whereupon the Service Provider shall stop forthwith any of the Service then in progress, except such Service as the Employer may, in writing, require to be done to safeguard any property or work or installations from damage, and the Employer, for its part, may take over the Service remaining unfinished by the Service Provider and complete the same through another service provider or by other means, at the risk and cost of the Service Provider, and any of his sureties if any, shall be liable to the Employer for any excess cost occasioned by such service having to be so taken over and obtained by the Employer over and above the cost at the rates specified in the schedule of quantities and rate/prices.

6.14.1.2 WITHOUT DETERMINING THE Contract to take over the Service of the Service Provider or any part thereof and complete the same through other service provider or by other means at the risk and cost of the Service Provider. The Service Provider and any of his sureties are liable to the Employer for any excess cost over and above the cost at the rates specified in the Schedule of Quantities/ rates, occasioned by such services having been taken over and completed by the Employer.

6.14.2 In such events of Clause 6.14.1.1 or 2 above, the following shall be applicable:-

- 6.14.2.1 The whole or part of the Contract Performance Security furnished by the Service Provider is liable to be forfeited without prejudice to the right of the Employer to recover from the Service Provider the excess cost referred to in the sub-clause aforesaid. The Employer shall also have the right of taking possession and utilising in completing the services or any part thereof, such as materials, equipment and plants available at service site belonging to the Service Provider as may be necessary and the Service Provider shall not be entitled for any compensation for use or damage to such materials, equipment and plant.
- 6.14.2.2 The amount that may have become due to the Service Provider on account of service already executed by him shall not be payable to him until after the expiry of Six (6) calendar months reckoned from the date of termination of Contract or from the taking over of the Service or part thereof by the Employer as the case may be, during which period the responsibility for faulty material or workmanship in respect of such service shall, under the Contract, rest exclusively with the Service Provider. This amount shall be subject to deduction of any amounts due from the Contract to the Employer under the terms of the Contract authorised or required to be reserved or retained by the Employer.
- 6.14.2.3 Before taking any action as per Clause 6.14.1.1 or 2 if in the judgment of the Employer, the default or defaults committed by the Service Provider is/are curable and can be cured by the Service Provider if an opportunity given to him, then the Employer may issue Notice in writing calling the Service Provider to cure the default within such time specified in the Notice.
- 6.14.2.4 The Employer shall also have the right to proceed or take action as per 6.14.1(a) or (b) above, in the event that the Service Provider becomes bankrupt, insolvent, compounds with his creditors, assigns the Contract in favour of his creditors or any other person(s) or being a company or a corporation goes into voluntary liquidation, provided that in the said events it shall not be necessary for the Employer to give any prior notice to the Service Provider.
- 6.14.2.5 Termination of the Contract as provided for in sub-clause 6.14.1.1 above shall not prejudice or affect their rights of the Employer which may have accrued upto the date of such termination.

#### 6.15 SERVICE PROVIDER REMAINS LIABLE TO PAY COMPENSATION IF ACTION NOT TAKEN UNDER CLAUSE 6.14

If in any case in which any of the powers conferred upon the Employer by clause 6.14 thereof shall have become exercisable and the same had not been exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any further case of default by the Service Provider for which by any clause or clauses hereof he is declared liable to pay compensation amounting to the whole of his Contract Performance Security, and the liability of the Service Provider for past and future compensation shall remain unaffected. In the event of the Employer putting in force the power under above sub-clause 6.14.1.1 or 6.14.1.2 vested in him under the preceding clause he may, if he so desired, take possession of all or any tools and plants, materials and stores at the site thereof belonging to the Service Provider or procured by him and intended to be used for the execution of the Service or any part thereof paying or allowing for the same in account at the Contract rates or in case of these not being applicable, at current market rates to be certified by the EIC whose certificate thereof shall be final, otherwise the EIC may give notice in writing to the Service Provider or Service Provider's Representatives requiring him to remove such tools, plant, materials or stores from the premises (within a time to be specified in such notice).

Failure of any action by the Service Provider for removal of material/tools/plant/store etc. within the period mentioned in notice of EIC, the Employer shall also be entitled to recover handling and storage charges @5% of the estimated value of material tools/plant/store for each month or part of a month without relieving the Service Provider from any other related liability.

In the event of the Service Provider's failure to remove the same within a period of 6 months or as decided by the EIC, the EIC may take action for removal through auction or private sale on behalf of the Service Provider and at his risk in all respects. The Service Provider shall be liable to pay the Employer the handling & storage charges per month or a part of the month from the date of serving the notice by the EIC to the date of removal of the materials by the Employer plus overhead charges @ 15% of sale value of such materials. In case of negative or zero sale value, the overhead charges shall be applicable on the handling & storage charges. The decision of EIC w.r.t. such removal and the amount of the proceeds shall be final and binding on the Service Provider.

#### 6.16 CHANGE IN CONSTITUTION:

Where the Service Provider is a partnership firm, the prior approval of the Employer shall be obtained in writing, before any change is made in the constitution of the firm. Where the Service Provider is an individual or a Hindu undivided family business concern, such approval as aforesaid shall, likewise be obtained before such Service Provider enters into any agreement with other parties, where under, the reconstituted firm would have the right to carry out the service hereby undertaken by the Service Provider. In either case if prior approval as aforesaid is not obtained, the Contract shall be deemed to have been allotted in contravention of clause 2.20 hereof.

#### 6.17 TERMINATION OF CONTRACT:

##### 6.17.1 TERMINATION OF CONTRACT FOR DEATH

If the Service Provider is an individual or a proprietary concern and the individual or the proprietor dies or if the Service Provider is a partnership concern and one of the partner dies then unless, the Employer is satisfied that the legal representative of the individual or the

proprietary concern or the surviving partners are capable of carrying out and completing Contract, the Employer is entitled to cancel the Contract for the uncompleted part without being in any way liable for any compensation payment to the estate of the deceased Service Provider and/or to the surviving partners of the Service Provider's firm on account of the cancellation of Contract. The decision of the Employer/EIC in such assessment shall be final & binding on the parties. In the event of such cancellation, the Employer shall not hold the estate of the deceased Service Provider and/or the surviving partners of Service Provider's firm liable for any damages for non-completion of the Contract.

#### 6.17.2 TERMINATION OF CONTRACT IN CASE OF LIQUIDATION / BANKRUPTCY, ETC.

If the Service Provider shall dissolve or become bankrupt or insolvent or cause or suffer any receiver to be appointed of his business or any assets thereof compound with his Creditors, or being a corporation commence to be wound up, not being a member's voluntary winding up for the purpose of amalgamation or reconstruction, or carry on its business under a Receiver for the benefits of its Creditors any of them, Employer shall be at liberty to terminate the Contract forthwith upon coming to know of the happening of any such event as aforesaid by notice in writing to the Service Provider or to give the Receiver or Liquidator or other person, the option of carrying out the Contract subject to his providing a guarantee up to an amount to be agreed upon by the Employer for due and faithful performance of the Contract.

#### 6.17.3 TERMINATION OF CONTRACT FOR CORRUPT / FRAUDULENT / COLLUSIVE / COERCIVE PRACTICES AND NON-PERFORMANCE

If the Bidder/Service Provider is found to have indulged in Corrupt/ Fraudulent /Collusive/Coercive practices, the Contract shall be terminated and the Bidder/ Service Provider shall be banned for future business with IREL.

#### 6.17.4 TERMINATION FOR CONVENIENCE

Notwithstanding anything contained in the Contract, the Employer may, by 30 (Thirty) days written notice, terminate the Contract in whole or in part. In case of such termination, the obligation of the Employer to pay, shall be limited to the extent of work/job completed by the Service Provider as per provision of the Contract upto the date of termination, subject to the Service Provider complying with other terms of the Contract. Notwithstanding the termination of the Contract, the parties shall continue to be bound by the provisions of this Contract that reasonably require some action or forbearance after such termination.

#### 6.18 AMOUNT PAYABLE IN CASE OF TERMINATION:

In all cases of termination herein set forth, the obligation of the Employer to pay, shall be limited to the extent of service rendered by Service Provider as per provision of the Contract upto the date of termination, subject to the Service Provider complying with other terms of the Contract. Notwithstanding the termination of the Contract, the parties shall continue to be bound by the provisions of this Contract that reasonably require some action or forbearance after such termination.

#### 6.19 MEMBERS OF THE EMPLOYER NOT INDIVIDUALLY LIABLE:

No Director, or official or employee of the Employer shall in any way be personally bound or liable for the acts or obligations of the Employer under the Contract or answerable for any default or omission in the observance or performance of any of the acts, matters or things which are herein contained.

#### 6.20 EMPLOYER NOT BOUND BY PERSONAL REPRESENTATIONS:

The Service Provider shall not be entitled to any increase on the scheduled rates or any other right or claim whatsoever by reason of any representation, explanation statement or alleged representation, promise or guarantees given or alleged to have been given to him by any person.

#### 6.21 FORCE MAJEURE:

- 6.21.1 Force majeure is an event beyond the control of contractor and not involving the contractor's fault or negligence and which is not foreseeable. Such events may include, but are not restricted to acts of the purchaser/contractor either in its sovereign or contractual capacity, wars or revolution, hostility, acts of public enemy, civil commotion, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts and freight embargoes or any other event which IREL may deem fit to consider so. The decision about force majeure shall rest with IREL which shall be final and binding.
- 6.21.2 If there is delay in performance or other failures by the contractor to perform obligations under its contract due to event of a Force Majeure, the Service Provider shall not be held responsible for such delays/failures.
- 6.21.3 If a Force Majeure situation arises, the Service Provider 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 EMPLOYER in writing, the Service Provider 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.
- 6.21.4 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, IREL may at its option terminate the contract without any financial repercussion on either side.

## 6.22 LIQUIDATED DAMAGES FOR DELAYED EXECUTION OF CONTRACT:

If the Service Provider fails to perform the services within the time period(s) specified in the CONTRACT, the EMPLOYER shall, without prejudice to his other remedies under the CONTRACT, levy Liquidated damages from the CONTRACT PRICE, a sum calculated on the basis of the CONTRACT PRICE, including subsequent modifications.

Deductions shall apply as per following formula:

Half percent (0.5%) of the contract value per week of delay subject to a maximum of ten percent (10%) of contract value.

EMPLOYER may deduct the amount so payable by Service Provider, from any amount falling due to the Service Provider or by recovery against the Performance Guarantee. Both Service Provider and EMPLOYER agree that the above percentages of price reduction are genuine pre-estimates of the loss/damage which the EMPLOYER would have suffered on account of delay/breach on the part of the Service Provider 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 EMPLOYER in the matter of applicability of price reduction shall be final and binding.

## 6.23 ASSIGNMENT/SUBLET:

- 6.23.1 The Service Provider shall not, save with previous written consent of the Engineer-in-charge, 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 Service Provider from any obligation, duty or responsibility under the Contract.
- 6.23.2 The basic scope of Services cannot be sublet. However, on specific request of the Service Provider and subject to written consent of Employer, the Service Provider may sublet allied/incidental jobs related to the Services. Such consent shall not relieve the Service Provider from any obligation, duty or responsibility under the Contract and Service Provider shall be fully responsible for the Services hereunder and the execution and performance of the Contract.
- 6.23.3 Sub-letting of whole Contract is prohibited. An undertaking to this effect will be given by Service Provider along with each invoice/ bill.

## 6.24 DELAYS BY EMPLOYER OR HIS AUTHORISED REPRESENTATIVE:

- 6.24.1 In case the Service Provider's performance is delayed due to any act or omission on the part of the Employer or his authorized Representative, then the Service Provider shall be given due extension of time for the completion of the Service, to the extent such omission on the part of the Employer has caused delay in the Service Provider's performance of his Services.
- 6.24.2 No adjustment in Contract Price shall be allowed for reasons of such delays and extensions granted except as provided in Tender Document, where the Employer reserves the right to seek indulgence of Service Provider to maintain the agreed Time Schedule of Completion. In such an event the Service Provider shall be obliged to provide Service for additional time beyond stipulated time including Off-days / Holidays or by enhancing resources to achieve the completion date/interim targets.

## 6.25 NO WAIVER OF RIGHTS:

- 6.25.1 None of the terms and conditions of this Contract shall be deemed waived by either party unless such waiver is executed in writing by the duly authorized representative of both the parties.

## 6.26 CERTIFICATE NOT TO AFFECT RIGHT OF EMPLOYER AND LIABILITY OF SERVICE PROVIDER:

- 6.26.1 No interim payment certificate(s) issued by the EIC of the Employer, nor any sum paid on account by the Employer, nor any extension of time for execution of the service granted by Employer shall affect or prejudice the rights of the Employer against the Service Provider or relieve the Service Provider of his obligations for the due performance of the Contract, or be interpreted as approval of the Service done and no certificate shall create liability for the Employer to pay for alterations, amendments, variations or additional services not ordered, in writing, by Employer or discharge the liability of the Service Provider for the payment of damages whether due, ascertained, or certified or not or any sum against the payment of which he is bound to indemnify the Employer.

## 6.27 LANGUAGE AND MEASURES:

- 6.27.1 All documents pertaining to the Contract including Specifications, Schedules, Notices, Correspondence, operating and maintenance Instructions or any other writing shall be written in English/Hindi language. The Metric System of measurement shall be used in the Contract unless otherwise specified.

#### 6.28 RELEASE OF INFORMATION:

- 6.28.1 The Service Provider shall not communicate or use in advertising, publicity, sales releases or in any other medium, photographs, or other reproduction of the Service under this Contract or description of the site dimensions, quantity, quality or other information concerning the Service unless prior written permission has been obtained from the Employer.

#### 6.29 COMPLETION PERIOD, CONTRACT PERIOD AND COMPLETION OF CONTRACT:

- 6.29.1 The Completion Period of Service and Contract Period shall be as mentioned in Special Conditions of Contract. Unless terminated under the provisions of any other relevant clause, this Contract shall be deemed to have been completed at the expiration of the Defect Liability Period as provided for under the Contract.

#### 6.30 INDEPENDENT CAPACITY

- 6.30.1 The parties intend that an independent Service Provider relationship will be created by this Contract. The Service Provider and his/her employees or agents performing under this Contract are not employees or agents of the Employer. The Service Provider will neither hold himself/herself out as nor claim to be an officer or employee of the Employer by reasons hereof, nor will the Service Provider make any claim of right, privilege or benefit that would accrue to such employee under law. Conduct and control of work will be solely with the Service Provider.

#### 6.31 NOTICE

- 6.31.1 TO THE SERVICE PROVIDER: Any notice to be given to the Service Provider or his duly authorised representative at the job Site under the terms of the Contract may be served by the Employer by facsimile / e-mail or through registered post/Courier at the address/contact information furnished by the Service Provider. Proof of issue of any such notice could be conclusive of the Service Provider having been duly informed of all contents therein.
- 6.31.2 TO THE EMPLOYER: Any notice to be given to the EIC of the Employer under the terms of the Contract may be served by the Service Provider, by facsimile / e-mail or delivering the same through registered post /Courier at the concerned site office.
- 6.31.3 Either party may change a nominated address to another address in the country where the Services are being provided by prior notice to the other party, with a copy to EIC and the EIC may do so by prior notice to both the parties. The decision of EIC in this regard shall be final and binding on the parties.

#### 6.32 CONFIDENTIALITY:

The Service Provider, its Sub-Service Provider and their personnel shall not, either during the term or within two (2) years after the expiration of this Contract, disclose any proprietary or confidential information related to Service/project, this Contract, or Employer's business or operations without the prior written consent of the Employer.

#### 6.33 INTELLECTUAL PROPERTY RIGHT:

The Service Provider shall retain the copy right and other intellectual property rights in the Service Provider's document and other design documents made by (or on behalf of) the Service Provider.

Subject to the confidentiality obligations, by signing the Contract, within the Contract Price, the Service Provider shall be deemed to give to the Employer a non-terminable, transferable, non-exclusive and royalty-free right to copy, use and communicate the Service Provider's documents for the operation, maintenance, repair of the Service and Statutory purposes, but not for any other purpose. Such documents of the Service Provider shall not be used, copied or communicated to a third party by or on behalf of the Employer for the purposes other than those permitted, without the Service Provider's Consent.

#### 6.34 PERFORMANCE OF SERVICE

##### 6.34.1 EXECUTION OF SERVICES:

- 6.34.1.1 All Services shall be provided in strict conformity with the provisions of the Contract Documents and with such explanatory detailed specification and instruction as may be furnished from time to time to the Service Provider by EIC. The Service Provider shall undertake to perform all Services under this Contract with all reasonable skill, diligence and care in accordance with sound industry practice or international / national standards, wherever applicable (as the case may be) to the satisfaction of the Employer and accept full responsibility for the satisfactory quality of such services as performed by them.

#### 6.35 CHANGES IN SERVICES:

- 6.35.1 During the performance of the Services, EIC / Employer may make a change in the Services within the general scope of this Contract including, but not limited to, changes in methodology and minor additions to or deletions from the Services and Service Provider shall render the service as changed. Changes of this nature will be affected by a written order (i.e. Amendment) by the Employer. The time of completion of the said job may be extended for the part of the particular job at the discretion of Engineer-In-Charge, for only such alterations or substitutions of the Services, as he may consider just and reasonable.
- 6.35.2 If any change result in an increase in compensation payable to Service Provider or in terms of a credit to be passed on to Employer, Service Provider shall submit to EIC an estimate of the amount of such compensation or credit in a form prescribed by Employer. Such estimates shall be based on the rates shown in the Schedule of Rates. Upon review of Service Provider's estimate, Employer shall establish and set forth in the written order the amount of the compensation or credit for the change or a basis for determining a reasonable compensation or credit for the change.

#### 6.36 ACTION AND COMPENSATION IN CASE OF POOR SERVICE:

If it shall appear to the EIC that any service has been rendered with unsound, imperfect or unskilled way, or with materials /manpower of any inferior description, or that any materials / manpower provided by the Service Provider for the execution of the Service are unsound, or of a quality inferior to that Contracted for, or otherwise not in accordance with the Contract, the Service Provider shall on demand in writing from the EIC or his authorized representative specifying the Service, materials or manpower complained of notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith rectify the service so specified and at his own cost.

#### 6.37 SUSPENSION OF SERVICES:

- 6.37.1 Subject to the provisions of sub-para 3.4.2 of this clause, the Service Provider shall, if ordered in writing by the EIC, temporarily suspend the Services or any part thereof for such written order and not proceed with the Service therein ordered to be suspended until, he shall have received a written order to proceed therewith. The Service Provider shall not be entitled to claim compensation for any loss or damage sustained by him by reason of temporary suspension of the Services aforesaid. An extension of time for completion, corresponding with the delay caused by any such suspension of the Services as aforesaid will be granted to the Service Provider should he apply for the same provided that the suspension was not consequent to any default or failure on the part of the Service Provider.
- 6.37.2 In case of suspensions of entire Service, ordered in writing by EIC, for a period of more than two months, the Service Provider shall have the option to terminate the Contract.

#### 6.38 DEFECTS LIABILITY PERIOD:

- 6.38.1 The Service Provider unless otherwise specified elsewhere in the tender document shall guarantee the installation/Service for a period of 12 months/ (any period as specified) from the date of completion of Service mentioned in the Completion Certificate issued by the EIC. Any damage or defect that may arise or lie undiscovered at the time of issue of Completion Certificate, connected in any way with the equipment or materials supplied by him or in the workmanship, shall be rectified or replaced by the Service Provider at his own expense as deemed necessary by the EIC. In case of default, the EIC may carry out such services by other service provider(s) and deduct actual cost incurred towards labour, supervision and materials consumables from any sums that may then be or at any time thereafter, become due to the Service Provider or from his Contract Performance Security, or the proceeds of sale thereof or a sufficient part on thereof. The decision of EIC in this regard shall be final and binding.
- 6.38.2 If the Service Provider feels that any variation in Service or in quality of materials or proportions would be beneficial or necessary to fulfill the guarantees called for, he shall bring this to the notice of the EIC in writing. If during the period of liability any portion of the Service/Equipment, is found defective and is rectified/ replaced, the period of liability of 12 months for such equipment/ portion of Service shall be operative from the date such rectification/ replacement are carried out and Contract Performance Guarantee shall be furnished separately for the extended period of liability for that portion of Service/ Equipment only. However, in no such case extension will exceed 24 months from the date of initial DLP. Notwithstanding the above provisions the supplier's, guarantees/warranties for the replaced/rectified Equipment/Service shall also be passed on to the Employer.

#### 6.39 LIMITATION OF LIABILITY

Notwithstanding anything contrary contained herein, the aggregate total liability of Service Provider to Employer under the Contract shall not exceed the Total Contract Value, except that this clause shall not limit the liability of the Service Provider for following:

In the event of breach of any Applicable Law;

In the event of fraud, willful misconduct or illegal or unlawful acts, or gross Negligence of the Service Provider or any person acting on behalf of the Service Provider; or

In the event of acts or omissions of the Service Provider which are contrary to the most elementary rules of diligence which a conscientious Service Provider would have followed in similar circumstances; or



In the event of any claim or loss or damage arising out of infringement of Intellectual Property; or  
For any damage to any third party, including death or injury of any third party caused by the Service Provider or any person or firm acting on behalf of the Service Provider in executing the Works/Services.

However, neither party shall be liable to the other Party for any indirect nor consequential loss or damage like loss of use, loss of profit, loss of production or business interruption which is connected with any claim arising under the Contract.

#### 6.40 INDEMNITY:

If any action is brought before a Court, Tribunal or any other Authority against the Employer or an officer or agent of the Employer, for the failure, omission or neglect on the part of the Service Provider to perform any acts, matters, covenants or things under the Contract, or damage or injury caused by the alleged omission or negligence on the part of the Service Provider, his agents, representatives or his Sub-Service Provider's, or in connection with any claim based on lawful demands of Sub-Service Provider's servicemen suppliers or employees, the Service Provider, shall in such cases indemnify and keep the Employer and/or their representatives harmless from all losses, damages, expenses or decrees arising out of such action.

#### 6.41 DAMAGES TO PROPERTY, ANY PERSON AND THIRD PARTY

Service Provider shall be responsible for making good to the satisfaction of the Employer any loss or any damage to structures and properties belonging to the Employer or being executed or procured or being procured by the Employer or of other agencies within in the premises of the Employer, if such loss or damage is due to fault and/or the Negligence or Willful Misconduct or omission of the Service Provider, his employees, agents, representatives or Sub-Service Providers.

The Service Provider shall take sufficient care in moving his equipment and materials from one place to another so that they do not cause any damage to any person or to the property of the Employer or any third party including overhead and underground cables and in the event of any damage resulting to the property of the Employer or of a third party during the movement of the aforesaid equipment or materials the cost of such damages including eventual loss of production, operation or services in any plant or establishment as estimated by the Employer or ascertained or demanded by the third party shall be borne by the Service Provider. Third party liability risk shall be Rupees One lakh for single accident and limited to Rupees Ten lakhs.

The Service Provider shall indemnify and keep the Employer harmless of all claims for damages to property other than Employer's property arising under or by reason of this agreement, if such claims result from the fault and/or Negligence or Willful Misconduct or omission of the Service Provider, his employees, agents, representative of Sub-Service Provider.

#### 6.42 PAYMENT, INSURANCE AND TAXES

##### 6.42.1 DEDUCTION FROM THE CONTRACT PRICE:

6.42.1.1 All costs, damages or expenses which Employer may have paid or incurred, which under the provisions of the Contract, the Service Provider is liable to pay to the Employer. All such claims shall be claimed by the Employer from the Service Provider regularly as and when they fall due. Such claims shall be paid by the Service Provider within 15 (fifteen) days of the receipt of the corresponding bills/ claims and if not paid by the Service Provider within the said period, the Employer may, then, deduct the amount from any immediate moneys due to the Service Provider like R.A Bills, Final Bills, Contract Performance Security or any payment becoming due to the Service Provider under the Contract or may be recovered by actions of law or otherwise, if the Service Provider fails to satisfy the Employer of such claims.

##### 6.42.1.2 SCHEDULE OF RATES AND PAYMENTS:

###### SERVICE PROVIDER'S REMUNERATION:

The price to be paid by the Employer to Service Provider for the whole of the Service to be done and for the performance of all the obligations undertaken by the Service Provider under the Contract Documents shall be ascertained by the application of the respective Schedule of Rates (the inclusive nature of which is more particularly defined by way of application but not of limitation, with the succeeding sub-clause of this clause) and payment to be made accordingly for the Services actually executed and approved by the Engineer-in-Charge. The sum so ascertained shall (except only as and to the extent expressly provided herein) constitute the sole and inclusive remuneration of the Service Provider under the Contract and no further or other payment whatsoever shall be or become due or payable to the Service Provider under the Contract.

##### 6.42.1.3 SCHEDULE OF RATES TO BE INCLUSIVE:

The prices/rates quoted by the Service Provider shall remain firm till the issue of Final Certificate and shall not be subject to escalation. Schedule of Rates shall be deemed to include and cover all costs, expenses and liabilities of every description and all risks of every kind to be taken in rendering the services to the Employer by the Service Provider. The Service Provider shall be deemed to have known the nature, scope, magnitude and the extent of the service though the Contract Document may not fully and precisely furnish/specify them. The Tenderer shall be deemed to include the requisite services as may be required to complete the Services properly including remedying of any defect therein.

6.42.1.4 SCHEDULE OF RATES TO COVER CONSTRUCTION EQUIPMENTS, MATERIALS, LABOUR ETC.:

Without in any way limiting the provisions of the preceding sub-clause the Schedule of Rates shall be deemed to include and cover the cost of all construction equipment, temporary work (except as provided for herein), pumps, materials, labour, insurance, fuel, consumables, stores & appliances and such other items / equipments / materials as required for carrying out the services by the Service Provider and all other matters in connection with each item in the Schedule of Rates and the execution of the Service or any portion thereof finished, complete in every respect and maintained as shown or described in the Contract Documents or as may be ordered in writing during the continuance of the Contract.

6.42.1.5 SCHEDULE OF RATES TO COVER ROYALTIES, RENTS AND CLAIMS:

The Schedule of Rates (i.e., Value of Contract) shall be deemed to include and cover the cost of all royalties and fees for the articles and processes, protected by letters, patent or otherwise incorporated in or used in connection with the Service, also all royalties, rents and other payments in connection with obtaining materials of whatsoever kind for the Service and shall include an indemnity to the Employer which the Service Provider hereby gives against all actions, proceedings, claims, damages, costs and expenses arising from the incorporation in or use in the Service of any such articles, processes or materials, octroi or other municipal or local Board Charges, if levied on materials, equipment or machineries to be brought to site for use for Services shall be borne by the Service Provider.

6.42.1.6 SCHEDULE OF RATES TO COVER TAXES AND DUTIES:

No exemption or reduction of Customs Duties, GST, Works Contract Tax or any port dues, transport charges, stamp duties or Central or State Government or local Body or Municipal Taxes or duties, taxes or charges (from or of any other body), entry tax, whatsoever, will be granted or obtained, all of which expenses shall be deemed to be included in and covered by the Schedule of Rates, unless mentioned specifically elsewhere in the Tender Document. The Service Provider shall also obtain and pay for all permits/licenses or other privileges necessary to complete the Service.

6.42.1.7 SCHEDULE OF RATES TO COVER RISKS OF DELAY:

The Schedule of Rates shall be deemed to include and cover the risk of all possibilities of delay and interference with the Service Provider's conduct/ performance of Services which occurs from any causes including orders of the Employer in the exercise of his power and on account of extension of time granted due to various reasons and for all other possible or probable causes of delay.

6.42.1.8 SCHEDULE OF RATES CANNOT BE ALTERED:

For Service under unit rate basis, no alteration will be allowed in the Schedule of Rates by reason of services or any part of them being modified, altered, extended, diminished or committed. The Schedule of Rates are fully inclusive of rates which have been fixed by the Service Provider and agreed to by the Employer and cannot be altered. For lumpsum Contracts, the payment will be made according to the Service actually carried out, for which purpose an item wise, or work wise Schedule of Rates shall be furnished, suitable for evaluating the value of Service provided and preparing running account bill. Payment for any additional Service which is not covered in the Schedule of Rates shall only be released on issuance of Amendment to LOA/Contract by the Employer.

6.42.2 PROCEDURE FOR BILLING OF SERVICES:

6.42.2.1 BILLING PROCEDURE:

Following procedures shall be adopted for billing of services executed by the Service Provider.

The Bill(s) complete in all respect with details and enclosure(s) is to be submitted by Service Provider in line with terms of the Contract. Employer shall make all endeavour to release payments of undisputed amount of the bills submitted within 30 (Fifteen) days from the date of receipt of Bills by the Engineer-in-Charge.

6.42.2.2 MODE OF MEASUREMENT:

The payment shall be made based on the mode of measurement as specified in the Contract. Otherwise, the mode of measurement shall be adopted as per latest Indian Standard Specifications.

6.42.3 NOTICE OF CLAIMS FOR ADDITIONAL PAYMENTS:

6.42.3.1 Should the Service Provider consider that he is entitled to any extra payment for any extra/additional Job(s)/Service(s) or material change in original Specifications carried out by him in respect of job, he shall forthwith give notice in writing to the Engineer-in-Charge that he claims extra payment. Such notice shall be given to the Engineer-in-Charge upon which Service Provider bases such claims and such notice shall contain full particulars of the nature of such claim with full details of amount claimed. Irrespective of any provision in the Contract to the contrary, the Service Provider must intimate his intention to lodge claim on the Employer within 10 (ten) days of the commencement of happening of the event and quantify the claim within 30 (thirty) days, failing which the Service Provider will lose his right to claim any compensation/ reimbursement/ damages etc.. Failure on the part of Service Provider to put forward any claim without the necessary particulars as above within the time above specified shall be an absolute waiver thereof. No omission by Employer to reject any such claim and no delay in dealing therewith shall be waiver by Employer of any of these rights in respect thereof.

- 6.42.3.2 Engineer-in-Charge shall review such claims within a reasonable period of time and cause to discharge these in a manner considered appropriate after due deliberations thereon. However, Service Provider shall be obliged to carry on with the Jobs/services during the period in which his claims are under consideration by the Employer, irrespective of the outcome of such claims, where additional payments for Services considered extra are justifiable in accordance with the Contract provisions, Employer shall arrange to release the same in the same manner as for normal job payments. Such of the extra services so admitted by Employer shall be governed by all the terms, conditions, stipulations and specifications as are applicable for the Contract. The rates for extra services shall generally be the unit rates provided for in the Contract. In the event unit rates for extra services so executed are not available as per Contract, payments may either be released on day work basis for which daily/hourly rates for workmen and hourly rates for equipment rental shall apply, or on the unit rate for Services executed shall be derived by interpolation/ extrapolation of unit rates already existing in the Contract. In all the matters pertaining to applicability of rate and admittance of otherwise of an extra service claim(s) of Service Provider, the decision of Engineer-in-Charge shall be final and binding on the Service Provider.
- 6.42.4 INSURANCE:
- 6.42.4.1 Service Provider shall, at his own expense, arrange appropriate insurance to cover all risks assumed by the Service Provider under this Contract in respect of its personnel deputed under this Contract as well as Service Provider's equipment, tools and any other belongings of the Service Provider or their personnel during the entire period of their engagement in connection with this Contract. Employer will have no liability on this account. The Personnel covered must be covered to meet the liability under Employee Compensation Act.
- 6.42.4.2 The provisions of this Clause shall in no way limit the liability of the Service Provider under the Contract.
- 6.42.4.3 If the Service Provider neglects, fails, or refuses to obtain or maintain insurances required to be effected, or fails to provide certification etc., the Employer has the right to procure and maintain policies at Service Provider's expense plus administrative cost of 10% of the amount of Insurance premium.
- 6.42.4.4 INSURANCE TYPES:
- Service Provider shall at all time during the currency of the Contract provide, pay for and maintain the following insurance amongst others:
  - Employee Compensation and Employer's common law liability insurance covering liability to employees of the Service Provider under the laws of their place or employment or place or injury, arising out of injury sustained in connection with any of the services. This insurance will be extended where submitted by law, to indemnify the Employer against any statutory liability which it may incur towards injured employees of the Service Provider. A proof of the same should be submitted to EIC for liability in line with Employees Compensation Act.
  - General Public Liability Insurance covering liabilities including contractual liability for bodily injury, including death of persons, and liabilities for damage of property. This insurance must cover all operations of Service Provider required to fulfill the provisions under this Contract.
  - Service Provider's Equipment/Materials/Goods used for execution of the work hereunder shall have an insurance cover with a suitable limit (as per international standards).
  - Automobile Public Liability Insurance covering owned, non-owned and hired automobiles used in the performance of the work hereunder, with bodily injury limits and property damage limits as governed by Indian Insurance regulations.
- 6.42.4.5 Service Provider shall obtain additional insurance or revise the limits of existing insurance as per Employer's request in which case additional cost shall be to Service Provider's account. Further, the Service Provider shall ensure the adequacy of Insurance at all time in accordance with the nature of the Service(s), terms of the Contract and Statutory requirements.
- 6.42.4.6 CERTIFICATE OF INSURANCE: Before commencing performance of the services, Service Provider shall on request furnish EIC/Employer with certificates of insurance indicating:
- type and amounts of insurance as required herein;
  - insurance company or companies carrying the aforesaid coverage;
  - effective and expiry dates of policies;
  - that the Employer may give advance notice for any material change in the policy. waiver of subrogation endorsement has been attached to all policies; and
  - the territorial limits of all policies.
- 6.42.4.7 If any of the above policies expire or are cancelled during the terms of the service, and Service Provider fails for any reason to renew such policies, the Employer may replace same and recover the charges towards premium plus administrative charges from Service Provider. Should there be a lapse in any insurance required to be carried out by the Service Provider hereunder for any reason, losses & penalty, if any resulting there from shall be to the sole account of the Service Provider.
- 6.42.4.8 Service Provider shall require all its Sub-Service Providers to provide such foregoing insurance cover as the Service Provider is obligated to provide under the Contract.
- 6.42.4.9 WAIVER OF SUBROGATION: All insurance policies of the Service Provider with respect to the operations conducted hereunder, shall be endorsed by the underwriter in accordance with the following policy wording: "The insurers hereby waive their rights of subrogation against any individual, Employer, affiliates or assignees for whom or with whom the assured may be operating to the extent of the Contractual indemnities undertaken by the Service Provider".
- 6.42.4.10 Deductible: That portion of any loss not covered by insurance provided for in this article solely by reason of deductible provision in such insurance policies shall be to the account of the Service Provider.
- 6.42.5 TAXES AND DUTIES:

6.42.5.1 The Service Provider, unless specified otherwise elsewhere in the Contract agrees to and does hereby accept full and exclusive liability for the payment of any and all Taxes, Duties, including GST now or hereafter imposed, increased, modified from time to time in respect of Services and materials and all contributions and taxes for unemployment compensation, insurance and old age pensions or annuities now or hereafter imposed by any Central or State Government authorities which are imposed with respect to or covered by the wages, salaries, or other compensations paid to the persons employed by the Service Provider and the Service Provider shall be responsible for the compliance of all Sub-Service Providers, with all applicable Central, State, Municipal and local law and regulation and requirement of any Central, State or local Government agency or authority. Service Provider further agrees to defend, indemnify and hold Employer harmless from any liability or penalty which may be imposed by the Central, State or Local authorities by reason or any violation by Service Provider or Sub-Service Provider of such laws, suits or proceedings that may be brought against the Employer arising under, growing out of, or by reason of the service provided for by this Contract, by third parties, or by Central or State Government authority or any administrative sub-division thereof. Tax deductions will be made as per the rules and regulations in force in accordance with acts prevailing from time to time.

6.42.5.2 Service Provider shall ensure timely submission of correct invoice(s) with all required supporting document(s) as per Contract within a period specified in Contracts to enable Employer to avail Input Tax Credit.

If Input Tax credit with respect to GST is not available to Employer for any reason which is not attributable to Employer, then Employer shall not be obligated or liable to pay or reimburse GST charged in the invoice(s) and shall be entitled to / deduct/ setoff /recover the such GST together with all penalties and interest if any, against any amounts paid or payable by Employer to Service Provider.

6.42.5.3 Where Employer has the obligation to discharge tax liability under reverse charge mechanism and Employer has paid or is /liable to pay GST to the Government on which interest or penalties becomes payable as per rules (as amended from time to time) for any reason which is not attributable to Employer or Input Tax credit with respect to such payments is not available to Employer for any reason which is not attributable to Employer, then Employer shall be entitled to deduct/ setoff / recover such amounts against any amounts paid or payable by Employer to Service Provider.

6.42.6 INCOME TAX: Income Tax deduction shall be made from all payments of the Service Provider as per rules and regulation in force in accordance with the Income Tax Act prevailing from time to time.

#### 6.42.7 STATUTORY VARIATIONS:

6.42.7.1 All duties, taxes (except where otherwise expressly provided in the Contract) as may be levied / imposed in consequences of execution of the Jobs/Services or in relation thereto or in connection therewith as per the Acts, Laws, Rules, Regulations in force on the due date of submission of Bid for this Contract shall be to Service Provider's account. Any increase / decrease in such duties, taxes after the due date of submission of bid but within the Contractual completion date as stipulated in the Contract will be to the account of Employer subject to submission of documentary proof to the satisfaction of Employer.

6.42.7.2 Any increase in the duties and taxes after the Contractual completion period will be to the Service Provider's account, where delay in completion /mobilization period is attributable to the Service Provider and the taxes & duties are not Cenvatable (i.e. Input Tax Credit (ITC) not available). In case of applicability of ITC / Cenvatable taxes & duties, payment shall be made as per the prevailing rates during the currency of the Contract. However, any benefit of decrease in duties and taxes after the Contractual completion will be passed on to the Employer.

In the event of introduction of any new legislation or any change or amendment or enforcement of any Act or Law, rules or regulations of Government of India or State Government(s) or Public Body which becomes effective after the due date of submission of Bid for this Contract but within the Contractual completion period (including extended period allowed due to reasons attributed to Employer) and which results in increased cost of the jobs/services under the Contract through increased liability of taxes, (other than personnel and Corporate taxes), duties, the Service Provider shall be indemnified for any such increased cost by the Employer subject to the production of documentary proof to the satisfaction of the Employer to the extent which directly is attributable to such introduction of new legislation or change or amendment as mentioned above and adjudication by the competent authority & the courts wherever levy of such taxes / duties are disputed by Employer.

6.42.7.3 Similarly, in the event of introduction of new legislation or any change or amendment or enforcement of any Act or Law, rules or regulations of Government of India or State Government(s) or Public Body which becomes effective after the due date of submission of Bid for this Contract and which results in any decrease in the cost of the services/ jobs through reduced liability of taxes, (other than personnel and Corporate taxes) duties, the Service Provider shall pass on the benefits of such reduced cost, taxes or duties to the Employer, to the extent which is directly attributable to such introduction of new legislation or change or amendment as mentioned above

### 6.43 LAWS, HEALTH, SAFETY & ENVIRONMENT

#### 6.43.1 LABOUR LAWS:

No labour below the age of 18 (eighteen) years shall be employed on the Job.

The Service Provider shall not pay less than what is provided under law to labourers engaged by him on the Job.

The Service Provider shall at his expense comply with all labour laws and keep the Employer indemnified in respect thereof.

The Service Provider shall pay equal wages for men and women in accordance with applicable labour laws.

If the Service Provider is covered under the Contract labour (Regulation and Abolition) Act, he shall obtain a license from licensing authority (i.e. office of the labour commissioner) by payment of necessary prescribed fee and the deposit, if any, before starting the Job under the Contract. Such fee/deposit shall be borne by the Service Provider.

The Service Provider shall employ labour in sufficient numbers either directly or through Sub- Service Provider's to maintain the required rate of progress and of quality to ensure workmanship of the degree specified in the Contract while also ensuring that workman is not stressed due to long hour of working and to the satisfaction of the EIC.

The Service Provider shall furnish to the EIC the distribution return of the number and description, by trades of the service people employed on the services. The Service Provider shall also submit to the EIC a true statementshowing in respect of the second half of the preceding month and the first half of the current month (1) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused bythem and (2) the number of female workers who have been allowed Maternity Benefit as provided in the Maternity Benefit Act 1961 on Rules made thereunder and the amount paid to them.

The Service Provider shall comply with the provisions of the payment of Wage Act 1936, Employee Provident Fund Act 1952, Minimum Wages Act 1948, EmployersLiability Act 1938, Servicemen's Compensation Act 1923, Industrial Disputes Act 1947, the Maternity Benefit Act 1961 and Contract Labour Regulation and Abolition Act 1970,Employment of Children Act 1938 or any modifications thereof or any other law relatingthereto and rules made thereunder from time to time.

The EIC shall on a report having been made by an Inspecting Officer as defined in Contract Labour (Regulation and Abolition) Act 1970 have the power to deduct from the money due to the Service Provider any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non- fulfilment of theConditions of the Contract for the benefit of workers, non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the Contract or non-observance of the said regulations.

The Service Provider shall indemnify the Employer against any payments to be made under and for the observance of the provisions of the aforesaid Acts without prejudice to his right to obtain indemnity from his Sub-Service Provider's.

#### 6.43.2 SAFETY REGULATIONS:

In respect of all labour, directly employed in the Service for the performance of Service Provider's part of this agreement, the Service Provider shall at his own expense arrange for all the safety provisions as per safety codes of acts as applicable.

The Service Provider shall observe and abide by all fire and safety regulations of the Employer. Before starting service, Service Provider shall consult with Employer's safety Engineers or EIC and must make good to the satisfaction of the Employer any loss or damage due to fire to any portion of the service done or to be done under this agreement or to any of the Employer's existing property.

#### 6.43.3 FIRST AID AND INDUSTRIAL INJURIES:

Service Provider shall maintain first aid facilities for its employees and those of its Sub- Service Provider.

Service Provider shall make outside arrangements for ambulance service and for the treatment of industrial injuries. Names of those providing these services shall be furnished to Employer prior to start and their telephone numbers shall be prominentlyposted in Service Provider's field office.

All critical industrial injuries shall be reported promptly to Employer, and a copy of Service Provider's report covering each personal injury requiring the attention of aphysician shall be furnished to the Employer.

#### 6.43.4 GENERAL RULES:

- 6.43.4.1 Smoking within the battery area, tank farm, dock limits or any such area identified by EIC or mentioned in SCC or any guideline, is strictly prohibited. Violators of the no smoking rules shallbe discharged immediately after imposing the applicable penalty(ies). Decision of EIC in the matter shall be final and binding on the Service Provider.

#### 6.43.5 CARE IN HANDLING INFLAMMABLE GAS:

- 6.43.5.1 The Service Provider has to ensure all precautionary measures and exercise utmost care in handling the inflammable gas cylinder/inflammable liquids/paints etc. as required under the law and/or as advised by the fire Authorities of the Employer.

#### 6.43.6 PRESERVATION OF PLACE:

आई आर ई एल (इंडिया) लिमिटेड (भारत सरकार का उपक्रम)  
(पहले इंडियन रेअर अर्थ्स लिमिटेड), चवरा-691583, कोल्लम जिला, केरल  
IREL (India) Limited (A Government of India Undertaking)  
(Formerly Indian Rare Earths Limited), CHAVARA - 691 583, KOLLAM DIST., KERALA  
CIN: U15100MH1950GOI008187. GSTIN: 32AAACI2799F1ZN

6.43.6.1 The Service Provider shall take requisite precautions and use his best endeavours to prevent any riotous or unlawful behaviour by or amongst his worker / personnel employed for the services and for the preservation of peace and protection of the inhabitants and security of property in the neighbourhood of the Site. In the event of the Employer requiring the maintenance of a Special Police Force at or in the vicinity of the site during the tenure of services, the expenses thereof shall be borne by the Service Provider and if paid by the Employer shall be recoverable from the Service Provider.

6.43.7 ENVIRONMENT:

6.43.7.1 Employer acknowledges their commitment to conduct their respective operations in a manner which not only complies with all relevant environmental protection and pollution control legislation but also such operations do not cause environmental damage or pollution and in a manner which acknowledges other cultural and associated considerations. In recognition of this commitment, the Service Provider shall perform the services in such a way as to avoid or minimize environmental damage or pollution and fully recognize the special aspects of the environment as communicated by Employer or as applicable. Service Provider shall comply with, and the Service Provider shall ensure compliance with all applicable environmental protection and pollution control legislation as it relates to the services.

6.44 RESOLUTION OF DISPUTES/ ARBITRATION:

6.44.1 The EMPLOYER and the CONTRACTOR 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.

6.44.2 If, after thirty days from the commencement of such informal, good faith negotiations, the EMPLOYER and the CONTRACTOR have been unable to resolve the disagreement or dispute, the same shall be referred for resolution as per the formal mechanism as specified hereunder shall be applicable.

6.44.3 LEGAL CONSTRUCTION: The Contract shall be, in all respects be construed and operated as an Indian Contract and in accordance with Indian Laws as in force for the time being.

6.45 ARBITRATION:

6.45.1.1 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 determination, abandonment or breach of contract) shall be referred to and settled by the person authorized and notified in writing by IREL 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.

6.45.1.2 If the CONTRACTOR 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.

6.45.1.3 If the period of 30 days under Clause (b) has expired at any stage, stipulated in the preceding paras without any response from the CONTRACTOR before such expiry, the CONTRACTOR is deemed to have communicated his satisfaction to the decision of IREL at the relevant stage and all his rights of further appeal or as the case may be, adjudication are deemed to have been waived once and for all.

6.45.1.4 The seat of arbitration will be at \_\_\_\_\_ and the language thereof shall be English.

6.45.1.5 Notwithstanding the invocation, commencement and/or pendency any dispute resolution proceedings under this Clause including arbitration under Clause 6.4, the CONTRACTOR 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.

6.45.1.6 The CONTRACTOR 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 to and / or referred to dispute resolution under Clause 6.44(c) including Arbitration under Clause 6.44.4.

6.46 JURISDICTION: The courts only shall, subject to Arbitration Clause, have exclusive jurisdiction to deal with and decide any matter arising out of this contract

6.47 ENVIRONMENT

6.47.1 IREL acknowledges their commitment to conduct their respective operations in a manner which not only complies with all relevant environmental protection and pollution control legislation but also such operations do not cause environmental damage or pollution and in a manner which

acknowledges other cultural and associated considerations. In recognition of this commitment, the Service Provider shall perform the services in such a way as to avoid or minimize environmental damage or pollution and fully recognize the special aspects of the environment as communicated by Employer or as applicable. Service Provider shall comply with, and the Service Provider shall ensure compliance with all applicable environmental protection and pollution control legislation as it relates to the services.

- 6.47.2 In case of supply of items or items brought to IREL premises for works, the packaging shall be done with suitable environmental friendly /bio-degradable material to the possible extent. Further, it is the responsibility of the contractor to dispose of all packing materials of items brought inside IREL premises for carrying out the work, as per the direction of Engineer/ Officer in-charge concerned.

#### 6.48 Variations/ Deviation/ Amendments:

- 6.48.1 Every item of purchase/ works contracts may be planned and designed in detail before the purchase/work order is finalized so that deviation in orders during the progress of supply/work are avoided as far as possible
- 6.48.2 While sanctioning additional quantity, and /or deletion of any item, and/or reduction in any quantity, it shall be ensured that same does not contravene the decision regarding the selection of tenderer in the first instance and the selected bidder continues to be lowest.

**7. Annexure – 1 to GENERAL CONDITIONS OF CONTRACT**

7.1 **CORRESPONDENCE:** All correspondence shall be in English and addressed to IREL (India) Limited drawn to the attention of the officer issuing the order, unless otherwise specifically authorized.

7.2 **SECURITY REGULATIONS:** The Contractor shall abide by all the security regulations at site promulgated by IREL (India) Limited from time to time. The Contractor shall provide identity badges for all his personnel, which must be properly displayed by them at site.

7.3 **JURISDICTION**

The courts within the local limits of whose jurisdiction the place from which the purchase/work order is issued is situated only shall, subject to Arbitration Clause, have jurisdiction to deal with and decide any matter arising out of this contract. In the event of disputes same will be subject to exclusive jurisdiction of Court of Kollam, Kerala.

7.4 **NO CLAIM FOR COMPENSATION FOR SUBMISSION OF TENDER:**

The tenderer whose tender is not accepted shall not be entitled to claim any costs, charges, expenses of and incidental to or incurred by him through or in connection with his submission of tender, even though IREL (India) Limited may elect to withdraw the invitation to tender.

7.5 **RELATED PARTY:**

Bids submitted by related parties in which there seems to be collusion are liable to be rejected. Parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial and /or operating decision.

7.6 **Quantities:** The quantities indicated in the Tender are indicative and IREL is not obligated to place order for the full quantities. Bidders shall be willing to accept and execute order at their quoted rates / as agreed upon by IREL.

7.7 **CANCELLATION**

IREL (India) Limited reserves the right to cancel the Purchase/work/service/consultancy Order or any part thereof and shall be entitled to rescind the contract wholly or in part in a written notice to successful tenderer if;

- Successful tenderer fails to comply with the terms of the purchase/work/service/consultancy order.
- Successful tenderer fails to convey written acceptance of the Order within 15 days of receipt at their end.
- Successful tenderer fails to deliver goods on time and / or to replace the rejected goods promptly.
- Successful tenderer becomes bankrupt or goes into liquidation.
- Successful tenderer make a general assignment for the benefit of creditors and a receiver is appointed for any of the property owned by successful tenderer fails.

Upon receipt of the said cancellation notice the successful tenderer shall discontinue all work on the Purchase/work/service/consultancy order and matters connected with it. IREL (India) Limited in that event will be entitled to procure the requirements in the open market and recover excess payment over Successful tenderer's agreed price, if any, from reserving to itself the right to forfeit the EMD and/or security deposit, if any, submitted by the successful tenderer against the contract.

7.8 **BENEFITS TO MICRO AND SMALL ENTERPRISE(MSE)s:**

Micro & Small Enterprises (MSEs) registered with National Small Industries Corporation (NSIC) are eligible for the following benefits:

Issue of tender document free of cost

Exemption from payment of Earnest Money Deposit

Price preference up to 15%.

In case MSE participates in the TReDS Platform, they stand to get benefits. Visit <https://www.rxil.in/Home/Index> for more info.

Note: Refer The Gazette of India: Extraordinary Part II, Section 3 (ii) for new definition of MSME status, which is effective 01.07.2020.

In tender, participating Micro and Small Enterprises quoting price within price band of L1+15% shall also be allowed to supply a portion of the requirement after they bring down their price to L1 price, in a situation where L1 price is from someone other than a Micro and Small Enterprise. Such Micro and Small Enterprise shall be allowed to supply at least 25% of total tendered value or as per existing MSE rules in force.

In case of more than one MSE coming in the price band of L1+15%, the quantity allotted to MSEs shall be shared in equal proportion among such MSEs, provided all of them bring down their price to L1 price.

Within this (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

MSEs are required to submit along with their offer, Udyog Aadhaar Memorandum or valid Registration Certificate issued by NSIC/DIC/KVIC/KVIB/Coir Board/ Directorate of Handicrafts and Handlooms or valid certificate issued by any other body specified by Ministry of MSME. Benefits available to MSEs will not be provided to those MSEs who submit such documents after opening of the bids. Any changes to the Public Procurement Policy of the Govt. of India as notified from time to time shall be applicable to this contract. MSEs claiming benefits available through registration with the above bodies have to clearly mention whether their offer is to be considered by IREL for grant of MSME benefits.

The above benefits available to MSE bidders shall be provided only to those MSE bidders who submit Udyog Aadhaar Memorandum or certificate issued by NSIC/DIC/KVIC/KVIB/Coir Board/ Directorate of Handicrafts and Handlooms or any other body specified by Ministry of MSME and upload the same in CPP (Central Public Procurement) Portal.

Should any conditions in the General Conditions of Contract be contrary to the Special Conditions of the Contract, such Special Conditions of Contract shall prevail.



- 7.8.1 In case of any discrepancy in the Tender terms and conditions, the uploaded Tender terms and conditions shall be final.
- 7.8.2 In case of exigencies, IREL reserves right to release the repeat order with the same terms and conditions and at the rate agreed upon(after discount if any) , after considering additional business. The party shall be ready to accept and execute such repeat order.
- 7.8.3 **TReDS : TReDS is an electronic platform for facilitating the financing / discounting of trade receivables of Micro, Small and Medium Enterprises (MSMEs) through multiple financiers. These receivables can be due from corporates and other buyers, including Government Departments and Public Sector Undertakings (PSUs). Sellers, buyers and financiers are the participants on a TReDS platform. Only MSMEs can participate as sellers in TReDS. MSME need to register themselves in TReDS Platform. On completion of Registration, IREL reserve right to establish buyer-seller relation in TReDS Platform.If, already registered on TReDS platform, details of the same are to be furnished at the time of bidding.**
- 7.8.4 After delivery of material/ service completion, Sellers intending to avail bill discounting facility need to upload two copies of Invoice as per GST Rules, Bill of exchange for payable amount of bill as per payment milestone, Stores receipt voucher duly authenticated by IREL (in case of supply)/ Service acceptance letter duly authenticated by IREL (in case of service) . IREL shall provide acceptance of Bill in the Portal based on contractual payment terms after deduction of tax deducted at source as per Income Tax act, GST Rules and imposition of Liquidated damages, if applicable. Seller shall agrees to bear charges for bill discounting and processing fee. Seller thereafter can avail bill discounting facility from financier. Payment from IREL shall be made to such financier.
- 7.8.5 IREL (India) Limited is onboard with TReDS platform of M/s RXIL , Mixchange, Invoicemart,C2treds(C2FO),DTX- KreDX platform Private Limited for facilitating Bill Discounting for MSME's.
- 7.8.6 As per DPE/7(4)/2007-Fin dt 21/08/2020 , it is mandatory to get all the MSME vendors registered on the platform.
- 7.8.7 Vendors can get themselves registered at: <https://onboarding.rxil.in/customerapp/home>.
- 7.8.8 The registration fees of MSMEs on TReDS Platform is Free of Cost as per the new guidelines provided by SIDBI.

- RXIL Relationship manager Mr.SatyajeetJathar : +91 99201 00784 / +91 90041 00784 email: [satyajeet.jathar@rxil.in](mailto:satyajeet.jathar@rxil.in)  
RXIL Relationship manager Mr Kirtimusal : +91 90048 17501 email: [kirti.musale@rxil.in](mailto:kirti.musale@rxil.in)
- Mixchange  
Registration number is – BUYER00047728  
Contact person : Ar. Ankit K Singh, 9800250394, email : [ankitsingh@m1xchange.com](mailto:ankitsingh@m1xchange.com)
- Invoicemart  
Entity ID/Registration number - 1000036436  
Contact person : Mr.Amit Dutta, 8600179668, email : [Amit1.Dutta@invoicemart.com](mailto:Amit1.Dutta@invoicemart.com)
- C2treds(C2FO)  
Registration number - B0320250094  
Contact person : Ms.Monalisa, 9220407665, email : [monalisa.das@c2treds.com](mailto:monalisa.das@c2treds.com)
- DTX-KreDX  
Registration number - COL75X754M2W.  
Contact person : Prathamesh Varose : +91-8600273564 email : [prathamesh.varose@kredx.com](mailto:prathamesh.varose@kredx.com)  
Jason Chongtham : +91-9600063327 email : [jason@kredx.com](mailto:jason@kredx.com)

IREL (India) Limited Unit Administrator Smt. UshaNandhini +91-476-2680701 Ext-223 email : [usha.nandhini@irel.co.in](mailto:usha.nandhini@irel.co.in)  
IREL (India) Limited Nodal Officer Mr K.V Ramakrishna : email: [kvramakrishna@irel.co.in](mailto:kvramakrishna@irel.co.in)

(Refer The Gazette of India: Extraordinary Part II, Section 3 (ii) for new definition of MSME status, which is effective 01.07.2020)

- 7.8.9 Should any conditions in the General Conditions of Contract be contrary to the Special Conditions of the Contract, such Special Conditions of Contract shall prevail.
- 7.8.10 In case of any discrepancy in the Tender terms and conditions, the uploaded Tender terms and conditions shall be final.
- 7.8.11 In case of exigencies, IREL reserves right to release the repeat order with the same terms and conditions and at the rate agreed upon(after discount if any) , after considering additional business. The party shall be ready to accept and execute such repeat order.

आई आर ई एल (इंडिया) लिमिटेड (भारत सरकार का उपक्रम)  
(पहले इंडियन रेअर अर्थ्स लिमिटेड), चवरा-691583, कोल्लमजिला, केरल  
IREL (India) Limited (A Government of India Undertaking)  
(Formerly Indian Rare Earths Limited), CHAVARA - 691 583, KOLLAM DIST., KERALA  
CIN: U15100MH1950GOI008187. GSTIN: 32AAACI2799F1ZN

7.9 **Preference to Make In India products:**

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. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate of eligibility from the concerned authorities as per Order.

## 8 Annexure II of GCOC -- Safety Provisions

### 8.1 GENERAL

- 8.1.1 For the purpose of this GENERAL SAFETY CODE, the term 'Contractor' shall include 'Supervisor' deputed by the contractor for site supervision as well as all personnel deputed by contractor to the site.
- 8.1.2 Contractor, Supervisor and personnel shall follow the safety regulations under all applicable Acts of Indian Parliament and Indian standards.
- 8.1.3 Contractor, Supervisor and all personnel shall wear Identity Cards on their persons. These Identity cards shall be issued by the contractor and shall bear name, signature and date of the Contractor.
- 8.1.4 Names of Supervisors and all personnel deputed by the Contractor complete with qualification, age and postal address shall be declared by the Contractor before engagement of such personnel.
- 8.1.5 All supervisors and personnel shall undergo a Safety Orientation Training (SOT) imparted by the Safety Department before being engaged in work. The Contractor and Supervisors shall write to Engineer –in-charge to ensure refresher training from Safety Department before the expiry of the date of validity of SOT. EIC shall ensure that a copy of "SAFETY GUIDE" for IREL Chavara is issued to the contractor before commencement of work.
- 8.1.6 The work area and the approach ways shall be cleaned before and after work every day for five minutes. The work areas shall be maintained in a neat and clean manner throughout the working hours. No cluttering shall be allowed which is a risk for any one walking in the area. A neat and clean area contributes largely to safety.
- 8.1.7 First aid kits as advised by IREL Medical Department shall be maintained at the work site by the Contractor/ Supervisor.
- 8.1.8 Contractor/ Supervisor shall take all measures at the work site to protect the public from accidents and shall be bound to bear the expenses of defense of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to be liable to pay such persons claims as per law.
- 8.1.9 All necessary personnel safety equipment such as safety helmets, safety shoes, double life line safety belts, gloves, safety goggles, face masks, etc. as considered adequate by Engineer-In-Charge (EIC) or safety officers of IREL shall be kept available for the use for persons employed at the site of work and maintained in a condition suitable for immediate use. The Contractor/ Supervisor shall take all steps to ensure proper use of equipment by the workers. The contractor shall provide safety shoes to all its employees deployed at site. In case of an accident resulting in any rest of disability to the workmen the same should be immediately reported to the safety officer/ Engineer-in-charge.
- 8.1.10 Before commencing field work the contractor shall submit a HIRA (Hazard Identification and Risk Analysis) for works requiring Class-1 or electrical safety permits, complete with Control Measures, to the EIC for his review and approval.
- 8.1.11 Work at Height : Rope Access systems and Personal Protective Equipment for Protection against fall as per ISO-22846-1:2003 and 22846-2:2012. No extra cost shall be paid for this special safety arrangement

### 8.2 ELECTRICAL ENGINEERING ASPECTS

- 8.2.1 Adequate precautions shall be taken to prevent danger from electrical equipment.
- 8.2.2 Isolator shall be kept in OFF position when personnel are working on concerned circuits.
- 8.2.3 Fuses shall be removed when personnel are working on concerned circuits.
- 8.2.4 "MEN AT WORK" boards are put on the feeder when personnel are working on concerned circuits.
- 8.2.5 All portable tools are supplied through ELCB
- 8.2.6 Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards.
- 8.2.7 Hoisting appliances to be provided with means to reduce to the minimum the risk of any part of suspended load becoming accidentally displaced.
- 8.2.8 8. "V- Belts shall not be used for any lifting purposes.
- 8.2.9 9. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary shall be provided.
- 8.2.10 The workers shall not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
- 8.2.11 No work shall be done on live electrical parts under rain or in wet clothes.

### 8.3 MECHANICAL ENGINEERING ASPECTS

- 8.3.1 Use of hoisting machines and tackle including their attachments, anchorage and support shall conform to the Indian Standards.
- 8.3.2 Hoisting machines and tackle including their attachments, anchorage and support shall be of good mechanical construction, sound material and adequate strength and free from visible defect and shall be kept in good repair and in good working order.
- 8.3.3 Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.
- 8.3.4 V-Belts shall not be used for any lifting purposes.
- 8.3.5 Every crane drive or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in charge of any hoisting including any scaffolding which or give signals to operator.
- 8.3.6 In case of every hoisting machine and of every chain ring hook, shackle shovel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load expect for the purpose of testing.
- 8.3.7 In case of departmental machines, the safe working load shall be notified by the company. As regards your machines, you shall notify the safe working load of the machine to the Company whenever you bring any machinery to site of work and get it verified by the company.
- 9.3.8 Hoisting appliances should be provided with such means as will reduce to the minimum the risk of any part of suspended load becoming accidentally displace

#### 9 IREL Bank Details for money transfer through RTGS/NEFT

1. Name of the Bank: State Bank of India, Chavara, Kollam.
2. Bank A/C No. 57013595003
3. IFSC Code: SBIN0070055

After remittance of the amount, the party has to intimate the following details to IREL.

- 1) UTR No.
- 2) Name of the party.
- 3) Date of remittance.
- 4) Amount remitted.
- 5) Order from IREL against which payment is made.

#### 10 REGISTRATION DETAILS

Name of the firm	
PF Regn. No.	
PAN	
Micro Small Medium Enterprise Type and Regn. No.	
Category to which the MSME belongs	SC/ST / Women / Others
GST Regn.No.	
Name of the Contact Person	
Phone Number(s) - Landline / Cell phone	
Email address(es)	

Refer The Gazette of India: Extraordinary Part II, Section 3 (ii) for new definition of MSME status, which is effective 01.07.2020.

In case MSE participates in the TReDS Platform, they stand to get benefits. Visit <https://www.rxil.in/Home/Index> for more info.

**Note:** The contractor shall furnish

1. Self-certified copy of PAN card.
2. Self-certified copy of GST registration certificate (if any) before the commencement of the work.
3. In case the supplier is not having GST registration certificate, supplier is required to declare the same.

**Note:**

Page No. 4 (containing 'Undertaking' and 'Declaration') and Page No. 29 (containing 'Bank/Remittance Details' and 'Registration Details') shall be filled in, signed, seal-affixed and submitted along with the bid.

**11 BID SECURITY DECLARATION FORM**

Tender No.

Date:

To,

M/s. IREL (India) Limited,  
Chavara-691583

I/we declare as follows:

I/we understand that, according to your conditions, bids must be supported by a Bid Security Declaration.

I/We accept that I/we may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am/ we are in a breach of any obligation under the bid conditions, because I/we

- a) have withdrawn/ modified / amended / impaired / derogated from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity(i) failed or refused to execute the contract, as required, or (ii) failed or refused to furnish the performance security, in accordance with the 'Instructions to Bidders'.

I/we understand this Bid Security Declaration shall cease to be valid if I am/ we are not the successful Bidder or (i) upon receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of validity of my/our Bid, whichever is earlier.

Signed:

Name:

Address:

Duly authorized to sign the bid for and/or on behalf of \_\_\_\_\_ dated \_\_\_\_\_ day of \_\_\_\_\_

Corporate seal (where appropriate)

## **12 अन्य शर्तें / OTHER COMMERCIAL CONDITIONS**

### **12.1 EMD (Earnest Money Deposit) / Bid Security:**

**(Applicable for Bids having estimated value higher than Rs.5,00,000/- , excl. GST)**

- 12.1.1 EMD (Bid Security) for procurement of Good & Services is exempted for Micro and Small Enterprises (MSEs) as defined in  
a) MSE Procurement Policy 2012 issued by Department of Micro, Small and Medium Enterprises (MSME) and subsequent amendments or  
b) Those who are Start-ups as recognised by Department of Industrial Policy & Promotion (DIPP).
- 12.1.2 Earnest Money Deposit may be accepted in the form of Insurance Surety Bonds / Account Payee Demand Draft / Fixed Deposit Receipt / Banker's Cheque or Bank Guarantee (including e-Bank Guarantee) from any of the Commercial Banks or payment online in an acceptable form, safeguarding the purchaser's interest in all respects.
- 12.1.3 In case where the EMD is provided in form of BG/e-BG it shall remain valid for a period of 30 days beyond the bid validity period.
- 12.1.4 Bidders eligible for exemption of EMD shall submit, along with the offer, valid MSE certificate or Udyam Registration document or certificate issued by DIPP or any other relevant documents approved by Ministry of MSME for getting the eligibility.
- 12.1.5 No interest shall be paid on EMD. EMD shall be dealt with as follows:  
a) EMD shall be returned to unsuccessful bidder after finalisation of order, but not later than 30 days of finalisation of order.  
b) In case of successful bidder it shall be adjusted as a part of Security Deposit (SD).
- 12.1.6 The EMD shall be forfeited if:  
a) The bid is revoked during its validity period.  
b) The bidder changes the terms and conditions or prices or withdraws his quotation subsequent to the date of opening.  
c) The bidder fails to accept the order when placed or fails to commence work after accepting the order.  
d) The bidder submits false/fabricated documents.  
e) The bidder fails to submit SD as stipulated in the tender.

### **12.2 SECURITY DEPOSIT (SD) / Performance Security:**

**(Applicable for Orders having value higher than Rs.5,00,000/- , excl. GST)**

- 12.2.1 The successful tenderer shall furnish a SD amounting to 5 % of the contract value within 21 days of receipt of LOI. Performance Security (SD) may be furnished in the form of Insurance Surety Bonds / Account Payee Demand Draft / Fixed Deposit Receipt from a Commercial Bank / Bank Guarantee (including e-Bank Guarantee) from a Commercial Bank or online payment in an acceptable form, safeguarding the purchaser's interest in all respects.
- 12.2.2 In case where the SD is provided in form of BG/e-BG, it shall remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the supplier/ contractor.
- 12.2.3 The Security deposit shall be for the due and faithful performance/execution of the contract and will be subject to the terms and conditions finally concluded between the contractor and IREL (India) Limited.
- 12.2.4 The SD will be refunded on application by the contractor after satisfactory completion of the entire contract by discharging all obligations under the contract.
- 12.2.5 Should the extent or object of the contract be altered during the execution of the contract in such a way that the contract price changes by more than 10 %, then the SD shall be increased or decreased accordingly. However this does not apply to variation in contract amount due to diesel escalation clauses if provided in the tender, change in statutory duties and levies.
- 12.2.6 In the event of SD getting reduced by any deductions etc, the contractor shall within 15 days thereof make good for equal amount any sum /sums which may have been deducted from his SD.
- 12.2.7 In case of failure on part of the contractor in performance of his part of the contract, the SD will be forfeited without any further notice.

### **12.3 PAYMENT TERMS**

- 12.3.1 Payment shall be made within one month of submission of bills and after completion of the work after certification by Engineer-In-Charge.
- 12.3.2 All payments will be subject to deduction of income tax at source at the prevailing rates of tax as provided in the Income Tax Act.
- 12.3.3 Payments will be made through e-payment. For facilitating e-payment, the supplier shall provide
- Beneficiary name
  - Account number
  - Name of the bank
  - IFSC
  - Nature of account (Saving/ Current/ CC/ OD)

- Branch code

#### 12.4 SUBMISSION OF INVOICES

Bidders shall ensure submission of GST Invoice as per the formats prescribed by the statutory authorities indicating GST Reg. No. of both bidder as well as IREL (32AAACI2799F1ZN) to enable IREL to avail Input Tax Credit. Invoice must contain PAN, GST and bank details of the Vendor. In case value of goods purchased from the vendor during the year exceeds Rs.50 lakhs (Fifty Lakhs), TDS @0.1% will be deducted on the amount exceeding Rs.50 Lakhs. Non-furnishing of PAN details by vendor shall attract TDS deduction @5% on the amount exceeding Rs.50 lakhs.

#### 12.5 TENDER SUBMISSION:

12.5.1 The Tender shall be submitted online only as per the following:

12.5.2 Prices quoted in the tender shall be firm and valid for 180 days from the date of opening.

#### 12.6 VALIDITY OF BID

Tender validity period shall be **120 days** from the date of opening. In the event of Bidder withdrawing his Bid before the expiry of validity period, the EMD, if any, shall be forfeited.

#### 12.7 ACCEPTANCE OF TENDER

IREL (India) Limited reserves the right to accept or reject all or any tender without assigning any reasons and does not bind themselves to accept the lowest offer.

#### 12.8 AMENDMENTS

12.8.1 At any time prior to the last date for submission of bids, **IREL reserves the right to amend and modify the tender document** and the same may be intimated accordingly.

12.8.2 The amendment so carried out shall form part of the main tender and shall be binding upon the Tenderers. IREL (India) Limited may at their discretion, extend the last date for submission of bids, to enable bidders to have reasonable time to submit their bid after taking into consideration such amendments.

#### 12.9 Submission of Bid Security / Performance Security:

- Bid Security shall be furnished in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks or payment online in an acceptable form, safeguarding the Purchaser's interests in all respects.
- Performance Security shall be furnished in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt from a Commercial Bank, Bank Guarantee from a Commercial Bank or online payment in an acceptable form, safeguarding the Purchaser's interests in all respects.

**13 निविदा अनुसूची/ SCHEDULE OF TENDER (SOT)**

No.	Particulars	
13.1	Name of Work	Request for Proposal for Selection of agency for Procurement, supply, transportation, dismantling, Erection and commissioning of Pre HUS facility at IREL(India)Limited, Chavara on Engineering Procurement Construction (EPC) basis
13.2	Type of Tender	Public Tender through GeM Portal
13.3	Estimated Contract Value including Taxes	Rs.12,07,50,000/- (Excl.GST) Rs.14,24,85,000/- (Incl.GST)
13.4	Start Bid Date and Time	Through GEM Portal
13.5	Close Bid Date and Time	
13.6	View Tender Date and Time	
13.7	Opening of Techno-Commercial Bid	
13.8	Opening of Price Bid	
13.9	Tender Document Cost (TDC) to IREL	Nil
13.10	Earnest Money Deposit (EMD) to IREL	Rs.25 LAKHS
13.11	<b><u>Prequalification criteria of the Tender:</u></b> <b><u>PQ1: Technical capability :</u></b> The Bidder shall be a legal entity registered under the Indian Companies Act 2013, having completed at least 1 (one) EPC project/ composite contract (Procurement, supply, construction, erection and commissioning on lump sum turnkey basis in any mining/ mineral processing industry in India.	<b><u>Document required as applicable -</u></b> Contract copy along with commissioning certificate /work completion certificate OR Evidence in proof of the release of Performance Bank Guarantee(s) against the work order(s) executed along with copies of the work order(s) supported with TDS certificate /26 AS OR The bidder may submit certificate from practicing chartered accountants stating the payments received and works completed, as the case may be, along with declaration on the letter head of the bidder in respect of the Projects specified in the Pre-Qualification criteria.  NB : In case a particular job/ contract provided as reference has been sublet by the bidder to any firm or organization , and if both bidder and sub-contractor participate in the bid referring to the very same job executed , the credentials of the bidders will be considered for evaluation.
	The bidder should produce back up letter from key manufacturers of spiral concentrators from IRELS preferred vendor list , who have supplied this equipment to heavy mineral sands industry in India.	Backup letter from equipment manufacturers of reputed make and as per the specification mentioned in the Appendix 8(B) and the scope of work..



	<b>Financial capability</b> The bidder should have minimum average annual turnover of INR.362 lakhs over the last three audited financial years (ie. FY 2022-23, FY 2023-24, FY 2024-25)	Extract from the audited balance sheet and Profit & Loss account: and / or certificate from practicing Chartered Accountant for FY 2022-23, FY 2023-24, FY 2024-25 is to be submitted
	The Net Worth of the Bidder should be positive.	Certificates(s) from practicing chartered accountant specifying the Net Worth as at the close of the preceding three financial years
	Note : Bidder may use support of their parent/holding company to meet the technical qualifications. In such case, the parent/holding company shall provide a letter of authorization and irrevocable support to the bidder.	
13.14 (b)	<ol style="list-style-type: none"> <li>1. After opening of the tender, if required, clarifications shall be sought only on documentary proof already submitted online against the qualification criteria of the tender.</li> <li>2. No resubmission of documentary proof against the qualification criteria of this tender shall be sought after opening of this tender.</li> <li>3. Offer submitted without above mentioned documentary proof shall be considered as unresponsive and summarily rejected without any further notice.</li> <li>4. Bidders blacklisted by IREL are not eligible to participate in the bid.</li> </ol>	
13.15	Security Deposit	As per Clause 12.2
13.16	Period of Contract	As per Clause 18.6
13.17	Payment of the contractor	As per billing schedule
13.18	Liquidated Damages	As per Clause 6.22

कृते आई आर ई एल (इंडिया) लिमिटेड / For IREL (India) Limited

विभागाध्यक्ष (वाणिज्य) /HOD (Commercial)

## 14 INTRODUCTION

### 14.1 BACKGROUND

- 14.1.1 IREL (India) Limited (the “IREL”), a Mini-Ratna Category-I company, is a Central Public Sector Enterprise (CPSE) of the Government of India under the administrative control of the Department of Atomic Energy. It is the largest beach sand mining & mineral separation company in India and has its operating units at Chavara (Kerala), Manavalakurichi (Tamil Nadu) & Orissa Sands Complex - OSCOM (Odisha). The total installed capacity of IREL is 5,10,000 tons per annum (tpa) of Ilmenite along with other associated minerals such as Rutile, Leucoxene, Zircon, Sillimanite, Garnet, etc. OSCOM unit of IREL also has a Rare Earth Extraction Plant for producing Mixed Rare Earth Chloride (MRCL) and Tri-Sodium Phosphate. The MRCL is further processed for production of separated High Pure Rare Earths (HPRE) at Rare Earth Division of IREL at RED, Aluva.
- 14.1.2 IREL is presently mining beach sand minerals at Chavara situated in Kollam district of Kerala. The Chavara deposit covering mining lease area of 350 Ha. Extends over a length of 8 km along the beach. The total reserves of the deposit are 1.5 Mt of raw sand with 15-20% heavy minerals such as Ilmenite, Rutile, Zircon and Sillimanite.
- 14.1.3 Mining is carried out through surface mining by engaging excavator-tipper combination, manual collection of mineral sand by engaging forum members and desilting of TS canal using dredgers of 100TPH capacity. The mineral sand collected from above sources are processed in HUS (Heavies Up-gradation Plant) and spiral plant installed at Vellanathuruthu(VT) mining site. Output from VT spiral plant is fed to HUS and its output is fed to into a land based MSP for producing 2.0 Lakh tpa of ilmenite and associated minerals like Rutile, Zircon, Sillimanite, etc.

### 14.2 PROPOSED PROJECTS

- 14.2.1 IREL intends to install a Pre HUS facility consists of installation of new Electrical substation, feeding bunker, de-sliming system and spiral separator for up gradation of HM in raw sand prior to existing HUS for increasing the throughput of HUS to 200 tph.
- 14.2.2 As part of this endeavour, IREL has decided to undertake installation of the Project on EPC (Engineering Procurement Construction) basis. Now, IREL intends to appoint an agency through this bid process for setting up of the Projects on EPC basis.
- 14.2.3 The role of Selected Bidder will include all the following activities, but will not be limited to:
- 14.2.3.1 Procurement, Supply, Construction, Installation, Erection, Testing and Commissioning of the project including Dismantling of the existing plant based on the flow sheet developed by IREL (India) Limited .
  - 14.2.3.2 Formulization of equipment SoP's (Standard Operating Procedures) and adherence to safety norms
  - 14.2.3.3 Commissioning of the plant within relevant environmental norms.

IREL will remain owner of assets and products. IREL will undertake decision-making, monitoring and supervision related to engineering, procurement, erection and commissioning of equipment/ plant. However the risk and liability of the plant including manpower, machinery, safety etc lies with the successful bidder.

### 14.3 BRIEF DESCRIPTION OF BIDDING PROCESS

IREL intends to select an agency for awarding the Projects through competitive bidding process set out herein.

IREL (India) Limited invites online tenders from the prospective bidders of repute to participate in our tender, the mode of which happens to be e-procurement system (online Part-1:Techno-commercial bid and Part-2: Price bid)through GeM portal <https://gem.gov.in>

IREL has adopted a 2 Part bidding process (collectively referred to as the “Bidding Process”) for selection of the Bidder for award of the Project.

**Part I – (Techno-Commercial Bid)** will be opened electronically as per schedule given in GeM bid document. This first part (the “Pre-Qualification”) of the Bidding Process will involve pre-qualification of interested Bidders in accordance with this RFP. The Bidders will sign and submit other documents as mentioned in this RFP at Pre-Qualification (refer Appendix 1 ).At the end of this part, the techno-commercial evaluation status (as qualified/disqualified) of the Bidders will be intimated through GeM Portal with a grace period of 48 Hrs. for representation, if any, through GeM portal.

**Part II –(Price bid)** Will be opened electronically of only those bidder(s) whose Part I (Techno-Commercial Bid) is found to be Techno-Commercially acceptable by IREL(India)Limited, Chavara.

All Pre-Qualification Documents, Techno-commercial and Financial Bids shall be prepared and submitted in accordance with such terms through GeM portal on or before the date specified for bid submission in accordance with this RFP.

#### 14.4 SCHEDULE OF BIDDING PROCESS

14.4.1 IREL shall endeavor to adhere to the following schedule:

S. No.	Event Description	Date
1.	Date of issue of RFP/Tender	----
2.	Last date for receiving pre-bid queries	----
3.	Site visit schedule	15/01/2026
4.	Pre-bid conference	19/01/2026
5.	Bid Due Date	----
6.	Opening of Price Bid	----

#### **14.5 INSTRUCTIONS TO BIDDERS**

##### **Mode of Bidding**

- 14.5.1 Bidder is allowed to participate in the Bidding Process, as a single entity. Certificate of incorporation for the participating entities needs to be submitted along with Bid.
- 14.5.2 The entity while submitting the Bid, the Bidder may, for the purpose of qualification, can use the technical and/or financial strength of its Associates. Such Associate shall submit a Letter of Support incorporating the relevant terms of support to be extended to the Bidder.

#### **14.6 General terms of bid**

- 14.6.1 No Bidder directly or through its affiliate/subsidiary/holding company shall submit more than one Bid for the Project.
- 14.6.2 Notwithstanding anything to the contrary contained in this RFP, the detailed terms specified in the draft Agreement shall have overriding effect; provided, however, that any conditions or obligations imposed on the Bidder hereunder shall continue to have effect in addition to its obligations under the Agreement.
- 14.6.3 Any condition or qualification or any other stipulation contained in the Bid shall render the Bid liable to rejection.
- 14.6.4 The Bid and all communications in relation to or concerning the Bidding Documents and the Bid shall be in English language.
- 14.6.5 The documents including this RFP and all attached documents, provided by IREL are and shall remain or become the property of IREL and are shared with the Bidders solely for the purpose of preparation and the submission of a Bid in accordance herewith. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their Bid. The provisions of this Clause shall also apply mutatis mutandis to Bids and all other documents submitted by Bidders, and IREL will have the right not to return any Bid, document or any information provided along therewith to Bidders.
- 14.6.6 The statements and explanations contained in this RFP are intended to provide a better understanding to the Bidders about the subject matter of this RFP and should not be construed or interpreted as limiting in any way or manner the scope of services and obligations of the Agency set forth in the Agreement or IREL's rights to amend, alter, change, supplement or clarify the scope of work, the Projects to be awarded pursuant to this RFP or the terms thereof or herein contained. Consequently, any omissions, conflicts or contradictions in the Bidding Documents including this RFP are to be noted, interpreted and applied appropriately to give effect to this intent, and no claims on that account shall be entertained by IREL.
- 14.6.7 The Proposal must be submitted in the name of the Bidding entity & signed by the Authorised Representative of the entity who shall be an employee/ officer of the entity.
- 14.6.8 The bidding entity should have positive Net worth during each of the last 3 financial years i.e., FY 2022-23, FY 2023-24 and FY 2024-25.

#### **14.7 Conditions of Eligibility of Bidders**

The Bidders must read carefully the minimum conditions of eligibility (the "Conditions of Eligibility") provided herein, and shall submit the Pre-Qualification details in techno commercial bid for providing proof of satisfying the same. Bids of only those Bidders who satisfy the Conditions of Eligibility will be considered for evaluation. For determining the eligibility of Bidders, the following shall apply:

- 14.7.1 The Bidder should be a Company registered in India under Indian Companies Act 1956 or 2013 or a Limited Liability Partnership under the Limited Liability Partnership Act of India, 2008.
- 14.7.2 A Bidder shall not have a conflict of interest (the "Conflict of Interest") that affects the Bidding Process. Any Bidder found to have a Conflict of Interest shall be disqualified subject to Clause 14.8
- 14.7.3 The Bidder Should meet the Technical & Financial Pre-qualification Criteria as mentioned in Clause 13.11
- 14.7.4 Any entity which has been barred by the Central/ State Government/ Public Sector Undertakings (PSUs), or any entity controlled by it, from participating in any project (EPC or otherwise), and the bar subsists as on the Bid Due Date, would not be eligible to submit a Bid.
- 14.7.4.1 A Bidder including its Associate in the last 3 (three) years, have neither failed to perform on any contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder or its Associate as the case may be, nor has been expelled from any project or contract by any public entity nor have had any contract terminated by any public

entity for breach by such Bidder or its Associate.

14.7.4.2 Provided, however, that where a Bidder claims that its disqualification arising on account of any cause or event specified in this clause is such that it does not reflect

(a) any malfeasance on its part in relation to such cause or event; (b) any willful default or patent breach of the material terms of the relevant contract; (c) any fraud, deceit or misrepresentation in relation to such contract; or (d) any rescinding or abandoning of such contract, it may make a representation to this effect to IREL for seeking a waiver from the disqualification hereunder and IREL may, in its sole discretion and for reasons to be recorded in writing, grant such waiver if it is satisfied with the grounds of such representation and is further satisfied that such waiver is not in any manner likely to cause a material adverse impact on the Bidding Process or on the implementation of the Project.

#### 14.8 **Conflict of Interest**

14.8.1 A Bidder shall not have a conflict of interest (the “**Conflict of Interest**”) that affects the Bidding Process. Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, IREL shall be entitled to forfeit and appropriate the Bid Security or Security Deposit, as the case may be, as mutually agreed genuine pre- estimated loss and damage likely to be suffered and incurred by IREL and not by way of penalty for, inter alia, the time, cost and effort of IREL, including consideration of such Bidder's Bid (the “**Damages**”), without prejudice to any other right or remedy that may be available to IREL under the Bidding Documents and/ or the Agreement or otherwise. Without limiting the generality of the above, a Bidder shall be deemed to have a Conflict of Interest affecting the Bidding Process, unless specifically permitted elsewhere in the RFP documents, if:

14.8.1.1 the Bidder, or its Associate (or any constituent thereof), and any other Bidder, or its any Associate thereof (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding of a Bidder, its Associate thereof (or any shareholder thereof having a shareholding of more than 5% (five per cent) of the paid up and subscribed share capital of such Bidder or Associate, as the case may be) in the other Bidder or Associate, is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof; provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a public financial institution referred to in sub- section (72) of section 2 of the Companies Act, 2013. For the purposes of this Clause, indirect shareholding held through one or more intermediate persons shall be computed as follows: (aa) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the “**Subject Person**”) shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and (bb) subject always to sub-clause (aa) above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this sub-clause (bb) if the shareholding of such person in the intermediary is less than 26% of the subscribed and paid up equity shareholding of such intermediary; or

14.8.1.2 such Bidder, or any Associate thereof receives or has received any direct or indirect subsidy, grant, concessional loan or subordinated debt from any other Bidder, or any Associate thereof or has provided any such subsidy, grant, concessional loan or subordinated debt to any other Bidder or any Associate thereof; or

14.8.1.3 such Bidder has the same legal representative for purposes of this Bid as any other Bidder; or

14.8.1.4 such Bidder, or any Associate thereof has a relationship with another Bidder, or any Associate thereof, directly or through common third party/ parties, that puts either or both of them in a position to have access to each other's information about, or to influence the Bid of either or each other; or

14.8.1.5 such Bidder, or any Associate thereof has participated as a consultant to IREL in the preparation of any documents, design or technical specifications of the Project. For purposes of this RFP, Associate means, in relation to the Bidder, a person who controls, is controlled by, or is under the common control with such Bidder (the “**Associate**”). As used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person by operation of law.

14.8.2 A Bidder shall be liable for disqualification and forfeiture of Bid Security if any legal, financial or technical adviser of IREL in relation to the Project is engaged by the Bidder, or its Associate thereof, as the case may be, in any manner for matters

related to or incidental to such Project during the Bidding Process or subsequent to the issuance of the order or execution of the Agreement. In the event any such adviser is engaged by the Selected Bidder or Agency, as the case may be, after issue of the order or execution of the Agreement for matters related or incidental to the Project, then notwithstanding anything to the contrary contained herein or in the order or the Agreement and without prejudice to any other right or remedy of IREL, including the forfeiture and appropriation of the Bid Security or Security Deposit, as the case may be, which IREL may have thereunder or otherwise, the order or the Agreement, as the case may be, shall be liable to be terminated without IREL being liable in any manner whatsoever to the Selected Bidder or Agency for the same. For the avoidance of doubt, this disqualification shall not apply where such adviser was engaged by the Bidder or its Associate in the past but its assignment expired or was terminated prior to the date of issuance of RFP. Moreover, this disqualification shall not apply where such adviser is engaged by the Bidder, or its Associate in any work not related to the Project; the Bidder or Selected Party or Agency will however keep IREL informed in any such case(s). This disqualification will not apply where such adviser is engaged by the Agency after a period of 6 (six) months from the date of order of the Project or by the unsuccessful Bidders after the issuance of order to the Selected Bidder.

#### 14.9 Change in ownership

- 14.9.1 By submitting the Bid, the Bidder shall also be deemed to have acknowledged and agreed that in the event of a change in control / change in ownership of the Bidder, the Bidder's liability to honor the agreement and complete the Project would be continued.

#### 14.10 Site visit

- 14.10.1 Bidders are required to submit their respective Bids after visiting the Project site and ascertaining for themselves the site conditions, location, surroundings, climate, availability of power, water and other utilities for construction, access to site, handling and storage of materials, weather data, applicable laws and regulations, and any other matter considered relevant by them.
- 14.10.2 Bidders are invited to examine the Project in greater detail, and to carry out, at their cost, such studies as may be required for submitting their respective Bids for award of the Project.
- 14.10.3 Interested Bidders may send a request to IREL for site visit at least one week prior to the site visit date as specified in Schedule of Bidding Process (Ref: Clause 14.4). Interested Bidders are requested to check the websites for any change in the dates of site visit, if any.
- 14.10.4 The Site Visit Request Form is attached in this tender. After receipt of filled and signed Site Visit Request Form, IREL will confirm for site visit to the Bidder.
- 14.10.5 Two people from IREL: Technical Person and Security Person will accompany the Bidder's team (proposed in the Site Visit Request Form) during the site visit only during the dates mentioned for the Site Visit.
- 14.10.6 The Bidder is required to submit a Declaration of Site Visit signed by the authorised signatory of the Bidder as per the format attached in Appendix-6.
- 14.10.7 The expenses (Travel, accommodation etc) for Site Visit and attending Pre-bid conference and any other expenses relating to bid preparation will be borne by the Bidder.

#### 14.11 Pre-bid Conference

- 14.11.1 The Site Visit will be followed by Pre-bid Conference for the Project. The date, time and venue of the Pre-Bid Conference will be:

Date and Time: As mentioned in Schedule of Bidding Process (Ref: Clause 14.4)

Venue: IREL (India) Limited, Chavara, Kollam District, Kerala - 691583

- 14.11.2 Any queries or request for additional information concerning this RFP shall be submitted in writing by speed post/ courier/ special messenger and by e-mail so as to reach the officer designated below by the specified date.

Mrs.Usha Nandini  
CM- Finance (Purchase)  
IREL (India) Limited, Chavara Kollam,  
Kerala – 691583  
Email: [purchase-ch@irel.co.in](mailto:purchase-ch@irel.co.in)

The communications shall clearly bear the following identification/ title:

“Queries/ Request for Additional Information: RFP for Selection of Agency for procurement, supply, transportation, dismantling, erection and commissioning of Pre HUS facility at Chavara plant.

#### 14.12 Clarifications

- 14.12.1 IREL shall endeavour to respond to the queries no later than fifteen (15) days prior to the Bid Due Date. The responses will be uploaded on IREL website [www.irel.co.in](http://www.irel.co.in) or [www.gem.gov.in](http://www.gem.gov.in).
- 14.12.2 IREL shall endeavor to respond to the questions raised or clarifications sought by the Bidders. However, IREL reserves the right not to respond to any question or provide any clarification, in its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring IREL to respond to any question or to provide any clarification.
- 14.12.3 IREL may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Bidders. All clarifications and interpretations issued by IREL shall be deemed to be part of the Bidding Documents. Verbal clarifications and information given by IREL or its employees or representatives shall not in any way or manner be binding on IREL.

#### 14.13 Amendment of the RFP

- 14.13.1 At any time prior to the Bid Due Date, IREL may, for any reason, whether at its own initiative or in response to clarifications requested by a Bidder, modify the RFP by the issuance of addenda.
- 14.13.2 Any addendum issued hereunder will be in writing and shall be uploaded on IREL website [www.irel.co.in](http://www.irel.co.in) or [www.gem.gov.in](http://www.gem.gov.in).
- 14.13.3 In order to allow the Bidders a reasonable time for taking an addendum into account, or for any other reason, IREL may, in its sole discretion, extend the Bid Due Date.

#### 14.14 Cost of Bid and RFP Document

- 14.14.1 The Bidders shall be responsible for all of the costs associated with the preparation of their Bids and their participation in the Bidding Process. IREL will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process.
- 14.14.2 The Bidders can download the document from IREL website [www.irel.co.in](http://www.irel.co.in) or [www.gem.gov.in](http://www.gem.gov.in). Bidders who download the RFP document online need not submit any amount towards the cost of RFP document along with its bid.

#### 14.15 Acknowledgement by Bidder

- 14.15.1 It shall be deemed that by submitting the Bid, the Bidder has:

14.15.1.1 made a complete and careful examination of the RFP;

14.15.1.2 Understood the entire scope of work to be carried out under the RFP

14.15.1.3 accepted the risk of inadequacy, error or mistake in the information provided in the RFP or furnished by or on behalf of IREL relating to any of the matters referred to in this Clause; and

14.15.1.4 agreed to be bound by the undertakings provided by it under and in terms hereof.

- 14.15.2 IREL shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to the RFP or the Bidding Process, including any error or mistake therein or in any information or data given by IREL.
- 14.15.3 In case it is found during the evaluation or at any time before signing of the Agreement or after its execution and during the period of subsistence thereof, including the Projects thereby granted by IREL, that one or more of the qualification conditions have not been met by the Bidder, or the Bidder has made material misrepresentation or has given any materially incorrect or false information, the Bidder shall be disqualified and shall be liable to be terminated, as the case may be, without IREL being liable in any manner whatsoever. In such an event, IREL shall be entitled to forfeit and appropriate the Bid Security or Security Deposit, as the case may be, as Damages, without prejudice to any other right or remedy that may be available to IREL under the Bidding Documents and/ or the Agreement or under Applicable Law, or otherwise. Further, IREL reserve right to take any other action which it may deem appropriate.

**14.16 Verification and disqualification**

- 14.16.1 IREL reserves the right to verify all statements, information and documents submitted by the Bidder in response to the RFP or the Bidding Documents and the Bidder shall, when so required by IREL, make available all such information, evidence and documents as may be necessary for such verification. Any such verification, or lack of such verification, by IREL shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of IREL thereunder.
- 14.16.2 IREL reserves the right to reject any Bid and appropriate the Bid Security if at any time, a material misrepresentation is made or uncovered, or
- 14.16.3 Such misrepresentation/ improper response shall lead to the disqualification of the Bidder.

**14.17 Right to accept/reject any or all Bids**

- 14.17.1 Notwithstanding anything contained in this RFP, IREL reserves the right to accept or reject any Bid and to annul the Bidding Process and reject all Bids, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons therefor.

**14.18 Fraud and corrupt practices**

- 14.18.1 The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process. Notwithstanding anything to the contrary contained herein, IREL may reject a Bid without being liable in any manner whatsoever to the Bidder if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process.
- 14.18.2 Without prejudice to the rights of IREL under above Clause hereinabove, if a Bidder is found by IREL to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process, such Bidder shall not be eligible to participate in any tender or RFP issued by IREL during a period of 2 (two) years from the date such Bidder is found by IREL to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.
- 14.18.3 For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:
- 14.18.3.1 "corrupt practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to, or employing, or engaging in any manner whatsoever, directly or indirectly, any official of IREL who is or has been associated in any manner, directly or indirectly, with the Bidding Process or the order or has dealt with matters concerning the Agreement or arising therefrom, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of IREL,



shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or (ii) save and except as permitted under sub clause 14.8.2 of Clause 14.8 engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the order or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the order or the Agreement, who at any time has been or is a legal, financial or technical adviser of IREL in relation to any matter concerning the Project;

14.18.3.2 "fraudulent practice" means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process;

14.18.3.3 "coercive practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the Bidding Process;

14.18.3.4 "undesirable practice" means (i) establishing contact with any person connected with or employed or engaged by IREL with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest; and

14.18.3.5 "restrictive practice" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

#### 14.19 Integrity Pact

14.19.1 The Bidder is required to enter into an "**Integrity Pact**" with IREL.

14.19.1.1 The Bidder is required to submit the signed Integrity Pact in the form and manner described in the RFP. The Integrity Pact has to be signed by the authorised signatory of the Bidder.

14.19.1.2 In case of failure to submit the Integrity Pact along with the Bid, duly signed by the authorised signatory, IREL shall have the right to disqualify the Bid.

#### 14.20 Tender/ RFP Documents

14.20.1 This RFP comprises the disclaimer set forth hereinabove, the contents as provided in the appendix and annexure and enclosed herewith, and will additionally include any addenda or corrigendum or clarification issued by IREL.

### 15 **Preparation and submission of the Bid**

#### 15.1 Language

15.1.1 The Bid and all related correspondence and documents in relation to the Bidding Process shall be in English language. Supporting documents and printed literature furnished by the Bidder with the Bid may be in any other language provided that they are accompanied by translations of all the pertinent passages in the English language, duly authenticated and certified by the Bidder. Supporting materials, which are not translated into English, may not be considered. For the purpose of interpretation and evaluation of the Bid, the English language translation shall prevail.

#### 15.2 Bid Security

15.2.1 In terms of the RFP, a Bidder will be required to deposit, along with its Bid, a bid security for **INR Twenty Five (25) Lakh** (the "**Bid Security**"). The Bidders will have to provide Bid Security in the form of a bank guarantee acceptable to IREL (the format for Bank Guarantee is provided at Appendix 2). the validity period shall not be less than 150 (one hundred and fifty) days from the Bid Due Date, with an additional claim period of 30 (thirty) days, and may be extended as may be mutually agreed between IREL and the Bidder from time to time. The Bid Security will be issued by a Scheduled Bank, in favour of "IREL (India) Limited", payable at Chavara, Kollam, Kerala. For the avoidance of doubt, Scheduled Bank shall mean a bank as defined under Section 2(e) of the Reserve Bank of India Act, 1934.

15.2.2 The genuineness of bank guarantee shall be checked by IREL from the issuing bank.

15.2.3 IREL shall not be liable to pay any interest on the Bid Security deposit so made and the same shall be interest free.

15.2.4 Any Bid not accompanied by the Bid Security shall be summarily rejected by IREL as non-responsive.

15.2.5 The Bid Security of unsuccessful Bidders will be returned by IREL, without any interest, within 30 (thirty) days from the order issuance to the Selected Bidder.

- 15.2.6 The Selected Bidder's Bid Security will be returned, without any interest, upon the Agency signing the Agreement and Selected Bidder furnishing the Security Deposit in accordance with the provisions thereof..
- 15.2.7 IREL shall be entitled to forfeit and appropriate the Bid Security as Damages inter alia in any of the events specified in the RFP. The Bidder, by submitting its Bid pursuant to this RFP, shall be deemed to have acknowledged and confirmed that IREL will suffer loss and damage on account of withdrawal of its Bid or for any other default by the Bidder during the period of Bid Validity as specified in this RFP. No relaxation of any kind on Bid Security shall be given to any Bidder.
- 15.2.8 The Bid Security shall be forfeited as Damages without prejudice to any other right or remedy that may be available to IREL under the Bidding Documents and / or under the Agreement, or otherwise, if
- 15.2.9 a Bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as specified in this RFP;
- 15.2.10 a Bidder submits false/fabricated documents;
- 15.2.11 a Bidder withdraws its Bid during the period of Bid validity as specified in this RFP and as extended by mutual consent of the respective Bidder(s) and IREL;
- 15.2.12 a Bidder changes the terms and conditions or prices or withdraw his Bid subsequent to the date of opening.
- 15.2.13 A Bidder fails to accept the order when placed or fails to commence supplies/ works/ services/ after declared as Selected Bidder.
- 15.2.14 the Selected Bidder fails within the specified time limit-
- i. to sign and return the duplicate copy of order; or
  - ii. to sign the Agreement; or
  - iii. to furnish the Security Deposit within the period prescribed therefor in the Agreement
- 15.2.14.1 The Selected Bidder, having signed the Agreement, commits any breach thereof prior to furnishing the Security Deposit.

### 15.3 Structure of the Bid

The Bidders will prepare their bids in the structure and sequence provided below. In case the Bids are not found as per the required structure, IREL shall have the right to declare the Bid as non- responsive and the Bid shall not be considered for further evaluation.

The following conditions shall be adhered to while submitting a Bid:

Bidders should attach clearly marked and referenced continuation sheets in the event that the space provided in the prescribed forms in the Annexes is insufficient. Alternatively, Bidders may format the prescribed forms making due provision for incorporation of the requested information;

Information supplied by a Bidder must apply to the Bidder or its Associate named in the Bid and not, unless specifically requested, to other associated companies or firms;

- 15.3.1 Bids comprise two Parts, namely the Techno-commercial Part and the Financial Part, and both parts must be submitted simultaneously online through <https://gem.gov.in.on> or before 1500 hours on 29/01/2026 and the "Techno- commercial Part" of the bids will be opened online on the same day at 15 30 hours, in the presence of the bidders "designated representatives and anyone who choose to attend". The "Financial Part" shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. The electronic bidding system would not allow any late submission of bids.
- 15.3.2 **Techno-commercial Bid:** The Technical bid will comprise of (Pre-qualification bid and Techno-commercial bid) the following in below mentioned order:

आई आर ई एल (इंडिया) लिमिटेड (भारत सरकार का उपक्रम)  
(पहले इंडियन रेअर अर्थ्स लिमिटेड), चवरा-691583, कोल्लमजिला, केरल  
IREL (India) Limited (A Government of India Undertaking)  
(Formerly Indian Rare Earths Limited), CHAVARA - 691 583, KOLLAM DIST., KERALA  
CIN: U15100MH1950GOI008187. GSTIN: 32AAACI2799F1ZN

- a) Letter comprising the Bid along with particulars of Bidder in Annexure
- b) Technical Capacity of Bidder
- c) Financial Capacity of Bidder
- d) Statement of Legal Capacity
- e) Bid Security
- f) Power of Attorney(s)
- g) Site Visit Certificate
- h) Certificate of Registration, Incorporation, along with Memorandum and Articles of association of Bidding entity and its Associate (if applicable)
- i) Letter of Support from the Associate (if applicable)
- j) Licensor/Licensee Agreement if applicable
- k) All documentary proof for the above mentioned Annexes as mentioned in the RFP
- l) Signed copy of Integrity Pact
- m) Undertaking
- n) Techno-Commercial Bid according to details given / requested in Appendix & Terms of Reference
- o) Signed copy of RFP and draft Agreement including all addendum, corrigendum and clarification as a token of acceptance of all the tender terms and conditions
- p) Unpriced Price Bid (as per format) along with Unpriced BOQ.
- q) Any other document as mentioned elsewhere in the RFP

The Techno-commercial Bid shall be prepared in line with the details given in RFP: Terms of Reference and other information sought under this RFP. The Techno-commercial Bid shall include Bidder's understanding of the project, its proposal for the proposed facilities, and compliance to the scope of work as well as its adherence to project Implementation Schedule.

#### 15.3.3 **Price Bid**

- 15.3.3.1 This bid will comprise of the Price Bid and filled up BOQs formats as per format provided in Appendix 9 of the RFP
- 15.3.3.2 The Bidder will be required to quote Lump Sum (LS) Price (in INR) as part of the Price Bid.
- 15.3.3.3 The Bidder will submit their Price Bids in the format provided at Appendix 9 of the RFP.
- 15.3.3.4 The Price Bid should be furnished clearly indicating the bid amount in both figures and words (in Indian Rupees as per format provided) and signed by the Bidder's authorized signatory. In the event of any difference between figures and words, the amount indicated in words shall prevail.
- 15.3.3.5 The Bidder will be required to submit detailed BOQ (for facilitation of payment) corresponding to the value for supply of material (including equipment, technology structure, mechanical, civil, structural and other components and any other utilities required for the Project) and services as mentioned in the Price Bid format, Appendix-9.
- 15.3.3.6 In case certain items are missed out/not mentioned separately/explicitly in the BOQ, it shall not absolve the Bidder of any of its responsibilities under the Agreement. The Bidder will be responsible to complete the entire scope of work as brought out in the RFP and Agreement without any price addition.

#### 15.4 **Modification/substitution of Bids**

- 15.4.1 The Bidder may modify or substitute its Bid after submission, provided that written notice of the modification or substitution is received by IREL prior to the Bid Due Date. No Bid shall be modified or substituted by the Bidder on or

after the Bid Due Date.

15.4.2 The modification or substitution notice shall be prepared, sealed, marked, and delivered in accordance with above Clause, with the envelopes being additionally marked "MODIFICATION" or "SUBSTITUTION", as appropriate.

15.4.3 Any alteration/ modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by IREL, shall be disregarded.

#### 15.5 Validity of Bids & Bid Due Date

15.5.1 The Bids shall be valid for a period of not less than 180 (one hundred and eighty) days from the Bid Due Date. The validity of Bids may be extended by mutual consent of the respective Bidders and IREL.

15.5.2 Bids should be submitted before 1500 hours IST on the Bid Due Date in the manner and form as detailed in this RFP.

15.5.3 IREL may, in its sole discretion, extend the Bid Due Date by issuing an Addendum in accordance with Clause 14.13 uniformly for all Bidders.

#### 15.6 Confidentiality

15.6.1 Information relating to the examination, clarification, evaluation and recommendation for the Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising IREL in relation to, or matters arising out of, or concerning the Bidding Process. IREL will treat all information, submitted as part of the Bid, in confidence and will require all those who have access to such material to treat the same in confidence. IREL may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or IREL or as may be required by law or in connection with any legal process.

### 16 Bid Evaluation and selection of Bidder

#### 16.1 Opening and Test of responsiveness

16.1.1 The Bid will be opened through online mode through GeM portal after submission of the bid at 1530 hours on the Bid Due Date, at the place specified below.

Address for Bid Opening:  
IREL (India) Limited,  
Chavara Kollam, Kerala –  
691583

Prior to evaluation of Bids, IREL shall determine whether each Bid is responsive to the requirements of the RFP. A Bid shall be considered responsive if:

- a) it is received by Bid Due Date (including any extension thereof) as per format prescribed along with all filled up forms, data/ details/ documents requested in this RFP;
- b) it does not contain any condition or deviation; and
- c) it is not non-responsive in terms hereof.

16.1.2 IREL reserves the right to reject any Bid that is non-responsive and no request for alteration, modification or substitution shall be entertained by IREL in respect of such Bid. Provided, however, that IREL may, in its discretion, allow the Bidder to rectify any infirmities or omissions if the same do not constitute a material modification of the Bid.

#### 16.2 Evaluation of Bids

16.2.1 Following evaluation process will be adopted by IREL:-

- IREL will open the Techno-commercial bid on the Bid Due date.
- After evaluation of Techno-Commercial Bid, IREL will open the Price Bid only of the Technically Qualified Bidders.

- 16.2.2 Bidders will be deemed to have understood and agreed that no explanation or justification on any aspect of the Bidding Process or selection will be given.
- 16.2.3 Any information contained in the Bid shall not in any way be construed as binding on IREL, its agents, successors or assigns, but shall be binding against the Bidder if the Project is subsequently awarded to it on the basis of such information. IREL reserves the right not to proceed with the Bidding Process at any time without notice or liability and to reject any or all Bid(s) without assigning any reasons.
- 16.2.4 If any information furnished by the Bidder is found to be incomplete or contained in formats other than those specified herein, IREL may, in its sole discretion, seek clarification from the Bidder or exclude the relevant portion from Bid evaluation.
- 16.2.5 In the event that a Bidder claims credit for an eligible project, and such claim is determined by IREL as incorrect or erroneous, IREL shall reject such claim and exclude the same from Bid evaluation. Where any information is found to be patently false or amounting to a material misrepresentation, IREL reserves the right to reject the Bid.

### 16.3 Selection of Bidder

- 16.3.1 Subject to the provisions of Clause 14.7, the Bidder whose Bid is adjudged as responsive in terms of Clause 16.1.1 and who quotes the lowest LS Price with Taxes shall be declared as the Selected Bidder (the "Selected Bidder").
- 16.3.2 After selection, a Letter of Intent (the "LOI") shall be issued, in duplicate, by IREL to the Selected Bidder and the Selected Bidder shall, within 7 (seven) days of the receipt of the LOI, sign and return the duplicate copy of the LOI in acknowledgement thereof. In the event the duplicate copy of the LOI duly signed by the Selected Bidder is not received by the stipulated date, IREL may, unless it consents to extension of time for submission thereof, appropriate the Bid Security of such Selected Bidder as Damages on account of failure of the Selected Bidder to acknowledge the LOI.
- 16.3.3 The Selected Bidder will be required to submit the Security Deposit as mentioned in the Agreement within a period of twenty one (21) days from the receipt of LOI or at the time of signing of the Agreement, whichever is earlier. The Selected Bidder will have to keep its Bid Security valid for a period of at least thirty (30) days later than the date of submission of Security Depositor verification of Security Deposit by IREL, whichever is later; and extend the validity of its Bid Security appropriately to meet these criteria. In case the Bid Security validity, as requested hereinabove, is not maintained by the Selected Bidder, IREL will have the right to encash the Bid Security of the Selected Bidder. In the event the Security Deposit is not received by the stipulated date, IREL may, unless it consents to extension of time for submission thereof, appropriate the Bid Security of such Bidder as Damages on account of failure of the Selected Bidder to submit the Security Deposit.
- 16.3.4 After acknowledgement of the LOI and submission of Security Deposit as aforesaid by the Selected Bidder, it shall cause the Selected Bidder to execute the Agreement preferably within a period of twenty one (21) days from the issuance of LOI or as prescribed by IREL. The Selected Bidder shall not be entitled to seek any deviation, modification or amendment in the Agreement.

### 16.3.5 Purchase Preference to MII:

Purchase preference to Make in India products shall be applicable 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. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate of eligibility from the concerned authorities as per Order. The bidder to provide certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

## 17 Miscellaneous

### 17.1 General

- 17.1.1 The Bidding Process shall be governed by, and construed in accordance with, the laws of India and the court in Kollam District, Kerala, shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Bidding Process.
- 17.1.2 IREL, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to;
- 17.1.2.1 suspend and/ or cancel the Bidding Process and/ or amend and/ or supplement the Bidding Process or modify the dates or other terms and conditions relating thereto;
  - 17.1.2.2 consult with any Bidder in order to receive clarification or further information;
  - 17.1.2.3 qualify or not to qualify any Bidder and/ or to consult with any Bidder in order to receive clarification or further information;
  - 17.1.2.4 retain any information and/ or evidence submitted to IREL by, on behalf of, and/ or in relation to any Bidder; and/ or
  - 17.1.2.5 independently verify, disqualify, reject and/ or accept any and all submissions or other information and/ or evidence submitted by or on behalf of any Bidder
- 17.1.3 It shall be deemed that by submitting the Bid, the Bidder agrees and releases IREL, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/ or performance of any obligations hereunder and the Bidding Documents, pursuant hereto, and/ or in connection with the Bidding Process, to the fullest extent permitted by applicable law, and waives any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or in future.
- 17.1.4 While evaluating the lowest bidder, overall lowest rate for complete EPC will be considered.

### 17.2 Proprietary data

- 17.2.1 All documents and other information supplied by IREL or submitted by a Bidder to IREL shall remain or become the property of IREL. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their Bid. IREL will have the right not to return any Bid or any information provided along therewith.

### 17.3 Contacts during Bid Evaluation

- 17.3.1 Bids shall be deemed to be under consideration immediately after they are opened and until such time IREL makes official intimation of award/ rejection to the Bidders. While the Bids are under consideration, Bidders and/ or their representatives or other interested parties are advised to refrain, save and except as required under the Bidding Documents, from contacting by any means, IREL and/ or their employees/ representatives on matters related to the Bids under consideration.

### 17.4 Correspondence with the Bidder

- 17.4.1 Save and except as provided in this RFP, IREL shall not entertain any correspondence with any Bidder in relation to the acceptance or rejection of any Bid.

## 18 Obligations of Agency

### 18.1 Scope of Work

Under this Agreement, the Agency shall fulfill scope of work (the "Scope of Work") defined in the Terms of Reference

- 18.2 Construction of temporary stores and site office,
- 18.2.1 The Agency can build, at his expense, temporary stores for storing his equipment, plants, materials, etc. and also to build his temporary site office. The Agency will be solely responsible for watching and guarding of his stores office, materials, plants, equipment etc.
- 18.2.2 The Agency shall cover all his equipment and materials at site with requisite insurance against theft, fire, tempest, flood, earthquake, etc.
- 18.3 Accommodation,
- 18.3.1 IREL shall not be in a position to offer any lodging/ boarding facilities for Agency's personnel / men and it shall be the responsibility of the Agency to make his own arrangements in this respect. No permanent accommodation facilities shall be constructed by the Agency at the Site.
- 18.3.2 No personnel / men of Agency shall be allowed to stay during night time at Site, until unless so is desired for completion of Works or for security purpose. Only temporary structural shelters shall be constructed by Agency at Site for stay during shift time break. All such temporary constructions as well as stay of Agency's personnel/ men at Site during night shall be with due approval of IREL.
- 18.4 Co-ordination with other Agencies,
- 18.4.1 The Agency shall execute his work so as not to obstruct or retard the work being executed simultaneously by other agencies. This aspect shall also be considered while quoting for the Works.
- 18.5 Cleaning the site,
- 18.5.1 The Agency shall clean all required debris etc. at the site prior to the commencement of work at no extra cost.
- 18.5.2 On completion of Works the site shall be cleared of all men, materials, plant and equipment belonging to the Agency. The Agency shall remove with IREL's approval all his temporary arrangements for storage and distribution of construction water, all electrical installations together with wiring or construction power, site offices and all other temporary works and shall reinstate and make good any work disturbed by the temporary work to the satisfaction of IREL. The site and surroundings shall be handed over in a clean and neat condition as required by IREL.
- 18.6 The Agency shall ensure that installation and Commissioning of the Plant on the land/space provided by IREL, within a stipulated period of eighteen (18) months from the Effective Date of the Agreement (the date of sign of the Agreement).
- 18.7 All the activities related to the Works of this Agreement including the supply of items shall be under periodical inspection of the representatives of IREL. IREL has the right to reject the materials / works not conforming to specifications, standards and quality conformance.
- 18.8 The employees of the Agency, including any assignees, entrusted with the job of installation and Commissioning an handing over after final acceptance of the Plant shall be required to follow, but not limited to, the Industrial Safety & Health Rules issued by Ministry of Labour & Employment, GoI;
- 18.9 While undertaking Works for the Plants, the Agency shall take all necessary precautions against any untoward incident, inside the Site beside the area, earmarked for installation of the Plants, and shall indemnify IREL for any accident, loss or damage to the property of IREL or any third party due to negligence of the Agency and /or its representatives;
- 18.10 The Agency shall adhere to the Implementation Plan as submitted and shall ensure no delay in Commissioning the Plants due to any reason whatsoever, other than Force Majeure and subject to IREL fulfilling its obligations under this Agreement;
- 18.11 For any delay in Commissioning of the Plant, the Agency shall compensate IREL for the loss suffered by IREL (Liquidated Damages)
- 18.12 The Agency shall not be the owner of the aforesaid civil structures, building, Plants and land during the Agreement period;
- 18.13 The Agency shall ensure all the statutory provisions of State Government, Central Government and local authorities including labour laws and industrial laws for installation of the Plants / engagement of labours are followed, and in no case, the employees / workers engaged by the Agency directly or indirectly, shall be the employee of IREL. Any violation of any of the provisions by the Agency and / or its representatives, the same shall be indemnified by them to IREL, against any claim / demand made by any authority;
- 18.14 The Agency shall take all necessary steps for obtaining Certificate under the provisions of the Agreement, Labour (Regulation & Abolition) Act, 1970 and the rules made there under for engaging any contractor and contract labours and

comply with all provisions of the said act and the rules;

18.15 The Agency shall have strict compliance of all Safety provisions / norms at Site as per details given in Terms of Reference

18.16 The Agency shall ensure all the environmental norms and regulation under the relevant authorities are followed.

18.17 **POWER & WATER**

The Agency has to arrange the Power & water towards the works along with adequate lighting for the project site

18.18 **MANPOWER**

The Agency has to deploy its manpower up to handing over of the plant on Final Acceptance to IREL (India) Limited.

**19 Obligations of IREL**

19.1 Unless otherwise specified in the Agreement, IREL shall:

a. provide the Agency and its Personnel with work permits and such other documents as may be necessary to enable the Agency, documents as may be necessary to enable the Agency, or its Personnel to perform the services;

19.2 **Access to land and property**

IREL warrants that the Agency shall have, free of charge, unimpeded access to the Site of the Project in respect of which access is required for the performance of Works;

19.3 **Payment**

In consideration of the Works performed by the Agency under this Agreement, IREL shall make to the Agency such undisputed payments and in such manner as is provided in Article 6 of this Agreement.

19.4 **Evaluation**

Evaluation will be done on overall L1 basis based on the Price offered as per Price schedule.

19.5 **Award of Contract:**

Order will be awarded to technically and commercially qualified bidder with lowest price on overall L1 basis.

19.6 **Contact officials:**

	Name	Telephone	Email.id
1	Engineer in Charge – Mr.Nijo Wilson, Manager(Project & Maintenance)	9481670991	nijo.wilson@irel.co.in

**Email is the preferred mode of communication**



## APPENDIX

### I. Appendix 1

#### Letter comprising the Bid

Dated:

To:

Subject: Bid for----- project

Dear Sir,

1. With reference to your RFP document dated \*\*\*\*\*, I/we, having examined the Bidding Documents and understood their contents, hereby submit my/our Bid for the aforesaid Project. The Bid is unconditional and unqualified.
2. All information provided in the Bid and in the Appendices is true and correct.
3. This statement is made for the express purpose of qualifying as a Bidder for the development and construction of the aforesaid Project.
4. I/ We shall make available to IREL any additional information it may find necessary or require to supplement or authenticate the Bid.
5. I/ We acknowledge the right of IREL to reject our Bid without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
6. We certify that in the last three years, we have never failed to perform on any contract, as evidenced by imposition of a penalty or a judicial pronouncement or arbitration award, nor been expelled from any project or contract nor have had any contract terminated for breach on our part.
7. I/ We declare that:
  - a. I/ We have examined and have no reservations to the Bidding Documents, including any Addendum issued by IREL.
  - b. I/ We do not have any conflict of interest in accordance with the RFP document.
  - c. I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in the RFP document, in respect of any tender or request for proposal issued by or any agreement entered into with IREL or any other public sector enterprise or any Government, Central or State; and
  - d. I/ We hereby certify that we have taken steps to ensure that in conformity with the provisions of Clause 14.18 of the RFP, no person acting for us or on our behalf has engaged or will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.
8. I/ We understand that you may cancel the Bidding Process at any time and that you are neither bound to accept any Bid that you may receive nor to invite the Bidders to Bid for the Project, without incurring any liability to the Bidders.
9. I/ We believe that I/we satisfy the Eligibility requirements as specified in Clause 14.7 of the RFP document and are/ is qualified to submit a Bid.

10. I/ We certify that in regard to matters other than security and integrity of the country, we have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which could cast a doubt on our ability to undertake the Project or which relates to a grave offence that outrages the moral sense of the community.
11. I/ We further certify that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any agency of the Government or convicted by a Court of Law for any offence committed by us or by any of our Associates.
12. I/ We further certify that no investigation by a regulatory authority is pending either against us or against our Associates or against our CEO or any of our Directors/Managers/ employees.
13. I/ We undertake that in case due to any change in facts or circumstances during the Bidding Process, we are attracted by the provisions of ineligibility in terms of the provision of the RFP, we shall intimate IREL of the same immediately.
14. I/We acknowledge and agree that in the event of a change in control of an Associate whose Technical Capacity or Financial Capacity was taken into consideration for the purposes of short-listing and qualification under and in accordance with the RFP, I/We shall inform IREL forthwith along with all relevant particulars and IREL may, in its sole discretion, disqualify us or withdraw the Letter of Intent, as the case may be.
15. I/We further acknowledge and agree that in the event such change in control occurs after signing of the Agreement but prior to Commencement Date of the Project, it would, notwithstanding anything to the contrary contained in the Agreement, be deemed a breach thereof, and the Agreement shall be liable to be terminated without IREL being liable to us in any manner whatsoever.
16. I/We hereby irrevocably waive any right which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by IREL in connection with the selection of the Bidder, or in connection with the Bidding Process itself, in respect of the above mentioned Project and the terms and implementation thereof.
17. In the event of my/ our being declared as the Selected Bidder, I/We agree to enter into an Agreement in accordance with the draft that has been provided to me/us prior to the Bid Due Date. We agree not to seek any changes in the aforesaid draft and agree to abide by the same.
18. I/We have studied all the Bidding Documents carefully and also surveyed the Project. We understand that except to the extent as expressly set-forth in the Agreement, we shall have no claim, right or title arising out of any documents or information provided to us by IREL or in respect of any matter arising out of or concerning or relating to the Bidding Process including the award of Project.
19. The Price Bid has been quoted by me/us after taking into consideration all the terms and conditions stated in the RFP; draft Agreement, our own estimates of costs and after careful assessment of the site and all the conditions that may affect the Bid..
20. I/We offer a Bid Security of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) to IREL in accordance with the RFP Document.
21. The Bid Security in the form of a Bank Guarantee (strike out whichever is not applicable) is attached.
22. I/We agree and understand that the Bid is subject to the provisions of the Bidding Documents. In no case, I/We shall have any claim or right of whatsoever nature if the Project is not awarded to me/us or our Bid is not opened.
23. I/We hereby submit our Bid for undertaking the aforesaid Project in accordance with the Bidding Documents and the Agreement.
24. I/We agree to keep this Bid valid for 180 (one hundred and eighty) days from the Bid Due Date specified in the RFP.
25. I/We agree and undertake to abide by all the terms and conditions of the RFP document.

In witness thereof, I/we submit this Bid under and in accordance with the terms of the RFP document.

आई आर ई एल (इंडिया) लिमिटेड (भारत सरकार का उपक्रम)  
(पहले इंडियन रेअर अर्थ्स लिमिटेड), चवरा-691583, कोल्लमजिला, केरल  
IREL (India) Limited (A Government of India Undertaking)  
(Formerly Indian Rare Earths Limited), CHAVARA - 691 583, KOLLAM DIST., KERALA  
CIN: U15100MH1950GOI008187. GSTIN: 32AAACI2799F1ZN

Yours faithfully,

(Signature of the Authorised signatory)

(Name and designation of the of the Authorised signatory) Name and seal of

Bidder

Date:

Place:

**II. Annex-I to Appendix-1 – Particulars of Bidder**

S. No.	Particulars	Details
1.	Name of Bidder's entity	
2.	Country of origin	
3.	Legal Status	
4.	Registration number of the Company (under relevant Act of the Country)	
5.	a) Postal address of the Registered office b) Telephone no.(s) c) Fax no(s) d) Web Site, e-mail, if any e) Address of Regional / Local Office, if any	
6.	Brief description of the Bidder including details of its main lines of business and proposed role and responsibilities in this Project	
7.	a) Name of the authorized representative b) Designation c) Postal address d) Telephone no.(s) e) Fax no(s) f) E-mail	
8.	Permanent Account No. (PAN), if applicable	
9.	GSTIN number in India, if applicable	
10.	Whether the Bidder is from the country where as a matter of law or official regulations, the commercial relation with India is prohibited	
11.	Any other information	

आई आर ई एल (इंडिया) लिमिटेड (भारत सरकार का उपक्रम)  
(पहले इंडियन रेअर अर्थ्स लिमिटेड), चवरा-691583, कोल्लमजिला, केरल  
IREL (India) Limited (A Government of India Undertaking)  
(Formerly Indian Rare Earths Limited), CHAVARA - 691 583, KOLLAM DIST., KERALA  
CIN: U15100MH1950GOI008187. GSTIN: 32AAACI2799F1ZN  
12. The following information shall also be provided for the Bidder:

Name of Bidder:

S. No.	Criteria	Yes	No
1	Has the Bidder been barred by the Central/ State Government/ Public Sector Undertaking (PSUs), or any entity controlled by it, from participating in any project (EPC or otherwise)?		
2	If the answer to 1 is yes, does the bar subsist as on the Bid Due Date?		

Signature of Authorised Signatory with seal Name,  
Designation, Date, Place

### III. Annex-II to Appendix-1 – Technical Capacity of Bidder

#### Details of project for Technical Eligibility

Name of Project:

Name of Bidder:

Title/Name of project		Documentary Proof for Verification
Assignment Name:		
Country:		
Location within Country:		
Type of project, capacity, technology and process details		
Name of Client:		
Address of the Client:		
Date of commencement of the Project/ contract		
Date of completion/ commissioning of the project		
Equity shareholding (with period during which equity was held), In case a particular job/ contract has been jointly executed by the Bidder		
Details of commercial operation of the project with present status:		
If not operational due to reasons such as mining issues/ Regulatory issues/ environment clearance, etc., documentary evidence/ certificate to the effect to be provided		

Signature of Authorised Signatory with seal Name, Designation,

Date, Place

#### IV. Notes:

- Use separate sheet for each Project.
- The Applicant may attach proofs on separate sheets as mentioned in the RFP.

Mention the supporting document such as LOA/ Work Order/ Completion Certificate indicating scope of work and other details' as indicated in the RFP. Kindly indicate the page reference nos. for easy Identification / traceability.

**Format for Certificate from practicing chartered accountant for Eligibility projects**

**Certificate from the practicing chartered accountant**

Based on its books of accounts and other published information authenticated by it, this is to certify that ..... (name of the Bidder/ Associate) was engaged by..... (title of project company) for.....(name of project).

The total fees received by the Bidder for the projects is .....

We further certify that the project was completed on ..... (date). The operations of the project commenced on ..... (date) and the project has been operational for a period of ..... (years) from ..... (date) to ..... (date) prior to the Bid Due Date of the said RFP.

Name of the audit firm:

Seal of the audit firm:

Date:

License/registration no:

(Signature, name, designation of the authorized signatory of the audit firm)

**Annex-III to Appendix-1 – Financial Capacity of Bidder**

**Financial Capacity of the Bidder**

Name of Bidder:

**Net-worth of the Bidder**

Net-worth of the Bidder  As per last Financial Year's audited financial statements dated _____  Currency _____	_____ (in figures)	_____ (in words)
--	-----------------------	---------------------

**Turnover of the Bidder**

Turnover of the Bidder	In figures	In words
FY 2022-23		
FY 2023-24		
FY 2024-25		
Average		

Signature of Authorised Signatory with seal Name,  
 Designation, Date, Place

Note:

- The Bidders will provide all necessary documents in support of the financial strength including audited financial statements and certificate from practicing chartered accountant.
- In case of Bidder taking support of Associate to meet the financial criteria, the above information for the Bidder as well as its Associate will be provided with documentary proof for both.



**Annex-IV to Appendix-1 – Statement of Legal Capacity**

**Statement of Legal Capacity**

(To be forwarded on the letterhead of the Applicant)

Ref.

Date.

To,

.....

.....

Dear Sir,

We hereby confirm that we satisfy the terms and conditions laid out in the RFP document. We have agreed that.....(insert individual's name) will act as our representative and has been duly authorized to submit the RFP. Further, the authorized signatory is vested with requisite powers to furnish such letter and authenticate the same.

Thanking you,

Yours faithfully,

(Signature, name and designation of the authorized signatory)

For and on behalf of.....

\$ Please strike out whichever is not applicable

**Appendix 2 – FORMAT OF BANK GUARANTEE FOR BID SECURITY**

**Bank Guarantee for Bid Security**

B.G. No. \_\_\_\_\_ Dated \_\_\_\_\_

In accordance with RFP No. \_\_\_\_\_ Dated \_\_\_\_\_ for the work of \_\_\_\_\_ (herein after referred to as "the said Works"), under \_\_\_\_\_ (Chavara 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 Bidder (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 Bidder's failure to enter into an agreement of contract on intimation of acceptance of his Bid and/or to commence the 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 RFP. 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 Bid of the Bidder afore stated by IREL including the question as to the tenability of the claim of IREL for forfeiting the Bid Security 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 IREL under the terms and conditions of the RFP for the work have been fully paid and its claims satisfied or discharged or till IREL certifies, that the terms and conditions of the RFP have been fully and properly carried out by the said Bidder and accordingly discharges the guarantee.

We \_\_\_\_\_ Bank further agree with IREL that 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 RFP and/or terms and conditions governing the Agreement or to extend the time of validity of the Bid from the said Bidder from time to time or to postpone for any time or from time to time any of the powers exercisable by IREL against the said tenderer and to forbear or enforce any of the terms and conditions of the RFP and we shall not be relieved from our liability hereunder by reason of any such variation, or extension being granted to the said Bidder or for any forbearance, act or omission on the part of IREL or any indulgence by IREL to the said Bidder 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 Bidder 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 IREL in writing.

Dated the \_\_\_\_\_ day of \_\_\_\_\_ 2025

\_\_\_\_\_ Bank

(Signature with name in Block letters with designation, Attorney as per  
power of Attorney No. \_\_\_\_ dt. \_\_\_\_ ) Bank's Common seal

### **Appendix 3 – FORMAT FOR POWER OF ATTORNEY FOR SIGNING OF BID**

#### **Power of Attorney for signing of Bid**

Know all men by these presents, We, \_\_\_\_\_ (name of the Bidder and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr. / ~~Ms (Name)~~, son/daughter/wife of \_\_\_\_\_ and presently residing at \_\_\_\_\_, who is [presently employed with us and holding the position of \_\_\_\_\_], as our true and lawful attorney (hereinafter referred to as the “Attorney”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our bid for the “Selection of Agency for procurement, supply, transportation, dismantling, erection and commissioning of pre HUS facility at Chavara plant on EPC Basis” proposed or being developed by the IREL (India) Limited (the “IREL”) including but not limited to signing and submission of all applications, bids and other documents and writings, participate in bidders' and other conferences and providing information / responses to IREL, representing us in all matters before IREL, signing and execution of all contracts including the Agreement and undertakings consequent to acceptance of our Bid, and generally dealing with IREL in all matters in connection with or relating to or arising out of our Bid for the said Project and/or upon award thereof to us and/or till the entering into of the Agreement with IREL.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, \_\_\_\_\_, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2025.

For \_\_\_\_\_

(Signature)

(Name, Title and Address)

Witnesses:

- 1.
- 2.

Accepted \_\_\_\_\_

[Notarised]

(Signature)

(Name, Title and Address of the Attorney)

Notes:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
- Also, wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.
- For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued.

**Appendix 4 – FORMAT FOR SECRECY AGREEMENT**

Secrecy Agreement to be executed on a Non-Judiciary Stamp paper of Rs.200/- (Rupees Two Hundred only).

**SECRECY AGREEMENT**

THIS AGREEMENT, made and entered into this \_\_\_\_<sup>th</sup> day of, 2025 - by and between IREL (India) Limited., a company incorporated under Indian Companies Act having its registered office at Plot No.1207, Opp. to Siddhivinayak Temple, Veer Savarkar Marg, Prabhadevi, Mumbai — 400 028, India (hereinafter called "IREL") on one part and \_\_\_\_\_, a company duly incorporated under....., with its registered office..... (hereinafter called \_\_\_\_)  
includes its successors and permitted assigns, on the other part.

**WITNESSETH:**

**WHEREAS:**

**WHEREAS,** IREL intends to carry out procurement, supply, transportation, dismantling, erection and commissioning of Pre HUS facility at Chavara plant.

**WHEREAS,** \_\_\_\_\_ [Bidder] had participated in the RFP and now will be providing EPC services to IREL for procurement, supply, transportation, dismantling, erection and commissioning of Pre HUS facility at Chavara plant.

**NOW, THEREFORE,** in consideration of the premises and the mutual covenants herein contained, the parties hereto agree as follows:

- 1 The term "Confidential Information" means:
  - 1) All details supplied by IREL on technical, commercial and other information and data on the Process.
  - 2) All details supplied by IREL on technical, commercial and other information and data relating to the products.
- 2 Each party hereto shall keep secret and confidential any and all confidential information it receives from any other party or parties hereto under this Agreement, and shall not use such Confidential Information for any purposes except for the said tender purpose hereunder. The obligations under this Article shall not apply to any information or data that:
  - i. at the time of its disclosure hereunder is in the public domain,
  - ii. after disclosure hereunder becomes part of the public domain by publication or otherwise through no fault of the party to whom such information or data is disclosed hereunder ("Receiving party") (but only after it is published or otherwise becomes part of the public domain),
  - iii. the Receiving Party can show in its possession at the time of disclosure hereunder and which the Receiving party, without breach or any obligation is free to disclose to others, or
  - iv. was received by the Receiving Party after the time of disclosure by a party hereto ("Disclosing Party") hereunder from a third party who did not acquire it, directly or indirectly, from the Disclosing Party under an obligation of confidence and which the Receiving party, without breach of any obligation, is free to disclose to others.

For the purpose of information or data which is specific, e.g., those on operating conditions or equipment, shall not be deemed to be within the foregoing exceptions merely because it is embraced by general information or data in the public domain or in the possession of Receiving Party. In addition, any combination of features shall not be deemed to be within the foregoing exceptions merely because individual features are in the public domain or in the possession of

the Receiving Party, but only if the combination itself and its principle of operation are in the public domain or in the possession of the Receiving Party.

- 3 The Receiving Party shall limit the access to the Confidential Information received hereunder to its directors, officers and employees, who (i) need to have access with such Confidential Information, (ii) have been informed of the confidential nature thereof and (iii) have agreed to undertake the obligations of non-disclosure and non-use of such Confidential Information.
- 4 Upon request of IREL, (name of the party) shall, free of charge, promptly return to IREL all the Confidential information received from IREL hereunder.
- 5 Each party hereto shall not, without the other party's prior express written consents, disclose or allow the disclosure of the existence of this Agreement.
- 6 It is mutually understood and agreed that no license or other rights are granted to any party hereto under this Agreement, by implication or otherwise, for any of the patents or patents applications of any other party hereto or as to any information and data disclosed by any other party or parties hereto under this Agreement.
- 7 None of the parties may assign its rights or obligations hereunder without the prior written consent of the other parties.
- 8 The obligation of non-disclosure and non-use of the Confidential information under this Agreement shall remain in effect for five (5) years after the date hereof and shall terminate upon lapse of said five (5) years.
- 9 This Agreement shall be governed by and construed in accordance with Indian laws.
- 10 Each party hereto acknowledges and agrees that monetary damages for any breach or threat of breach of this Agreement are inadequate. Each party hereto shall, therefore, be entitled to seek and obtain temporary and injunctive relief for any breach or threat of breach of this Agreement relating to its Confidential Information, in addition to any other remedy.
- 11 **IN WITNESS WHEREOF**, the parties hereto have caused this Agreement to be executed in duplicate by their duly authorized representatives on the day and year first above written. The original shall remain with IREL and the duplicate with (name of the party).

For \_\_\_\_\_

(Name)

Designation

Witness:

1. (Name)

Designation

2. Name:

Designation

For IREL (India) Limited

1. (Name)

Designation

2. (Name)

Designation

#### **Appendix 5 – SITE VISIT REQUEST FORM**

(This Site Visit Request Form shall be submitted duly signed by authorized signatory on Bidder's letter head, at least one week prior to the proposed site visit date)

#### **SITE VISIT REQUEST FORM**

I/We ..... (Bidder or Associate members name) wish to participate in the RFP for selection of Agency for procurement, supply, transportation, dismantling, erection and commissioning of Pre HUS facility at Chavara plant on EPC Basis. For the same, as prescribed in the said RFP document, I/We propose following team member(s):

- (1) Name, Designation and Company of the Team Leader
- (2) Name, Designation and Company of the Team Member
- (3) Name, Designation and Company of the Team Member
- (4) Name, Designation and Company of the Team Member

for the Site Visit to RFP Site to understand the site conditions, and acquaint myself/ ourselves with atmosphere prevalent therein on..... (Proposed Site Visit date).

Seal of the Company:

Signature of the Bidder:

Name:

Designation:

Note:

- a) Maximum four (4) member team can be proposed for site visit from a Bidding entity.
- b) In case Team Leader and/ or Team Member are not nationals of India, the Bidder shall submit details of such member (proposed for Site Visit) as per Site Visit Request Form.
- c) The Request form for site visit of foreign officials shall be submitted at least fifteen (15) days before the scheduled site visit date.
- d) Only formal written requests, duly received by IREL within the specified time shall be considered.
- e) IREL reserves the right to alter or change the date of the Site Visit
- f) IREL shall not be liable to reimburse to any Bidder any costs/expenses incurred by its team member(s) in connection with any such alteration in date or time, or withdrawal of request.

- g) The team member(s) of the interested Bidders will be accompanied by representative(s) of IREL.
- h) The interested Bidders shall ensure that it's all team members adopt best safety practices and adhere to all safety standards, including the required protective gear, during the Site Visit.
- i) The interested Bidder having any query of reasonable relevance arising from the Project Site Visit and study, may discuss the same during the Pre-bid Conference or send a formal written query to IREL.
- j) Interested Bidders shall take full responsibility for their respective members. If any member of the team of an interested Bidder displays any untoward behaviour or refuses to follow the guidelines or the reasonable instructions issued by IREL, IREL reserves the right to cause the removal of such member from the Project Site and also forfeit the privilege of the interested Bidder to conduct another Site Visit.
- k) The Team Leader of the Site Visit Team shall be responsible for:
  - a. ensuring proper conduct of team members;
  - b. liaising with IREL or its staff for any inputs/ instructions during Site Visit; and
  - c. resolving any issues which may arise during the course of the Site Visit.
- l) It should be noted that all data/information (oral or written) that the interested Bidders and the members of the Site Visit Team may learn or come across during the Project Site Visit and study shall be treated as Confidential Information and should not be disclosed or shared with any third party.
- m) Each interested Bidder shall bear the costs and expenses incurred by its Survey Team during the Project Site Survey.
- n) IREL shall not be liable, in any manner whatsoever, for any loss, expense, injury or damage suffered or likely to be borne by the interested Bidder or any of its member or representative, as a consequence of their entry to, access to or presence at the Project Site during the Site Visit.
- o) Each interested Bidder shall, upon the completion of the Project Site Visit, confirm in writing was it was accorded a fair opportunity to have full access to the Project Site.
- p) Each interested Bidder shall conduct the site visit responsibly to ascertain and familiarize themselves with the Project Site and associated factors required to give Bid.
- q) A Site Visit Team, who fails to comply with these guidelines or cooperate with any reasonable request made by a designated officer of IREL may be denied further access to the Project Site, and Pre-bid Conference with IREL.

**Appendix 6 – FORMAT FOR SITE VISIT CERTIFICATE**

**DECLARATION OF SITE VISIT**

(To be submitted along with the Bid)

I, hereby, declare that I have visited the site to understand the site conditions, and acquainted myself with atmosphere prevalent therein. I have also understood the extent of total works involved for this package.

Seal of the Company:

Seal of IREL:

Signature of the Bidder:

Signature of IREL Technical Person Head:

Name:

Name:

Designation:

Designation:

Signature of IREL Security Person:

Name:

Designation:

Note: The Bidder shall carry a signed and stamped print out in duplicate of this Site Visit Declaration on Company letter head. The same shall be attested and signed by accompanying Technical Person and Security Person of IREL during site visit.



## **Appendix 7 – FORMAT OF INTEGRITY PACT**

### **Pre Contract Integrity Pact**

#### **General**

This pre-bid pre-contract Agreement (hereinafter the Integrity Pact) is made on..... day of the month of ..... year.....between IREL (India) Limited (hereinafter called the "IREL" which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s. .... (hereinafter called the "Bidder" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS IREL proposes to select an Agency for procurement, supply, transportation, dismantling, erection and commissioning of Pre HUS facility at Chavara plant on EPC Basis and the Bidder is willing to offer/ has offered the services and

WHEREAS the Bidder is a private company / public company / Government undertaking / partnership / registered export agency, constituted in accordance with the relevant law in the matter and IREL is a PSU.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence / prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

Enabling IREL to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary Impact of corruption on public procurement, and

Enabling Bidders to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and IREL will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The Parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

#### **1. Commitments of IREL**

- 1.1. IREL undertakes that no official of IREL, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immediate benefit or any other advantage from the Bidder, either for themselves or for any person, organization or third party to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
  - 1.2. IREL will, during the pre-contract stage, treat all Bidders alike, and will provide to all Bidders the same information and will not provide any such information to any particular Bidder which could afford an advantage to that particular Bidder in comparison to other Bidders.
  - 1.3. All the officials of IREL will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
2. In case any such preceding misconduct on the part of such official(s) is reported by the Bidder to IREL with full and verifiable facts and the same is prima facie found to be correct by IREL, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by IREL and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by IREL the proceedings under the contract would not be stalled.

#### **3. Commitments of Bidders**

The Bidder commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the followings:-

- 3.1. The Bidder will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of IREL,

connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

- 3.2. The Bidder further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of IREL or otherwise in procuring the contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract for showing or forbearing to show favour or disfavor to any person in relation to the contract or any other contract.
- 3.3. The Bidder further confirms and declares to IREL that the Bidder has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to IREL or any of its functionaries, whether officially or unofficially to the award of the contract to the Bidder, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
- 3.4. The Bidder, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of IREL or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 3.5. The Bidder will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

The Bidder will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

- 3.6. The Bidder shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by IREL as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The Bidder also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.7. The Bidder commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 3.8. The Bidder shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.9. If the Bidder or any employee of the Bidder or any person acting on behalf of the Bidder, either directly or indirectly, is a relative of any of the officers of IREL, or alternatively, if any relative of an officer of IREL has financial interest/stake in the Bidder's firm, the same shall be disclosed by the Bidder at the time of fill of tender. The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.
- 3.10. The Bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of IREL.

#### **4. Previous Transgression**

- 4.1. The Bidder declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify Bidder's exclusion from the tender process.
- 4.2. The Bidder agrees that if it makes incorrect statement on this subject, Bidder can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

#### **5. Bid Security**

- 5.1. While submitting the Bid, the Bidder shall deposit an amount \_\_\_\_\_ (as specified in RFP) as Bid Security, with IREL through any of the following instruments:
  - 5.1.1. Bank Draft or a Pay order in favour of IREL (India) Limited, payable at Chavara or online mode.

- 5.1.2. A confirmed guarantee by an Indian Scheduled Bank, as applicable, promising payment of the guaranteed sum to IREL on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by IREL shall be treated as conclusive proof of payment.
- 5.2. The Bid Security shall be valid up to complete conclusion of the contractual obligations to the complete satisfaction of both the Bidder and IREL.
- 5.3. In case of the successful Bidder, a Clause would also be incorporated in the article pertaining to Security Deposit in the contract that the provisions of Sanctions for Violation shall be applicable for forfeiture of Security Deposit in case of a decision by IREL to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.
- 5.4. No interest shall be payable by IREL to the Bidder on Bid Security for the period of its currency.

## **6. Sanctions for Violations**

- 6.1. Any breach of the aforesaid provisions by the Bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder) shall entitle IREL to take all or any one of the followings actions, wherever required:-
- 6.1.1. To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the Bidder. However, the proceedings with the other Bidder(s) would continue.
- 6.1.2. The Bid Security / Security Deposit (after the Agreement is signed) shall stand forfeited either fully or partially, as decided by IREL and IREL shall not be required to assign any reason therefore.
- 6.1.3. To immediately cancel the Agreement, if already signed, without giving any compensation to the Bidder.
- 6.1.4. To recover all sums already paid by IREL, and in case of an Indian Bidder with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of Bidder from a country other than India with interest thereon at 2% higher the LIBOR. If any outstanding payment is due to the Bidder from IREL in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- 6.1.5. To encash the Security Deposit, if furnished by the Bidder, in order to recover the payments, already made by IREL, along with interest.
- 6.1.6. To cancel all or any other contracts with Bidder. The Bidder shall be liable to pay compensation for any loss or damage to IREL resulting from such cancellation / rescission and IREL shall be entitled to deduct the amount so payable from the money(s) due to the Bidder.
- 6.1.7. To debar the Bidder from participating in future bidding processes of IREL (India) Limited for a minimum period of five years, which may be further extended at the discretion of IREL.
- 6.1.8. To recover all sums paid in violation of this Pact by Bidder(s) to any middleman or agent or broker with a view to securing the contract.
- 6.1.9. In cases where irrevocable Letters of Credit have been received in respect of any contract signed by IREL with the Bidder, the same shall not be opened.
- 6.1.10. Forfeiture of Bid Security/Security Deposit in case of a decision by IREL to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.
- 6.2. IREL will be entitled to take all or any of the actions mentioned at Para 6.1 (1) to (10) of this Pact also on the commission by the Bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.
- 6.3. The decision of IREL to the effect that a breach of the provisions of this Pact has been committed by the Bidder shall be final and conclusive on the Bidder. However, the Bidder can approach the Independent Monitor(s) appointed for the purposes of this Pact.

## **7. Independent Monitor(s)**

7.1. IREL has appointed Independent Monitor(s) (hereinafter referred to as Monitors) for this Pact.

Dr. M Malakondaiah, IPS (Retd.) 156, Prashan Nagar, Jubilee hills, Road No. 72, Hyderabad-500 110 Mobile: 7330960888, E mail: mannamm1958@gmail.com	Shri Latit Chandra Trivedi IRMS (Retd) 701, Premium Tower- IV Shalimar Township, Indore – 452 010 (MP) Mobile: 9967567679 E mail: <a href="mailto:ltrivedi61@gmail.com">ltrivedi61@gmail.com</a>
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- 7.2. The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 7.3. The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 7.4. Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.
- 7.5. As soon as the Monitors notices, or have reason to believe, a violation of this Pact, they will so inform the Authority designated by IREL.
- 7.6. The Bidder(s) accepts that the Monitors has the right to access without restriction to all Project documentation of IREL including that provided by the Bidder. The Bidder will also grant the Monitors, upon its request and demonstration of a valid interest, unrestricted and unconditional access to its project documentation. The same is applicable to Subcontractors. The Monitors shall be under contractual obligation to treat the information and documents of the Bidder/Subcontractor(s) with confidentiality.
- 7.7. IREL will provide to the Monitors sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitors the option to participate in such meetings.
- 7.8. The Monitor will submit a written report to the designated Authority of IREL with 8 to 10 weeks from the date of reference or intimation to him by IREL/Bidder and, should the occasion arise, submit proposals for correcting problematic situations.

## **8. Facilitation of Investigation**

In case of any allegation of violation of any provision of this Pact or payment of commission, IREL or its agencies shall be entitled to examine all the documents including the Books of Accounts of the Bidder and the Bidder shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination

## **9. Law and Place of Jurisdiction**

This pact is subject to Indian Law. The place of performance and jurisdiction is the seat of IREL.

## **10. Other Legal Actions**

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

## **11. Validity**

11.1. The validity of this Integrity Pact shall be from date of its signing and upto the complete execution of the contract to the satisfaction of both IREL and the Bidder, including warranty period, whichever is later. In case Bidder is unsuccessful, this Integrity Pact shall expire after six months from the date of signing of the contract.

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

12. The Parties hereby sign this Integrity Pact at \_\_\_\_\_ on \_\_\_\_\_.

	IREL	Bidder
Signature Name of		
Officer Designation	<u>Witness</u>	<u>Witness</u>
	1	1
	2	2

**Appendix 8 (A) – FORMAT FOR UNDERTAKING BY THE BIDDER**

**Undertaking by the Bidder**

Date:

To,

M/s. 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, OSCOM, Chavara, MK, 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).....

**Appendix 8(B) – FORMAT FOR UNDERTAKING BY THE BIDDER**

**Undertaking by the Bidder( In Equipment Manufacturer's letter head)**

Date:

To,

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

Sub: IREL,Chavara HUS Upgradation project- Backup letter

Ref : RFP----- dt.-----

We confirm to provide you with the equipment selection basis and design , calculation for our ----- proposed to be used by you for the above project of M/s.IREL,Chavara.

We also confirm that in case your bid is selected for award of contract, our equipment shall meet the process parameters specified in the tender and we shall stand guarantee for the same.

Best regards

-----

**Appendix 9-A – FORMAT FOR PRICE BID**

**Format for Price Bid**

Sl. No	Particulars	Cost of service in totality Lumpsum (1 Lot)
1	Procurement, supply, transportation, dismantling, erection and commissioning of Pre-HUS facility-  for Lumpsum (1 Lot)	

**The above rate is inclusive of GST**

**Evaluation criteria/Award of contract will be on L1 basis.**

**Declaration:-**

1. I/We have fully read and under stood and completely satisfied myself / ourselves of the conditions set forth under the tender and accept the responsibility to carry out the work at the rates mentioned above.
2. I/We have studied the site situations & requirements and held discussions with all concerned regarding the terms and conditions of the tender and the rate quoted above by me /us is after taking into consideration of all aspects thereof.

Place:

Signature of Bidder

Date:

Name & Full address



**Price breakup (Format)**

Name of Project:

Name of Bidder:

**A. Package Lump Sum Turnkey (LSTK) Charges**

IREL shall pay the Bidder Lump Sum Turnkey (LSTK) basis as below:

Sl.No	A- Particulars	B- Price	C- Primary Break up	D- Sub Break up of C	Remarks
1	Engineering (as per the ToR)		5% of Total quoted Price	a) 100% payment along with GST thereon will be released on submission of detailed design and engineering data for the facility and acceptance of the same by Engineer-in-Charge.	
2	Civil works including supplies		10 % of the total quoted price.	a) 90% pro-rate along with 100% GST thereon against progressive bills duly certified by Engineer-in-Charge.  b) Balance 10% after final completion and acceptance of the total project by Engineer-in-Charge. (Retention Amount)	
3	Supply, Erection and Commissioning:  a) Electrical Works  b) Mechanical Works  c) Others		75% of the total quoted price	a) 75% along with 100% GST thereon on supply (part-supply) and after satisfactory receipt and inspection of the material by Engineer-in-Charge.  b) 20% after assembly of components, accessories, installation and commissioning of all supplied items.  b) Balance 5% after final completion and acceptance of the total project by Engineer-in-Charge. (Retention Amount)	
4	Trial run, Performance Guarantee Test & Handover of Facility		10% of the total quoted price	a) 100% payment along with GST thereon after completion of work in all aspects and acceptance thereof by Engineer-in-Charge and on submission of Performance Bank Guarantee for 10% of contract value valid up to the completion of Defect Liability Period (refer Article 8 of RFP) plus a claim period of 60 days.	

Total Basic Price (in words):

Applicable GST (in words):

Total Price with Taxes (in words):

Signature and seal of bidder

Name

Designation

Date

Place

Notes:

- a) The Bidder will be required to submit detailed BOQ (for facilitation of payment) corresponding to the value for supply of material (including Supply of equipment, technological structures and other utilities for the Project, building steel structures and civil work) In case certain items are missed out in the BOQ, it shall not absolve the Bidder of any of its responsibilities under the Agreement. The Bidder will be responsible to complete the entire scope of work as brought out in the RFP and Agreement without any price addition.
- b) Only the lump sum turnkey price total quoted along with various taxes and levies will be considered for comparison between various bidders. Break up for detailing if any, will not be considered for comparison.
- c) The price quoted shall remain firm during the execution period of the contract. No requests for change of price will be allowed for whatsoever reasons.
- d) In case of difference in amount in words and figures, amount in words will prevail.
- e) In case the Price Bid is not as per the format and directions provided in the RFP, the same shall be termed as non-responsive and shall be liable for rejection by IREL and shall result in forfeiture of the Bid Security.
- f) In case any conditional Price Bid is submitted by the Bidder, IREL shall have the right to reject the Price Bid and forfeit the Bid Security.
- g) The fees and Tax should be mentioned separately as indicated in the price bid structure. In case any amount towards tax is not mentioned, then the price quoted will be considered taking the fees inclusive of tax into consideration.
- h) Bidder should supply material to site only after obtaining despatch clearance from IREL.
- i) The bidder shall upload this breakup in Excel format along with the bid.
- j) Upon issuance of order from IREL , the successful bidder will be required to submit detailed billing break up for approval from IREL.

### **Appendix 10 – CHECK LIST**

Check list for Submission of Bid:

S. No.	Details of Document	Remarks (Applicable/ Not applicable Attached/ Not attached) If not attached, reasons to be given.
<b>Techno-commercial bid</b>		
1	Letter comprising the Bid along with particulars of Bidder in Annex-I of Appendix-1	
2	Technical Capacity of the Bidder as per Annex-II of Appendix 1	
3	Financial Capacity of the Bidder as per Annex- III of Appendix 1	
4	Statement of Legal Capacity as per Annex- IV of Appendix 1	
5	Bid Security	
6	Power of Attorney(s) as per format given in Appendix 3 of RFP	
7	Site Visit Certificate as per format given in Appendix 6	
8	Certificate of Registration, Incorporation, along with Memorandum and Articles of association of Bidding entity, its Associate (if applicable)	
9	Letter of Association from the Associate (if applicable)	
10	All documentary proof for the above mentioned Annexes as mentioned in the RFP	
11	Signed copy of Integrity Pact as per Appendix 7	
12	Undertaking as per Appendix 8	
13	Signed copy of RFP and draft Agreement including all addendum, corrigendum and clarification	
14	All supporting documents as mentioned in the RFP	
15	Unpriced Price Bid (as per format in Appendix 9 A & B) along with unpriced BOQ as defined in Clause 15.3.3	
16	Any other document/ data/ details to be submitted as mentioned in the RFP	
	<b>Price Bid</b>	
1	Price Bid as per format in Appendix 9 along with priced BOQ as defined in Clause 15.3.3	

## Appendix 11 – PROJECT DETAILS

### INTRODUCTION

IREL intends to upgrade the existing plant on EPC basis, the details of which are mentioned below:

### Project Location

The proposed plant will be located at IREL (India) Limited, Chavara, Kollam, Kerala – 691583.



### Plant Site Conditions

<b>Location</b>	<b>Chavara ,Kollam District,Kerala -691583</b> <b>Coordinates: 8°59'03"N 76°31'33"E</b> <b>Altitude : +2 m above Mean Sea Level</b> <b>Level Terrain : Plain, seashore</b>
<b>Climatic Conditions</b>	1. Max. temperature : 35 °C 2. Max. Of mean daily temperature : 30 °C 3. Min. Of mean daily temperature : 24 °C 4. Relative humidity : 67% (Winter) 5. Relative humidity : 88% (Monsoon)
<b>Wind speed</b>	West: The wind is most often from the west from February 15 to November 16. East: The wind is most often from the east from November 16 to February 15. The wind speed in Kollam can vary between 2.2 and 13.4 miles per hour (mph). Gusts can reach up to 20.1 mph
<b>Annual Mean rainfall</b>	The average annual rainfall in Kollam, Kerala is around 2,428 mm

<b>Susceptibility to Earthquake</b>	<p>Falling under zone — III as defined in IS:1983.</p> <p>Past earthquakes in Kollam</p> <p>In 2012, an earthquake of 3.2 magnitude occurred in the northern and northeastern parts of Kollam. The earthquake caused tremors and sounds in six villages.</p> <p>Historical earthquakes in the region include the events of 1856 and 1953, which were comparable in magnitude to the earthquakes of 2000 and 2001.</p>
<b>Railways</b>	<p>The main broad gauge line of Southern railways connecting Chennai and Thiruvananthapuram passes at a distance of 10 km from the boundary of the plant site. The major railway stations Kollam at a distance of about 15 km and Karunagapalli at a distance of about 10 km.</p>
<b>Sea ports</b>	<p>Kochi port is at a distance of 125 km by road / rail. Kochi port is at a distance of 125 km from plant site.</p>
<b>Airport</b>	<p>The nearest airport is at Thiruvananthapuram at a distance of 80 kms by road.</p>
<b>Road ways</b>	<p>NH-66 is connected at a distance of 1.5 km from plant site.</p>

#### POWER & WATER

The successful bidder has to arrange the Power towards the works along with adequate lighting for the project site. However, Power can be provided on chargeable basis at a single point in each project subject to availability. Water will be provided on free of cost subject to availability.

#### MANPOWER

The Selected Bidder will deploy its manpower up to handing over of the plant to IREL (India) Limited.

## **Appendix – 12- Terms of Reference**

## **PART-I**

### **Pre HUS facility at IREL(India) Ltd, Chavara plant**

#### **1. INTRODUCTION**

- 1.1 IREL intends to install a Pre HUS facility consists installation of new Electrical substation, feeding bunker, de sliming system and spiral separator for upgradation of HM in raw sand prior to existing HUS for increasing the throughput of HUS to 200 tph.
- 1.2 As part of this endeavour, IREL has decided to undertake installation of the Project on EPC (Engineering Procurement Construction) basis. Now, IREL intends to appoint an "Agency" through this bid process for setting up of the Project on EPC basis.
- 1.3 The role of EPC contractor will include all the following activities, but will not be limited to:
  - 1.3.1 Engineering, procurement, construction, installation, erection, testing and commissioning of the project based on the flow sheet developed by IREL
  - 1.3.2 Formulization of equipment SoPs (Standard Operating Procedures) and adherence to safety norms
  - 1.3.3 Commissioning of the equipment and ensure commercial operation of the Plant within relevant environmental norms
- 1.4 The intent of the details given below is to furnish the required details for enabling the Bidder to submit their best offer within stipulated time frame as per Scope of Work to achieve the design & technological parameters and achieving Guarantee as per the scope of work.

#### **2. General description of Present HUS**

- 2.1 Heavies Up gradation Plant (HUS) upgrade the raw sand from different sources and separate to Magnetic and Non magnetic fraction having the following characteristics.

Magnetic: Mag in Mag= 90%

Non Magnetic: HM in Non mag: 80%

Throughput capacity of HUS = 100 tph
- 2.2 Raw sand from inland, beach washings, upgraded sand from DWUP site/ Spiral Output from different mining areas are transported to HUS stockyard.

This sand is heaped in HUS yard, identified as HUS feed material, and is fed to bunker (BK1) and boulder and foreign material more than 100 mm are removed manually and sand with less than 100 mm is fed to bunker by gravity or by pushing manually by laboures. This sand from bunker is transferred from bunker via bunker conveyor ( BF01) at the rate of 100 tph to the slopping conveyor (CV 01) and CV 01 transfer the same to the double deck vibrating screen (VS 01) for removing the foreign materials of size more then 3 mm.
- 2.3 The raw sand of less than 3 mm from the unders of the VS 01 is collected in CPD tank (CPD1) and is fed to the Primary rougher spiral by slurry pump (PU 01). Total 24 Nos. of 3 starts of HG grade spiral are available in Rougher stage
- 2.4 After the up gradation of raw sand in different stages upto 80 % of HM, concentrate is fed to WHIMS through LIMS and vibrating screen with 1 mm mesh for separating magnetic and Non Magnetic fraction
- 2.5 The magnetic and non-magnetic fraction obtained from WHIMS are pumped and stocked separately in stockyards for processing in the Mineral Separation plant. Tailing fraction from the HUS is stockpiled for refilling of mining sites.
- 2.6 Presently Raw sand are collected from multiple locations are differing in mineral constituents, varying in HM content (10% to 20%), slimes etc. This wide variation in HM content and slime is posing a challenge to maintain consistent feed rate to HUS Plant. This inconsistency in feed content results in operational issues in the feed bunker, primary screens and spiral separators.
- 2.7 It is proposed to process the raw sand and Upgrade the same from 10-20% to 25-35% HM after removing the slime in Pre HUS facility. This upgraded material from Pre HUS will be fed to existing HUS for processing.

### 3. Proposed requirements:

- 3.1 New 11kV substation including building about 50mtrs away from the existing transformer room with 1600kVA Transformer: 11kV/415Volts: 1No, 11kV,630Amp VCB with CT PT unit, TOD meter with all relevant relays, meters, indicators, etc: 1Set, 24V,40Ah Battery &Battery Charger: 1No, 3CX300sq.mm HT Cable: 100Mtrs, 2500Amp,4P, incomer ACB: 1No., 2000Amp, 3P ACB:2No, 1600A,3P,ACB: 2Nos, 1000Amp,3P, ACB: 2Nos, 630Amp, MCC, 200kVAr APFC Panel: 2set, 3.5CX400sq.mm Copper XLPE Cable: 250Mtrs, 3.5CX185sq.mm Copper XLPE Cable: 40Mtrs, 16CX1.5sq.mm Copper UG Cable: 20Mtrs, 4CX1.5sq.mm Copper UG Cable: 50Mtrs, 2CX1.5sq.mm Copper UG Cable: 70Mtrs, Earthing Systems: 10 Nos, Getting power allocation, liaison with KSEBL, Preparation of drawings, SLDs etc., Obtain permit from DGMS, Testing and commissioning.
- 3.2 To increase the HUS throughput from existing 100 tph to 200 tph by commissioning Pre HUS facility including additional feeding system.
- 3.3 New bunker with bunker feeding conveyor (BF 02) and slopping conveyor (CV 02) for feeding to double deck screen with feed rate of 200 tph.
- 3.4 New bunker (BK2) with bunker feeding conveyor at north side of existing bunker for feeding the raw sand at the rate of 200 tph. The raw sand from the new bunker is to be fed to the new slopping conveyor CV 02 for feeding to the existing VS 01 double deck Wet vibrating screen. Feeding capacity of CV 02 with new bunkers ( BK2) shall be 200 tph.
- 3.5 New bunker shall be mechanized type for removing the debris / boulders of more than 100 mm from raw sand as overs. These overs are to be discharged automatically to one side of bunker for removal. The required under size materials is with discharged to the bunker by suitable mechanism without intervention of human power.
- 3.6 Slime Removal system by supply & installing cluster of Hydrocyclone and HM up-gradation by supply & installing Spiral separator for treating 10 to 20% HM grade.
- 3.7 The under flow of existing VS 01 double deck vibrating screen (Approx. 180tph) will be collected in existing CPD tank (CPD1) and will be fed to cluster of Hydrocyclone for slime removal.
- 3.8 Hydrocyclone Under flow material (Approx.170 tph) will be collected in CPD tank (CPD2) and pumped to the set of MG Grade spiral separators for up gradation.
- 3.9 Hydrocyclone over flow material (Approx. 10 tph) (slime) will be collected in CPD tank (CPD3) and pumped to the tails yard.
- 3.10 Spiral separator concentrator fraction along with Middling fraction (90-100tph, combined HM: 25-35%) will be collected in CPD tank (CPD4) and fed to the existing HUS rougher spirals for processing.
- 3.11 Spiral separator tailings (70tph HM: 1.5%) will be collected in CPD tank (CPD3) and pumped to the tails yard along with Hydrocyclone over flow material (slime).
- 3.12 Pumping system for the above process with motors, bins, pipe etc.
- 3.13 Tails pumping up to tails yard
- 3.14 Additional water requirement and water pumps for the above process.
- 3.15 Modification in the existing HUS structures including roof raising and structural works.
- 3.16 Type slime: slime with size less than 45 microns.

### 4. Scope of Work:

#### 4.1 General

- 4.1.1 The scope of work shall broadly cover detailed engineering, procurement, fabrication / manufacture, inspection, transportation, insurance, storage, handling, construction, installation, erection, testing, commissioning, stabilization and demonstration of guarantee parameters of the proposed system, equipment and associated facilities as covered in the following clauses, for the various jobs related to technological/ mechanical, civil, structural, electrical and instrumentation works to be executed on turnkey basis.

Sl. No.	Description of work
1	Enhancement of HUS substation capacity by constructing new substation building, procurement, installation, commissioning one number of 1600kVA Transformer and allied switchgears, prepare drawings, test reports etc. and



	obtain DGMS approval for 'bringing into use'.
2	Supply of De sliming cluster hydrocyclone system.
3	Design, Erection, installation and commissioning of De sliming cluster hydrocyclone including supporting structures and foundations and interconnecting piping system & bins
4	Supply of four bank of Gravity Spiral Separator – Medium grade with 4 bank of spiral, each bank contain 10 nos triple starts 6 turn Medium grade Spirals separator ( 4 bank x 10 nos x 3 starts, ie. 40 numbers of 3 start spirals) along with accessories
5	Erection, installation and commissioning of four bank of Gravity Spiral Separator – Medium grade with 4 bank of spiral, each bank contain 10 nos triple starts 6 turn Medium grade Spirals separator ( 4 bank x 10 nos x 3 starts, ie. 40 numbers of 3 start spirals) along with accessories with supporting structures, bins & accessories
6	Structural modification and roof raising for accommodating the spirals, Hydrocyclone cluster including supply of material and erection.
7	<p>Supply, erection and installation and commissioning of Pumping system ( slurry pump and water pump), motors, CPD tanks, suction and delivery HDPE pipes and accessories, valves etc for</p> <ul style="list-style-type: none"> <li>• Pumping Slurry from CPD 1 to Hydrocyclone cluster (without CPD tank)</li> <li>• H/c Under flow CPD tank (CPD2) to Spiral distributor ( Feed 4 banks of spiral distributor, bottom entry)</li> <li>• From H/c Over flow (CPD3) tank to tails yard area</li> <li>• MG Spiral Separator Concentrator CPD tank (CPD4) to existing rougher spiral distributor. (Feed to 2 banks of spiral distributors, bottom entry)</li> <li>• Water pumping from canal.</li> </ul> <p>Note: However the successful bidder can choose a suitable interconnecting material handling system so as to achieve the minimum guaranteed parameters as described in the RFP.</p>
8	<p>Fabrication and erection of Bunker with civil foundation, ramp for accessing the bunker by wheel loader, roof etc. including supply of materials and erection.</p> <p>New bunker shall be of mechanized type with for removing the debris / boulders of more than 100 mm from raw sand as overs. These overs are to be discharged automatically to one side of bunker for removal. The required under size materials is discharged to the bunker by suitable mechanism without intervention of human power.</p>
9	Supply, erection and installation and commissioning of Bunker conveyor (BF02) with motor &VFD, slopping conveyor (CV 02) with motor suitable for 200 tph capacity
10	Supply, erection and installation and commissioning of Electronic belt weigher for the CV 02 with 250 tph capacity.
11	Supply, erection and installation and commissioning of Electrical panels, cabling, connections, earthing system for the all new motors / drives / instruments and incorporating the in the Existing SCADA system

**The equipment viz. Spirals shall be off reputed make and as per the specification below.**

The spirals shall be of 6 turns high performance spiral suitable for Mineral sand industry for upgrading Heavy minerals like Ilmenite, Rutile, Zircon & Sillimanite from the feed material. The spirals shall have following features:

- VHM recovery of 90% and more
- Capacity shall be of 1.5 to 2.0 tons/hour/start
- Handles slurry with pulp density of 25 to 40% and size range of 0.03mm to 2.0 mm
- Two repulpers

- Three start type
- 1 X auxiliary slide splitter
- Improved edge for containing splash
- Ganged product splitter
- Made out of highly wear resistant polyurethane
- Spirals should be of wash water less type spirals
- Product launders should be the integral part of the spiral concentrator. There shall be provision of collecting minimum three fractions i.e. Concentrate, Middling and Tailings separately
- The spiral trough should be fitted/ supported to a central corrosion proof PVC /Teflon column/galvanized aluminum/ corrosion proof aluminium

## 5. SPECIAL CONDITIONS OF THE CONTRACT:

- 5.1 New bunker system, MG spiral, De **sliming** Hydrocyclone cluster are to erected without affecting the operation of HUS. Hooking up with existing HUS is to be carried out with minimum down time of HUS and schedule is to be prepared and approved by EIC.
- 5.2 MCC control panel for the additional drives (pumps, bunker conveyor etc.), its electrical connection and incorporating to the existing SCADA are to be carried out.
- 5.3 Disconnection of HUS supply from old substation and connecting to new substation.
- 5.4 Technical specification for Supply of four bank of Gravity Spiral Separator:

Number of spirals: Medium grade triple starts 10 nos. in one bank i.e. one bank consisting of 10 nos of spirals (4 bank x 10 nos of spirals x 3 starts = 40 number of 3 start spiral) Spiral separator along with accessories (One nos of bottom entry gravity distributors and 3 launders for collection of Concentrate, Middling and tailings) etc.

### Salient feature:

The salient features of the gravity spiral separator / concentrators shall be as mentioned below but not limited to the same.

- Spiral separator shall be of Triple starts, six turns.
- Feed rate capacity minimum 1.5 to 2.0 tph per start and pulp density approximately 25% to 40 % of solids.
- Product launders should be the integral part of the spiral concentrator. There shall be provision of collecting minimum three fractions i.e. Concentrate, Middling and Tailings separately.
- Spirals should be of wash water less type spirals.
- Each start should have slide type splitters located at suitable positions to extract heavy minerals.
- The spiral trough should be fitted/ supported to a central corrosion proof PVC /Teflon column/galvanized aluminum/ corrosion proof aluminum.
- The extracted heavy minerals shall channelize to the product box from where it can be transferred to the launder. It shall not be through the central column.
- Repulpers should be provided after each auxiliary splitter for redistribution of slurry and further separation of heavy minerals to assist in the recovery and concentration.

### Spirals Accessories:

- ❖ Each bank of spirals shall be supplied with hot dipped galvanized steel frame, sub-frame (if any confirming to IS or equivalent international code).
- ❖ Gravity distributors with 12 outlets, ( bottom entry),
- ❖ Product launders assembled in order to collect for concentrate, middling and tailsfraction separately, Feed Box, Product box/collector box, Slide Splitters, Feed Pipes, Feed Bends, Distributor Bends, Hoses, Pipes, Clamps, Elbows, Column Snubber, Central Column cap, Feed hoses and clamps from distributor to spiral feeding, three products launder system, Any other item required for satisfactory functioning of the spiral concentrator system.

### Material of Construction:

- The material of construction of spirals, launders and distributors shall be from fibre glass reinforced polyester and the body shall be lined with a highly wear resistant polyurethane elastomer (PU) all along the spiral trough and in the high wear area.
- The spiral trough shall be moulded with PU lining so that splash of water is arrested.

- The launders are assembled with a strong durable edge capping that protects the edge from the damage. The launder compartments are held together with a bracket arrangement in galvanized steel with suitable fasteners. Launder out let shall be rounding suitable for connection using rubber adaptor. Any other form of launders can also be accepted subject to the approval of IREL. Each bank of spirals shall be mounted in hot dip galvanized steel frame and sub frame.

Performance criteria of spirals:

The performance of the spirals in the plant shall be evaluated based on the quality and recovery in concentrate fraction. The proposed spiral separator should be suitable to treat feed material of following specifications:

Feed composition: Feed contains HM 10-20%

Spiral products: Concentrate + Middlings should contain HM 25-35% with recovery of  $\geq 90\%$ .

Technical specifications for De-sliming facility consist of clusture of Hydrocyclone, sump, Feed pump etc.

Hydrocyclone cluster assembly for the slime removal

- The number of Hydrocyclone required in the desliming cyclone cluster is to be designed for treating 200 TPH by the bidder and detailed calculation is to be furnished with the bid. One mechanical standby hydrocyclone and one mounting holder for future provision are required in the cluster assembly.
- The proposed desliming cyclone overflow pipe arrangement shall be gravitate to existing slime pond by gravity.
- The proposed desliming cyclone underflow launder arrangement to be gravitate to existing spiral feed tank, the existing spiral feed tank and pump volume to be increased as per the mass balance to meet the volumetric requirement.

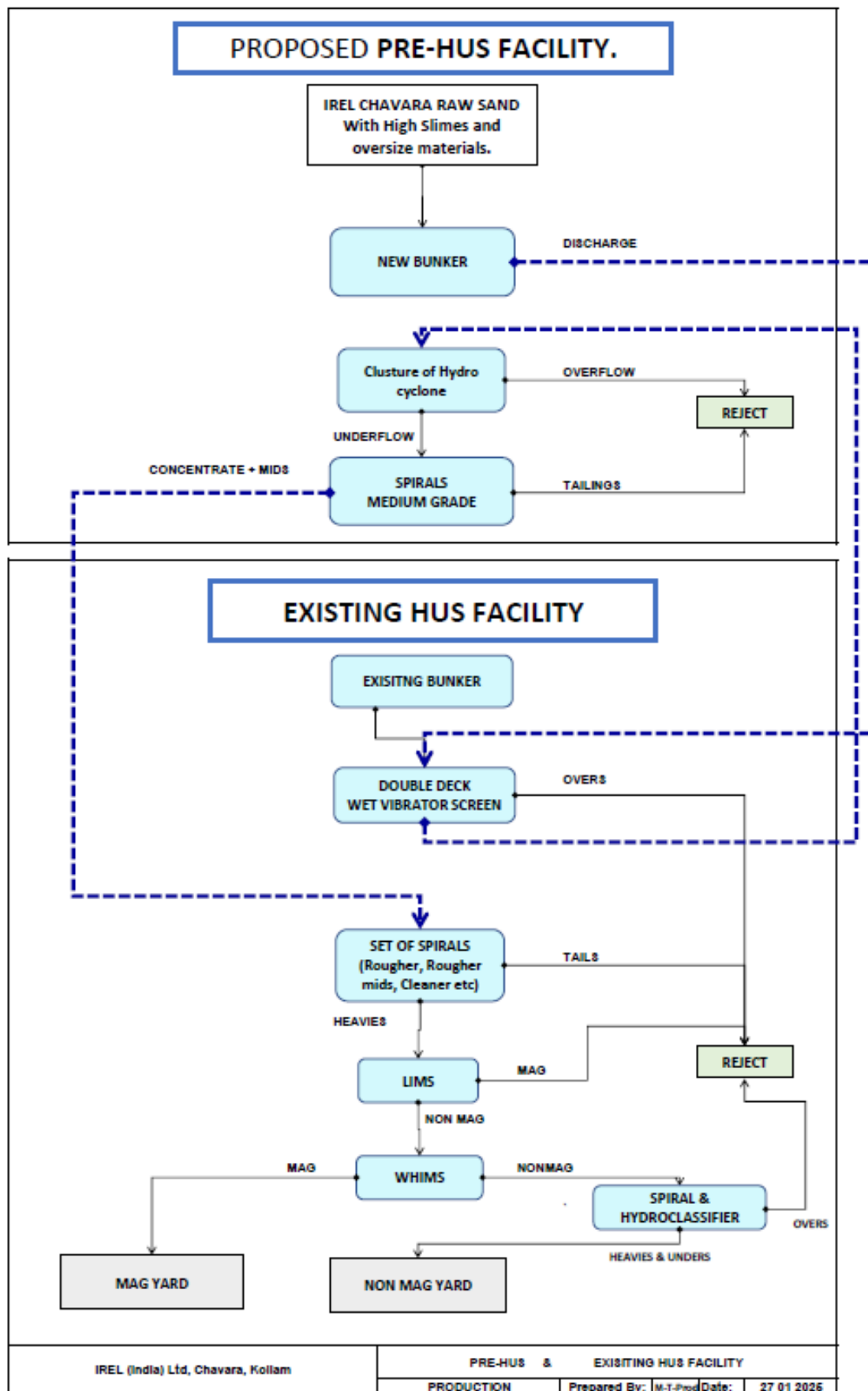
The proposed De-sliming Hydrocyclone cluster assembly shall consist of the following technical features

- MOC of Casing - PU or Mild Steel lined
- MOC of Feed chamber and Cover – PU or Aluminium
- Liners - PU or R55 moulded replaceable rubber
- Cluster - Customised radial cluster assembly
- Isolation - Suitable Isolation valve for each cyclones
- Instruments - Pressure gauge and Pressure transmitter
- Features
  - ✓ Manifold for uniform feed distribution
  - ✓ 8mm thickness rubber lined (Hot vulcanized) feed distributor for MOC of mild steel
  - ✓ Overflow launders and Underflow launders with Manual operated Knife gate valve
  - ✓ All wetted parts shall be R55 Hot vulcanization rubber lined
  - ✓ 1 No of mechanical standby cyclone
  - ✓ 1 No of blank holders to mount feature cyclone
  - ✓ Pressure Gauge & Pressure transmitter
  - ✓ Commissioning spare of one lower and one higher spigot and one higher size vortex

Performance criteria of De-sliming Hydro cyclone cluster assembly.

As per the present plant operation condition, the proposed Desliming hydrocyclone clusture should be suitable to treat feed material of following specifications:

Description	Parameters
Feed Material	Heavy Mineral sand
Application	Slimes removal
Assembly type	Multiple H/C cluster assembly
Capacity	200 tph
Req.Cut size	< 45 microns
Feed Range	1000 to 75 microns
Sp.gravity Solid	2.65
Type of Feed	Slurry form
Slurry Conc. wt%	25 to 30 %
Slime in feed	7 to 15 %



## 5.5

### 5.5.1 ENGINEERING

- a) The Bidder is required to develop suitable layouts for the project facility within the available space. The bidder shall also develop their layout in such a way that the incoming, outgoing and in-plant slurry and water pipe lines length are minimized. Layout shall be compact and optimized so that length of electric cables, pipe work, drainage system etc are kept at the minimum without sacrificing the comfort of operational and maintenance requirement.
- b) The Selected Bidder shall submit 3 (Three) sets of drawings and documents for approval of IRE as follows but not limited to:
- c) GA and sectional drawings for equipment and systems with overall and relevant dimensions and complete bill of materials
- d) Quality assurance plan (QAP) for all equipment
- e) Submission of all load data of the equipment
- f) General arrangement of Motors, control panels, motor control centers, central control desks, etc.
- g) Design calculations for selection and sizing of all equipment
- h) Following shall be submitted in one set of Pen drive and three (3) sets of prints along with supply of equipment:
- i) All drawings approved/ accepted for reference by IREL
- j) List of mandatory spare/ fast-wearing parts with detailed drawings, specifications, bill of material, material composition, unit-weight and manufacturer's catalogue
- k) Name of manufacturers and part number for all electrical, electronic, instrumentation, mechanical and structural components with technical catalogue

### 5.5.2 Activities prior to engineering

Within 30 (thirty) days of signing of Agreement, the Agency shall:

- i. Appoint a SPOC (Specific Point of Contact) who will represent the Agency and shall be responsible for all activities under the Scope of Work;
- ii. Undertake and perform all such acts, deeds and things as may be necessary or required before commencement of works under and in accordance with the Agreement; and
- iii. Submit to IREL an L-3 level Implementation Plan for execution of all the activities under scope of work, and giving the following details:
  - a) **Part I** Agency's organisation for the Project, the general methods and arrangements for Engineering, Quality Assurance Plan including engineering quality plan and key personnel of the Agency.
  - b) **Part II** Programme for completion of scope of work covering all major Project Milestones within the time period of 18 months specified for the complete project
- iv. During the progress of the project, Agency has to review the progress of the project fortnightly and submit the latest revised programme, whenever the previous programme is inconsistent with the actual progress or with the Agency's obligations, without effecting the final schedule and keeping the baseline unchanged, by adopting suitable steps to compensate the delay.
- v. For the avoidance of doubt, the Agency acknowledges and agrees that IREL/ IREL's PMU unit may, within a period of 15 (fifteen) days of receipt of the Implementation Plan, convey its comments to the Agency stating the modifications, if any, required for compliance with the provisions of the Agreement.
- vi. Upon obtaining the comments, the Agency shall carry out such modifications, to the extent required for conforming to the provisions of the Agreement without additional cost.

**5.6 Implementation Period : The Selected Bidder shall complete the commissioning of the proposed plant(s)/ circuits and associated facilities in this ToR within a period of Eighteen (18) months from the Effective Date. Level-II Network shall be updated monthly by the Selected Bidder and detail status/ delay analysis reports shall be submitted to IREL along with the Monthly Progress Report.**

## 5.7 **CIVIL**

The scope of work for civil works for the proposed revamp the existing HUS facility by installation of additional feeding system and slime removal facility at Project site:

The major new Construction & Modification (wherever applicable) works will include but not limited to the following

1. Construction of new building for new 11 KV Substation for installation of 1600 KVA transformer and allied equipments.
2. Construction of new bunker system.
3. Modification of existing HUS building to incorporate additional equipment's envisaged in this project.
4. Diversion of existing Mineral sand transportation road at HUS (*north side of existing security cabin*). This will be setting on south side (road with RCC) of existing security cabin including closing of existing gate area with earth filling after providing retaining walls.

5.7.1 The scope of work for the Selected Bidder includes design, engineering, supply of labour & materials, transportation, dismantling as per requirement, construction of Buildings, foundations of equipment, frameworks, staircases etc wherever required with tools, tackles complete as required, Modification in HUS as per major scope of works under the clauses below complete on "Turnkey Basis".

5.7.2 Any dismantling work, if required, will be carried out with due permission from IREL.

- i. Site clearance after removing all bushes, shrubs, uprooting stubs, pipelines, re-routing the existing water lines, any other scrap materials like cables, pipes ,debris etc, area survey of the proposed area of construction including site survey, area cutting/leveling & area development.
- ii. Slope stabilization (wherever required) and RCC framed Electrical PCC and control room as per requirement and confirms to Central Electricity Rules 2023 for substation building.
- iii. RCC foundations, including plinth beams for Structural steel building shed for proposed circuit/ plant including RCC floor on boulder soling, floor finishes, cable trenches, etc will be as per design report to meet the requirement of site.
- iv. Construction of RCC foundations for the equipment foundations as per the flow sheet/ technological requirements inside the proposed circuit/ plant Shed. Moreover, the foundation/pedestals for the Structural supports/columns for structural platforms shall be constructed as per technological requirement.
- v. Construction of RCC framed foundations/ modification of existing foundation as per process/technological requirement for installation of equipment, Modification of HUS.
- vi. Construction of RCC foundations/pedestals for the slurry pipeline/ launder wherever required.
- vii. RCC work for various equipment foundations & facilities as per technological requirement.
- viii. RCC foundation for structural steel trestles for pipeline supporting structural steel trestles & pipeline saddle.
- ix. The Electrical control Room, PCC room & different enclosures shall be as per technological and process requirements and painting/finishing/ water proofing to be provided by Successful Bidder that specifies the best solution prevailing in market. For false flooring, ceiling, door, window & ventilators- innovative solutions shall be offered

5.7.3 The scope of Civil works of Selected Bidder is not limited to the major items of civil works as elaborated above but includes all civil works required, within the battery limits, for the successful completion of the project.

5.7.4 All construction equipment required for execution of the work shall be arranged, procured & hired by Selected Bidder at his own cost along with operations, skilled & semi-skilled personnel. The Selected Bidder shall also furnish a list of construction equipment to be deployed by him.

5.7.5 The Selected Bidder shall furnish requirement of construction water & power based on daily peak requirement, average requirement & lean requirement throughout in course of execution of the project. Construction water & power shall be provided by IREL at a single point each for site works, at the boundary of battery limit. The Selected Bidder shall make his own arrangement to tap and lay necessary piping, cables, wiring etc from the source to the user points.

5.7.6 All civil works to be done taking into account CPWD latest standards and factoring seismic zone as per specification enclosed.

#### 5.7.7

- i. Design, supply, installation / construction of:
  - a) The foundations for the proposed modified structural of HUS
  - b) The complete flooring of the proposed structural with minimum 250 mm thick RCC (thickness and reinforcement steel to be decided as per design)
  - c) The foundation of all other equipment in the proposed structural area
  - d) The foundation of all structure of the dry feeding belt conveyor and storage tank installations
- ii. Supply of paint, surface preparation and painting as per specification of the existing structures, tanks, bins, supports etc. Area of painting decided during engineering work. Scope of painting of the newly installed structure is included in the scope of work of fabrication.
- iii. Design supply of all materials, construction of Electrical substation
- iv. Sheeting of the proposed HUS structural modification, all outside belt conveyors, interconnecting points, dry feeding system belt conveyor and storage/surge bin all sides and top roof sheeting work. The minimum thickness, type of sheeting shall be decided based on exposure condition to which roof sheets will be subjected to with colour coated minimum 1.0 mm thick sheets as per detail technical specification for sheeting.

All manpower, material, equipment, tools, & tackles, safety appliance, barricade etc. in the scope of contractor.

- Compaction of sub base to be done suitably after excavation when it causes a wave like motion in the base course or sub grade.
- Test certificate / test report towards the material and compaction including compacted thickness etc to be produced, if required by EIC.
- Any damage or repair to the road till handing over has to be made rectified by the successful bidder till completion of handing over and guarantee period at free of cost.
- Water for the above works has to be arranged by the successful bidder.
- All RCC & PCC works shall be completed with RMC.

#### 5.7.8 Quality of Materials & General Standards of work:

The bidder under this contract commits himself to use materials conforming to relevant Indian Standards / Codes and assumes full responsibility for the quality of all materials incorporated or brought for incorporation in the work, the work shall be executed in accordance with acceptable engineering practice and as per direction of the Engineer-in- charge.

Test required for Materials & work execution:

The bidder under this contract commits himself to carry out required tests conforming to relevant Indian Standards / Codes and assumes full responsibility for the quality of all materials incorporated or brought for incorporation in the work, the work shall be executed in accordance with acceptable engineering practice and as per direction of the Engineer-in-charge.

Activity	Test Required	Document to be submitted
Cement brought to site	To check cement confirming to IS:1489 (Part-1) Fly ash based	Test certificate of cement
Excavation & compaction	To check compaction of soil (For road work and hard strata)	Compaction test report to be submitted (For road work and hard strata)
GSB	To check crushing strength of GSB	Crushing strength, abrasion etc and compaction test report to be submitted
WMM	Design mix report of WMM to be submitted; To check compaction of WMM	Design mix report, compaction
Concrete	To check compressive strength Crushing strength	Test report of concrete cubes to be submitted



## 5.8 MECHANICAL / STRUCTURAL/ PROCESS:

### Mechanical

**The scope of mechanical works is as follows but not limited to:**

"Procurement, Supply of Required Steel & Associated materials, Fabrication of bunker along with superstructure, Dismantling, Transportation of Existing plant & machineries, Electrical Equipments, Instrumentation items, Transporting from IREL Central stores/ Plant and Erection of Equipments / items at project site as per the approved drawings at IREL. and as per the scope of work mentioned below.

Sl.no	Description	Details	Measurement Criteria for works
1	Dismantling of Structural, Process Equipments and Electrical Equipments from the existing plant and depositing to IREL central store or any other places identified by IREL within a radius of 200 meters from the project site	Care should be taken during dismantling, transportation, Loading and Unloading the items such as G.I Sheets, Gratings, Process equipments, Electrical Equipments. Power connections to be isolated before disconnecting any electrical items.	Measurement will be made based on the weigh slip of IREL weighing bridge.
2	Procurement, Supply of all types of structural steel as per the drawings /instruction of EIC, Sand Blasting, Fabrication, Erection & Painting bunker with Superstructure including required Bolts and nuts, rougher section pipelines, strainers, tanks, bins as per the drawings provided by contractor and approved by IREL.	<ul style="list-style-type: none"> <li>• Tanks with pump and motor.</li> <li>• Base for Mechanical and electrical installations.</li> <li>• Pump and Motor Frames.</li> <li>• All MS &amp;ERW pipelines.</li> <li>• Any other fabrication as per site requirement towards completion of the work as per the instruction of IREL to be carried out.</li> </ul>	<p>Scraps generated from the fabrication have to be weighed in IREL store and has to be taken back by the successful bidder. Payment will be made only for the fabricated items only and no payment will be made for scrap items.</p> <p>DP test has to be made towards quality check as mentioned in the Technical Specification. DP test procedure has to be submitted by the successful bidder</p>
	Procurement, Supply of process equipments and allied accessories as envisaged in clause No. 4.1.1 of ToR.	Spiral Separators, De sliming facility, feeding bunker, conveyor etc.	The measurement shall be based on the quantity supplied and executed.
3	Procurement, Supply of G.I Gratings and erection of the same.	As per the Technical Specification provided and as per site requirement	The measurement shall be based on the actual coverage in square meter. No payment will be made for scrap.
4	Procurement, Supply & fixing of G.I. Colour coated sheets for the plant.	As per the Technical Specification provided and as per site requirement.	The measurement shall be based on the actual coverage in square meter. No payment will be made for scrap.
5	Procurement, Supply & fixing of HDPE Pipes.	As per the Technical Specification provided.	The measurement shall be based on the quantity supplied and executed/ Returned to IREL.
6	Procurement, Supply & fixing of WIR Hoses.	As per the Technical Specification provided.	The measurement shall be based on the quantity supplied and executed/ Returned to IREL.

7	Procurement, Supply & fixing of Miscellaneous Items.	As per the Technical Specification provided.	The measurement shall be based on the quantity supplied and executed /Returned to IREL.
8	Procurement, Supply of rubber sheets and carryout the rubber lining work as per the direction of IREL.	As per the Technical Specification provided	The measurement shall be based on the quantity supplied and executed /Returned to IREL.
9	Procurement, Supply, Transportation to site and fixing of G.I Cable Tray, Pipes, Angles and Flats	As per the Technical Specification provided	The measurement shall be based on the quantity supplied and executed /Returned to IREL.
10	Procurement, Supply, Transportation to site and fixing of Valves.	As per the Technical Specification provided	The measurement shall be based on the quantity supplied and executed /Returned to IREL.
11	Procurement, Supply, Transportation to site and carrying out painting.	As per the Technical Specification provided	The measurement shall be based on the quantity supplied and executed.
12	Procurement, Supply, Transportation to site and erection of pumps.	As per the Technical Specification provided	Measurement based on number of Spiral Launderers and distributors supplied and erected.

#### 5.8.1 **Technical specification:**

##### 5.8.1.1 Dismantling works:

###### Dismantling of Structural, process and Electrical Items:

- Dismantling of all types of Structural, Tanks etc and removal of the same with lifting devices, loading, transporting from site, weighment and unloading at IREL central stores or elsewhere as suggested by EIC/OIC within a radius of 200 meters from project site.
- Installation of required scaffoldings, support system for safe removal of the materials is completely under the scope of the successful bidder.
- The successful bidder has to make all necessary arrangements for dismantling without causing any damage or distortion to the equipments, adjacent buildings available there if any.
- The successful bidder has to dismantle all the asbestos sheeting and G.I. Gratings with almost care as it can be reused.
- Suitable capacity of lifting and handling machineries/ devices shall be utilized for safe working.
- Taking into consideration the vulnerability of the site conditions towards safety and security the successful bidder has to engage sufficient manpower to complete the work as quick as possible.
- Round the clock security arrangement shall be provided by the contractor for safe guard of man, material and machine. Any theft, dislocation of material is the sole responsibility of the contractor till the materials equipments, machines reach IREL central stores/ as advised by EIC. Facility of transportation of material and weighment thereof on daily basis has to be explored by the successful bidder for avoidance of theft of valuable and usable spares.
- Sufficient number of transporting machinery is to be deployed for fast transportation from working site to IREL central stores.
- Consumables like welding electrodes, multiple gas cutting (minimum 2 sets of gas cutting set, welding machine, cable& required welding safety devices and accessories) and all such machineries and tools and plants required to execute the work are to be arranged by the successful bidder.
- Power connection & other need based site facilities required for dismantling work shall be provided by IREL on chargeable basis subject to availability.
- The successful bidder has to engage sufficient manpower to clean all the debris from the site.

###### Dismantling of Process Equipments:

- Dismantling of all types of process Equipments and removal of the same with lifting devices, loading, transporting from site, weighment and unloading at IREL central stores or elsewhere as suggested by EIC/OIC.
- Installation of required scaffoldings, support system for safe removal of the materials is completely under the scope of the successful bidder.
- The successful bidder has to make all necessary arrangements for dismantling without causing any damage or distortion to the equipments, adjacent buildings available there if any.

- d. Suitable capacity of lifting and handling machineries/ devices shall be utilized for safe working.
- e. Taking into consideration the vulnerability of the site conditions towards safety and security the successful bidder has to engage sufficient manpower to complete the work as quick as possible.
- f. Round the clock security arrangement shall be provided by the contractor for safe guard of man, material and machine. Any theft, dislocation of material is the sole responsibility of the contractor till the materials equipments, machines reach IREL central stores/ as advised by EIC. Facility of transportation of material and weighment thereof on daily basis has to be explored by the successful bidder for avoidance of theft of valuable and usable spares.
- g. Sufficient number of transporting machinery is to be deployed for fast transportation from working site to IREL central stores.
- h. Consumables like welding electrodes, multiple gas cutting (minimum 2 sets of gas cutting set, welding machine, cable& required welding safety devices and accessories) and all such machineries and tools and plants required to execute the work are to be arranged by the successful bidder.
- i. Power connection & other need based site facilities required for dismantling work shall be provided by IREL on chargeable basis subject to availability
- j. The successful bidder has to engage sufficient manpower to clean all the debris from the site.

#### Dismantling of Electrical Equipments:

- a. Dismantling of all types of process Equipments and removal of the same with lifting devices, loading, transporting from site, weighment and unloading at IREL central stores or elsewhere as suggested by EIC/OIC.
- b. Installation of required scaffoldings, support system for safe removal of the materials is completely under the scope of the successful bidder.
- c. The successful bidder has to make all necessary arrangements for dismantling without causing any damage or distortion to the equipments, adjacent buildings available there if any.
- d. Suitable capacity of lifting and handling machineries/ devices shall be utilized for safe working.
- e. Taking into consideration the vulnerability of the site conditions towards safety and security the successful bidder has to engage sufficient manpower to complete the work as quick as possible.
- f. Round the clock security arrangement shall be provided by the contractor for safe guard of man, material and machine. Any theft, dislocation of material is the sole responsibility of the contractor till the materials equipments, machines reach IREL central stores/ as advised by EIC. Facility of transportation of material and weighment thereof on daily basis has to be explored by the successful bidder for avoidance of theft of valuable and usable spares.
- g. Sufficient number of transporting machinery is to be deployed for fast transportation from working site to IREL central stores.
- h. Consumables like welding electrodes, multiple gas cutting (minimum 2 sets of gas cutting set, welding machine, cable& required welding safety devices and accessories) and all such machineries and tools and plants required to execute the work are to be arranged by the successful bidder.
- i. Power connection & other need based site facilities required for dismantling work shall be provided by IREL on chargeable basis subject to availability
- j. The successful bidder has to engage sufficient manpower to clean all the debris from the site.

#### Measurement:

Measurement will be made based on the IREL (India) Limited weighing slip details on tonnage basis.

#### 5.8.2 Fabrication:

- a. Development of drawings and bill of materials: The successful bidder has to develop required fabrication, fit up drawings if any required and get approval of these developed fabrication drawings by IREL & then carry out the fabrication work as per the approved drawings. The successful bidder shall submit the fabrication drawings, bill of material for tanks & super structure, schedule of completion of work etc . The work shall be carried out in accordance with appropriate standards and strictly as per drawings as per the instructions and if any modification suggested has to be modified. Any modification on the fabrication part shall have prior approval of IREL.
- b. Supply of steel: The successful bidder have to procure all required sections of structural steels, plates etc. to fabricate and erect the skid bases with superstructure as per the approved drawings. Make of steel: TATA/ SAIL/RINL/JINDAL. The materials procured for the said work shall be brand new, not rusted and should have the stamping of the manufacturer. Materials without manufacturers stamp will not be entertained. The plates, internal frame work of skid bases, structural steels for super structure and other parts such as tanks, bins, ladders, connectors, pump & motor foundation frames etc are of IS: 2062 Grade B. The successful bidder has to submit the material Test Certificate (MTC) of all the structural items. The brought out items like fasteners, washers, HT bolts shall be from reputed manufacturers and of high quality.

- c. Fabrication: Relevant Indian Standards shall be followed wherever applicable for fabrication, erection of structures and for erection of free issue items. All fabrication of structural steelwork shall be in accordance with IS: 800 unless otherwise stated herein. The tolerances of fabrication of steel structures shall be in accordance with IS: 7215 unless specified otherwise. The successful bidder has to carry out the internal inspection and make the reports and submit to IREL towards final inspection. Minimum One Safety officer, two site supervisors and one Quality Engineer to be deployed at site. Party may supply semi fabricated / fabricated/ Sand blasted material with one coat of primer as mentioned in the tender. Documentary evidence towards painting, sand blasting has to be submitted.

- d. Painting:

All the steel Structures have to be sand blasted (Nearing to white metal finish) and painted with a single coat of red primer soon after sand blasting and prior to start of fabrication work. If sand blasting is to be carried out in the proposed site all necessary arrangement laid down in KSPCB and IREL Guidelines has to be followed and blasting has to be carried out by using Copper granules/ Garnet. After completion of steel structural erection work 3 coats CRB paint or 2 coats of Epoxy paint has to be painted to all fabricated structural without any exception as per the DFT mentioned in the table below.

Description	DFT in microns
First Coat : CRB base Primer Red (1 coat )	35-40
Second coat: CRB based Zn. Phosphate Primer (1 coat)	35-40
Third coat: CRB based MIO (1 coat)	90-100
Third coat: CRB Finish (1 coat)	35-40
(OR)	
First Coat : Epoxy based primer (1 coat)	35-40
Second coat: Epoxy based MIO (1 coat)	75-90
Third coat: Coal Tar Epoxy Finish (1 coat)	90-100

- e. Fabrication details:

The successful bidder is allowed to either transport the entire structural steels, plates etc. to the proposed location and then start fabricating the entire work at site or fabricate the work in segments at their own workshop and then transport the pre-fabricated material to site and assemble the entire work at site. The fabrication shall be strictly as per the approved drawings. The minimum gap between two welding in any place should be minimum 200 mm and accordingly the cutting plan has to be made by the successful bidder. The welding surfaces shall be smooth, uniform and free from fins, tears, notches or any other defects. IREL representative shall have free access at all reasonable times to your works where the fabrication of steel work is carried out.

- f. Welding details: The Electrodes shall conform to IS standards and compatible with the category of steel. The contractor shall use any of the following makes of welding electrodes: GEE/ESAB/D&H/MODI/ADVANI-OERLIKON/ADOR/MAGNARC. The electrodes for SMAW welding shall be of E6013 grade or higher grade. MIG welding shall be of ER70 S-6 or higher grade. MIG welding shall be preferred wherever possible as per the direction of IREL. Any welding defects noticed by IREL shall be rectified thereof.

The successful bidder has to deploy welders with valid welder certificate for the entire job. If valid welder certificate is not available then the same shall be obtained from any approved agency and to be submitted for IREL's review for all the required positions. The welders will be allowed to weld only the positions qualified as per the certificate.

- g. Inspection:

DP Testing shall be conducted on 10 % of the total welding surfaces.

Specification for MS ERW pipes:

The successful bidder has to Procure, Supply, Fabricate, Paint and carry out Erection of MS ERW pipes, MS Bends and flanges as per the drawings and site conditions

Material standard: MS ERW pipe confirming to IS: 1239 PART-1(2004)/ IS: 3589, Medium (Class-B) in 6 meter length.

Measurement:

Scraps generated from the fabrication have to be weighed in IREL store and has to be taken back by the successful bidder. Payment will be made for the fabricated items only on Tonnage basis and no payment will be made for scrap items.

#### 5.8.3 **G.I.Gratings:**

- a. G.I Gratings 25 x25x 5 mm at 50 mm centre, out frame 25 x 5 mm, cross members 10 x10 mm square bar at 50 mm centre. Hot dipped galvanization as per IS 2629 of size 1250 mm (L) x 1000 mm(W) grating frame of IS 2062.
- b. G.I Gratings 25 x25x 5 mm at 50 mm centre, out frame 25 x 5 mm, cross members 10 x10 mm square bar at 50 mm centre. Hot dipped galvanization as per IS 2629 of size 900 mm (L) x 250 mm(W) grating frame of IS 2062.
- c. Party has to submit material test certificate and galvanization certificate. A uniform zinc coating of 120 microns minimum has to be maintained.
- d. The surface should be free from burrs and other projections.
- e. The successful bidder has to fix the gratings according to the floor plan to suit at site. For cutting of gratings suitable cutter shall be used (gas cutting is not permitted).

Measurement:

The measurement shall be based on the actual coverage are in square meter. Scraps generated from the fabrication have to be weighed in IREL store and has to be taken back by the successful bidder. Payment will be made only for the actual quantity used and no payment will be made for scrap items.

#### 5.8.4 **G.I.Colour coated sheets:**

- The successful bidder has to procure, supply and carry out fixing of all required colour coated sheets, polycarbonate sheets, ridge & flashing sheets, fixing and fitting accessories etc of reputed make.
- The corner and ridging sheets shall be of minimum 300 mm width on each side.
- Minimum Eight numbers of poly carbonate sheet has to be provided.
- The successful bidder shall use pre-colour coated steel sheets for roofing and for side sheeting and shall refer the technical particulars of pre-colour coated sheets given below.

Profile	Trapezoidal, with one side having long return leg with anti-capillary/sealant groove
Minimum Thickness	1.0 mm (Total coated thickness) for roof & monitors
	1.0 mm (Total coated thickness) for sides and gables
	1.2 mm (Total coated thickness) – Plain sheets for ridging/flashing
Base metal	Steel of minimum yield strength = 240 MPa
	a) Galvanizing – Hot dip with minimum zinc coating = 120 gm/sq m.

	b) Paint Coating
	Epoxy primer – 5-8 microns on both sides over galvanizing
	Top coat – Silicon modified polyester 16-20 microns of approved colour
	Bottom coat — Silicon modified polyester 5-7 microns of approved colour.

- Plan for laying of the sheets with necessary cutting details, details for fixing sheets involving flashing and sealing arrangements for total water tightness prior to cutting is to be ascertained by the successful bidder. The workmanship shall be of the highest quality to ensure that there is no ingress of water into the building under heavy rain with storm. The contractor will check and satisfy himself about the straightness of the purlins.

- Fasteners: Self drilling / tapping galvanized steel screws with minimum 40 micron zinc coated or minimum 20 micron zinc tin alloy coated as per AS 3566 Class-3 with built in steel washers and Ethylene Propylene Diene Monomer (EPDM) sealing washers of Corroshield /Buildex/ Hilti or equivalent of requisite size and numbers as required by calculation for fixing sheets to structural members and for stitching sheet to sheet or flashing to sheet shall be provided by the successful bidder.

- Poly carbonate sheets : The contractor shall use polycarbonate sheets between pre-colour coated steel sheets for roofing and side sheeting and the polycarbonate sheets shall be of 2mm thick rigid, transparent with U-V protection and to match with trapezoidal profile. General properties to include U-V protection [about 99%], good chemical and weather resistant characteristic, neutral to silicon sealant or no reaction with metal panel to produce discoloration/corrosion, with service temperature range of -15 Degree C to +80 Degree C and with guaranteed service life. All required accessories for the complete roofing and covering of top and sides are in the scope of the successful contractor.

- All tools & tackles required for the work has to be arranged by successful bidder.

Measurement:

For measurement of sheeting works only coverage area of sheeting works done in square meter (roof area plus side wall areas excluding overlapping) shall only be considered.

#### 5.8.5 **HDPE PIPES:**

The scope of work includes supply of HDPE Pipes along with its accessories including laying, installation and commissioning as per the technical specification mentioned below:

Make and manufacture: The manufacturers of HDPE Pipes shall be reputed having experience of supply of HDPE Pipes of the maximum size (as per this Technical Specification) during last two years from the bid due date. Copy of PO and documentary evidence on satisfactory completion/ Self Certificate on the letter head of the manufacturer for the same has to be submitted by the bidder

Supply part:

- Material of the flange should be as per IS 226 and hot dip galvanizing as per IS 2629:1985
- The HDPE pipe shall be used for carrying highly abrasive and corrosive sea sand minerals in slurry form.
- Pressure testing of pipe should be carried out as 1.5 times the working pressure on random basis on pipes selected by IREL representative at your works and material test certificate should be submitted along with the material. IREL may waive the inspection based on the situation.
- Pipe should be made of 100 % virgin material and MTC of the raw materials to be submitted to IREL.

Note:

1. Suction pipes shall be used for carrying highly abrasive and corrosive sea sand minerals in slurry form.

2. HDPE Pipes should be made of 100% virgin materials.
3. GI flanges should be as per IS-2062 & hot dip galvanized as per IS: 2629.
4. All suction pipes have to be marked as per drawing number.

Measurement:

The measurement shall be based on the quantity supplied by the successful bidder and executed/ Returned to IREL.

#### 5.8.6 **WIRE INSERTED RUBBER HOSES:**

The scope of work includes supply of WIR Hoses along with its accessories including installation and commissioning as per the technical specification mentioned below:

**Make and manufacture:** The manufacturers of WIR Hoses shall be reputed having experience of supplying WIR Hoses of the maximum size as specified below during last two years from the bid due date. Copy of PO and documentary evidence on satisfactory completion/ Self certificate on the letter head of the manufacturer for the same has to be submitted by the Bidder.

Transportation from stores/ Plant and Erection at Project site:

- a. The successful bidder has to collect / receive material from IREL central stores, loading, weighment in IREL weighing system, transportation to site, unload at site, erection of these items as per drawing , site conditions and directions of IREL.
- b. Required crane/ hydra for loading, unloading and erection have to be arranged by the successful bidder.
- c. All required bends, tees, Hoses, short pieces, other accessories etc has to be fixed by the successful bidder.
- d. In case of any damage, repairing cots/ equipment cost shall be recovered from the party.
- e. The successful bidder has to erect the pumps, motors, spirals, along with fixing of pulleys, belts, bearings, rollers, nuts bolts etc required for the successful erection of the same as per the drawings, site conditions and directions of IREL.

Measurement:

Measurement will be made based on the weigh slip of IREL weighing bridge for transportation and erection will be made on equipments erected.

#### 5.8.7 **Procurement , Supply and fixing of Misc items:**

a. Nuts and Bolts:

- The successful bidder has to supply, transport from IREL central stores/ Plant and fix the same along with all required accessories as per the directions of EIC and as per the site requirement.
1. Nut and bolt should confirm to IS: 1364/ IS 1367, Threads shall confirm to IS: 4218 coarse series.
  2. Plain washer shall confirm to IS: 2016.
  3. All bolts, nuts and washer shall be hot dipped galvanized as per IS: 2629.
  4. Party to supply Bolts, nuts and washers in assembled condition i.e. one no bolt with one number nut and two nos washers.
  5. Party to provide Material test certificate from Govt. Approved laboratory along with supply of materials.
  6. MAKE: UNBRAKO/TVS/LPS

10.9 grade H.T. nuts, bolts with 2 numbers machined washers

1. Party to supply Bolts, nuts and washers in assembled condition i.e. one no bolt with one number of nut and two numbers of washers.
2. Party to provide Material test certificate from Govt. Approved laboratory along with supply of materials.
3. Make: UNBRAKO/TVS/LPS

b. Pulleys:

- The successful bidder has to supply, transport from IREL central stores/ Plant and fix the same along with all required accessories as per the directions of EIC mand as per site requirement.
- CI dual duty SPC section V-Grooved pulley with flange type adaptor bush duly phosphated and dynamically balanced.
- Material: cast Iron, grade: FG 25, IS: 210 having 160 to 220 BHN hardness.

#### SPECIFICATION OF PULLEYS

1. Dual duty Taper lock Bush Pulleys confirm to groove specification as per IS 3142 with its latest amendments.
2. All pulleys should be manufactured from high quality closed grain cast iron grade FG 200 conforming to IS 210 standards having 160 — 220 BHN (Hardness).
3. Taper on hub and pulley should be 1: 10 for pulleys with flanged taper adopter.
4. All pulleys and taper hubs should be interchangeable. All pulleys with taper hub should be fixed with high tensile steel fasteners of metric series made of UNBRAKO/TVS.
5. The minimum diameter of the taper on pulley and taper hub should be maintained 126 mm for 300 mm PCD to 630 mm PCD, 102 mm for below 300 mm PCD and 146 mm above 630 mm PCD.
6. All pulleys should be dynamically balanced with flanged taper hubs in 1300 RPM (Max) & supporting test certificate for each pulley to be submitted separately.
7. Fasteners fixing of holes PCD should be 170 mm, M 20 x 4 nos holes on hub and M 20 x 2 nos withdrawal holes of on pulley to be provided.
8. Marking of pulley PCD, no of grooves, sections and bore should be made clearly and neatly on front face of the pulley by painting (Example — 500 PCD x 4 SPC x 80).
9. All pulleys are to be made especially with phosphate coatings to withstand abrasion from sand, saline climate etc.
10. 2 mm slit should be provided on taper hubs / taper locks for quick fixing and removing on shaft.
11. The maximum power transmission by the respective pulleys will be carried put. So, firm grip should be ensured on taper matching of pulleys and flanged hubs/locks.

#### c. Belts:

- The successful bidder has to supply, transport from IREL central stores/ Plant and fix the same along with all required accessories as per the directions of EIC.

Polyester cord , antistatic oil & heat resistance raw edge cogged wedge section v belt confirming to IS 2494, Part-I:1994.

#### d. Rubber bend and socks:

- The successful bidder has to supply, transport the following size of rubber bend and socks from IREL central stores/ Plant and fix the same along with all required accessories as per the directions of EIC.

#### e. Klipco hose clip and duplon hoses:

- The successful bidder has to supply, transport from IREL central stores/ Plant and fix the same along with all required accessories as per the directions of EIC.

#### f. Jack Bolt

- The successful bidder has to supply the jack bolts as per the drawing provided by IREL and fix the same along with all required accessories.
- Required numbers: 50

Measurement: Payment will be made based on the number of jack bolts supplied and erected / returned to IREL.

#### g. Tee Pieces:

- The successful bidder has to supply the required tee pieces as per approved drawings and fix the same along with all required accessories.



Material of construction of MSPU lined Short pieces, bends and Tee pieces

Shell material : As per IS: 2062, 6 mm thick

Flanges & machined collars: As per IS: 2062

PU Lining Specification:

Hardness: 88 shore 'A'  $\pm$  50

Tensile strength: 33 Mpa

100% Modulus: 3.8 Mpa

300% Modulus: 8.3 Mpa

Angle tear strength (DIEC): 75 kN/m

Elongation: 450%

Resilience: 62%

Abrasion: 35 mm<sup>3</sup>

Cured density: 1.08 gm/cm<sup>3</sup>

Compression set: 28%

Lining thickness: 8 mm in all items irrespective of thickness in drawings Outside surfaces painting to be painted with Epoxy painting with dry film thick (dft) of 180  $\mu$ m

Service Condition:

The materials will be used for slurry pumping and distribution for processing. The slurry consists of highly abrasive minerals (Viz. garnet, quartz, Sillimanite, zircon etc.) with saline water

The specific gravity of solids: 4.0

The specific gravity of pulp: 1.25

Percentage of solids w/w: 25

Velocity of slurry: 15.4 feet/sec

Working pressure: 10 kgf/cm<sup>2</sup>

Average particle size of solids in slurry: 150 microns

Note:

- PU lining specifications as mentioned in annexure is for reference only. Party to consider their own specification for PU lining.
- PU casting should be in single cast without any joint

For Pulleys, V-belts, fasteners, pipes etc, and sufficient spare items are to be provided.

Measurement:

Payment will be made based on the quantity supplied and fitted at site/ returned to IREL.

#### 5.8.8 **Rubber lining works**

- The successful bidder has to supply, transport from IREL central stores/ Plant and fix the same along with all required accessories as per the directions of EIC.
- The party has to supply required amount of good quality natural rubber sheet of 6 mm thickness and of the following specification. The MTC of the same has to be provided by the party to IREL along with the supply of the material. The minimum requirement is as follows:
  - Shore hardness: (50+/-5) degree of scale A
  - Tensile strength : 50 kg/ sq.cm
  - Elongation at break: 250% (Min)
- The party has to supply and use required amount of good quality rubber lining solution.
- The party has to do surface preparation by wire brushing, grinding and petrol washing as per site requirement.

- Rubber lining work of the required surface has to be done as per the direction of Engineer In- charge (EIC).

Measurement:

Payment will be made based on the rubber lined area in square meter.

#### 5.8.9 **PU boil box:**

- The successful bidder has to procure manufacture and supply PU Boil box screen as per the design.
- The boil box has to be fixed in the frames made in the tanks.

Details	UOM	Quantity
Procurement, Manufacture, Supply and fixing of PU Boil box screen.	Numbers	As per site requirement

Measurement: Payment will be made based on the number of boil box supplied at site.

#### 5.8.10 **G.I CABLE TRAYS, PIPES, ANGLES & FLAT:**

- The successful bidder has to supply the following size of G.I Cable tray, Pipes, Angles and flat as mentioned below and fix the same along with all required accessories.

Sl.no	Item Description	UOM	Quantity
1	GI Cable tray of 300 mm width as per drawing enclosed. Over all width of cable tray 300mm. Side frames of cable tray ISA 50 X 50 X 6 Thick. Internal jointing bars: 50 x 6 thick GI flats. All other details as per the drawing enclosed. Overall length of each cable tray 2.5 meters.	Meter	As per site requirement
2	GI Cable tray of 200 mm width as per drawing enclosed. Over all width of cable tray 200 mm. Side frames of cable tray ISA 50 X 50 X 6 Thick. Internal jointing bars: 50 x 6 thick GI flats. All other details as per the drawing enclosed. Overall length of each cable tray 2.5 meters.	Meter	As per site requirement
3	G.I.Flat 50 x 6 mm (2000 kgs), 25x3 mm(400 kgs)	Kgs	As per site requirement
4	G.I. Angles 50x50x6	Kgs	As per site requirement
5	G.I Pipe 63 mm	Kgs	As per site requirement
6	G.I Pipe 50 mm	Kgs	As per site requirement
7	G.I Pipe 40 mm	Kgs	As per site requirement

- Galvanization shall be carried out by Hot dip galvanization process
- The galvanized coating thickness 86 micron minimum or 610 gms / sq m minimum.
- Test certificate towards galvanization thickness from government or Government recognized test laboratory to be provided.

Measurement: Payment will be made based on the number of G.I Cable tray, Pipes, Angles and flat supplied and erected at site.

5.8.11 **VALVES:**

a. Pinch valves:

- The successful bidder has to supply the following size of pinch valves as mentioned below and fix the same along with all required accessories.

Lot. No	Item Description	Unit	Qty
1	Pinch valve size: 6" (150 mm) manual operated	Nos.	As per site requirement
2	Sleeve for 6" (150 mm) pinch valve	Nos.	
3	Pinch Valve size: 4" (100 mm) manual operated	Nos.	
4	Sleeve for 4" (150 mm) pinch valve	Nos.	
5	Pinch Valve size: 1 ½ " (40 mm) manual operated	Nos.	

TECHNICAL SPECIFICATION

Sl No.	Material Description	M. O. C.
1	Pinch valve size: 6" (150 mm) manual operated	Body: Aluminium Al-Gr-LM-6 Trim (Spindle): SS 410 Side Arm (Tie Bar): SS 410 Bridge: WCB, Pinching Bar: Cast iron IS 210 Gr Fg 200 Rubber Sleeve: Nylon Reinforce Neoprene Rubber Sleeve Flange Drilled to: OD-306 mm, PCD-272 mm, No. of holes-8 nos, Hole dia-18 mm Make: Fluid check valves/ Vertex engineering/ HAWA Engineering (MARCK)/ Aira Euro Automation pvt. Ltd.)
2	Sleeve for 6" (150 mm) pinch valve	Nylon Reinforce Neoprene Rubber Sleeve
3	Pinch Valve size: 4" (100 mm) manual operated	Body: Aluminium Al-Gr-LM-6 Trim (Spindle): SS 410 Side Arm (Tie Bar): SS 410 Bridge: WCB, Pinching Bar: Cast iron IS 210 Gr Fg 200
		Rubber Sleeve: Nylon Reinforce Neoprene Rubber Sleeve Flange Drilled to: OD-270 mm, PCD-212 mm, No. of holes-8 nos, Hole dia-18 mm Make: Fluid check valves/ Vertex engineering/ HAWA Engineering (MARCK)/ Aira Euro Automation pvt. Ltd.)
4	Sleeve for 4" (150 mm) pinch valve	Nylon Reinforce Neoprene Rubber Sleeve

5	Pinch Valve size: 1 ½ " (40 mm) manual operated	Body: Aluminium Al-Gr-LM-6 Trim (Spindle): SS 410 Side Arm (Tie Bar): SS 410 Bridge: WCB, Pinching Bar: Cast iron IS 210 Gr Fg 200 Rubber Sleeve: Nylon Reinforce Neoprene Rubber Sleeve Flange Drilled to: OD-156 mm, PCD-114 mm, No. of holes-8 nos, Hole dia-18 mm Make: Fluid check valves/ Vertex engineering/ HAWA Engineering (MARCK)/ Aira Euro Automation pvt. Ltd.)
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b. Butterfly valves:

- The successful bidder has to supply the following size of butterfly valves as mentioned below and fix the same along with all required accessories.

Lot. No	Item Description	Unit	Qty
1	150 mm x 3700 mm with Long extended shaft	Nos.	As per site requirement
2	200 mm x 3700 mm with Long extended shaft	Nos.	
3	250 mm x 3700 mm with Long extended shaft	Nos.	
4	Lever operated valve 150 mm without shaft	Nos.	
5	Lever operated valve 100 mm without shaft	Nos.	

#### TECHNICAL SPECIFICATION

MAKE:CRANE/CRI/HAWA/BDK/L&T/KSB

Moc: Body IS 210, Gr.200, Disc: SG IRON, Seat: EPDM, Stem (shaft): AISI 410, End connection: wafer type to suit ANSI B16.5, 150#, flange leakage rate: as per ANSI B16-104, Class V (100 % leakage proof).

Specification of Manual density valve:

Ends: Wafer suitable to get sand witched between flanges as follows:

Method of Operation: Hand wheel through worm gear operated with extended shaft and extended shaft should be completely leak proof.

Application of Valve: Operated in submerged condition in sand slurry bins on suction line of pumps for controlling pulp density & flow of slurry. Extended shaft cage shall be painted with anti-corrosive paint to withstand saline climate condition.

#### Ball valves:

- The successful bidder has to supply the following size of ball valves as mentioned below and fix the same along with all required accessories.
- Lever operated three piece design full bore screwed end stainless steel ball valve.

MOC:

- Body: ASTM A 351 GRFC8M/SS 316

- Ball: SS316
- Seat and seal: PTFE
- MFG Standard: BS5351
- End connection: screwed end to BSP (F)
- Hydro test pressure: Body-  
30 kg /sq.cm Seat-20 kg /  
sq.cm

Measurement: Payment will be made based on the number of valves supplied and erected at site.

#### 5.8.12 **Launders for spirals:**

Make and manufacture: The manufacturers of launders and distributors shall be reputed having experience of supply of launders and distributors for beach sand minerals separation during last seven years from the bid due date. Copy of PO and documentary evidence on satisfactory completion/ Self Certificate on letter head of the manufacturer for the same has to be submitted by Bidder.

Material of Construction:

- The material of construction of spirals, launders and distributors shall be from fiber glass reinforced polyester (FRP) resin of minimum 3mm thickness and the body shall be lined with a polyurethane elastomer (PU) applied by a reverse cast method to a minimum 3mm thickness all along the spiral trough and in the high wear area.
- The spiral trough shall be moulded with PU lined so that splash of water is arrested.
- The launders are assembled with a strong durable edge capping that protects the edge from the damage. The launder compartments are held together with a bracket arrangement in galvanized steel with suitable fasteners. Launder out let shall be rounding suitable for connection using rubber adaptor. Any other form of launders can also be accepted subject to the approval of IREL.

#### 5.8.13 **Pumps:**

Make and Manufacture: The manufacturers of pumps shall be reputed having experience of supply of pumps for beach sand minerals separation during last seven years from the bid due date. Copy of PO and documentary evidence on satisfactory completion/ Self Certificate on letter head of the manufacturer for the same has to be submitted by Bidder.

Scope of work:

The scope of work includes supply of pumps along with its accessories including installation and commissioning as per the technical specification mentioned below:

Sl.No	Description	Numbers
1	Warman vertical sump pump model: 100 RV SP metallic with 1200 mm suspension length along with Motor & motor mounting frame (M.S Fabricated) & Belt Guard. Capacity as per the requirement Scope of offer: Pump, motor, motor mounting frame and belt guard with all accessories). MOC: Impeller: 5 vane open type, Part no: SP10206AA05, Casing & back Liner- A05, Lower strainer-metallic, Other parts: As per Warman standard.	As per site requirement
2	Warman Heavy duty Slurry Pump fitted with expeller type sealing arrangement. Capacity as per the requirement Scope of offer: Bare shaft Pump along with all required accessories including motor MOC: Impeller( 5 vane closed type )-Polyurethane (U 38) Frame Plate liner, Cover Plate liner& throat bush: Polyurethane (U38). Frame Plate, Cover Plate, Bearing Housing & Base — SG Iron (D21) Expeller, Expeller ring: A05 Other parts: As per Warman standard. Orientation: As per site condition.	

Make: Weir Minerals (India) Private Limited or equivalent.

Note:

- GA drawing of pump has to be provided by the bidder.
- Bidder has to provide maintenance manual, spare parts list and curve along with the supply of material.
- Successful bidder has to provide within 7 days the following:
  - a. Required drawings
  - b. The schedule of execution with complete details
  - c. The testing schedule
  - d. The quality control details.
  - e. Project schedule
  - f. Quality control plan
- IREL reserves the right to execute the work by other agencies in part or full if found any delay in the part of successful bidder at the cost & risk of the successful bidder with 7 days notice period.
- Daily progress Report and Weekly project status has to be submitted to IREL.
- The fabrication site is open & barren land. Hence all arrangement has to be made by the successful bidder for safety of man, material and machines at site.
- Sufficient man power has to be deployed at site so that the work can be completed within the scheduled period of completion.
- Facility for accommodation and transportation of personnel for the entire work has to be arranged by the Successful bidder.
- Any suggestion/improvement given by IREL during fabrication stage has to be incorporated on mutual agreeable basis.
- All work shall be carried out in compliance with Standard Mining Rules and Regulations.
- All safety terms and mandatory rules have to be followed at premises as per standard IREL guidelines.
- Power has to be arranged by the successful bidder towards the work and illumination. DG set of required capacity at site including fuel for operating the same from the start of the project.
- Weighment of the entire structural's and other parts has to be weighed in IREL weighing bridge and the documents to be submitted to IREL.
- Gate pass of the employees deployed along with medical fitness and other required formalities have to be completed in advance prior to start of work at site.
- All scrap materials to be weighed and to be taken by party and measurement will be made only on work executed.
- Any drilling, precision works etc required for the fixing of equipments shall be done by the successful bidder.
- Any modification required in the available drawings as instructed by EIC /any additional drawings required during the fabrication work etc has to be made by the successful bidder as and when required and submit it to IREL for Approval.

## 5.9 ELECTRICAL:

“Procurement, Supply of Required electrical equipments like transformer, HT panels, LT panels, MCC, APFC Panel, Cables etc as mentioned in this tender, erection and commissioning of the supplied equipments, Works & existing plant usable items / equipments at proposed work site at IRE Ltd, Chavara including obtaining clearance and approval from CEA/ DGMS statutory authorities before commissioning the project” and as per the scope of work mentioned below.

**Scope of work:** The scope of the work includes but not limited to:

Sl.no	Description	Details	Measurement Criteria for Supply/works
1	Procurement & supply of Transformers.	As per the technical specification.	Measurement will be made based on the items supplied.
2	Procurement, supply of HT Panel.	As per the technical specification.	Measurement will be made based on the items supplied.
3	Procurement, supply of LT Panel. ( Power Control Centre- PCC and motor control centre-MCC)	As per the technical specification.	Measurement will be made based on the items supplied.
4	Procurement & supply of LT and HT cables.	As per the technical specification.	Measurement will be made based on the items supplied.
5	Procurement & supply of motors.	As per the technical specification.	Measurement will be made based on the items supplied.
6	Procurement & supply of UPS.	As per the technical specification.	Measurement will be made based on the items supplied.
7	Procurement & supply of Misc items.	As per the technical specification.	Measurement will be made based on the items supplied.
8	Procurement & supply of Electronic belt weigher	As per the technical specification.	Measurement will be made based on the items supplied.
9	Erection and commissioning of all HT works including Transformer	As per the technical specification.	Measurement will be made based on the items erected and commissioned.
10	Erection and commissioning of all LT works	As per the technical specification.	Measurement will be made based on the items erected and commissioned.
11	<b>Expansion of existing Rockwell Automation (Formerly Allen Bradley) make SCADA system</b>	As per the technical specification.	<b>Measurement will be made based on the items erected and commissioned.</b>

### 5.9.1 Transformers:

#### Technical Specifications

LOT NOS	ITEM DESCRIPTION	Quantity	UOM
1	1600 kVA, 11kV/433V, 3 Phase, 50HZ, Dyn11, Dry type transformer ANAF cooling, copper wound indoor transformer with OFF Load Tap changer +/- 5% on HV Side Provided with HT/LT bushings in cable terminal box generally conforming to 11171 (1985) with its latest amendments provided with standard fittings and accessories	01	Each

**Energy efficiency of Eff-2 class minimum.**

Sl.No	Technical Data	1600 KVA	
1	Rated KVA	1600	
2	Rated Voltage	HV/LV :11Kv/433V HV/LV:3 phase / 3 phase & Neutral 50 HZ	
3	Phases		
4	Frequency		
5	Tapings	OFF Circuit Tap changer with +/-5% of voltage in the HT Side of Transformer as an interval of 2.5% .Tap changer to be provided at HT Side.	
6	Vector Group	Dyn11	
7	Core Insulation Class	"C"	
8	Cooling	ANAF	
9	Winding & Terminal Material	Copper	
10	Application	Distribution	
11	Terminal Box	Air insulation type to be provided on both HT & LT side	

**A) Accessories to be Provided**

- a) Rating & Terminal Marking Plate
- b) Earthing Terminals
- c) Lifting Lugs
- d) Thermometer Pocket
- e) Roller - Bidirectional
- f) Radiators
- g) Cable Box HV
- h) Cable Box LV
- i) Separate Neutral Terminal
- j) Off Circuit Tap Changer
- k) Current Transformer
- l) Marshalling Box
- m) W.T.I with Alarm & Trip Contacts
- n) W.T.I. Pocket

Supply & Providing Cable trays by using MS angles and supports

Supply & Providing Plate earthing using 1200mmx1200mmx10mm CI plate as per IS3047/18

Copper Strips: 15mmx6mm Copper strip

10SWG Copper

Busbar Trunking

Supply & providing 415V Sandwich construction busbar construction with multilayered Class F insulation with Copper conductor

ACBs

Incomer: 2500A, 4 Pole MDO, Microprocessor type (with 3 O/C, 1 E/F release) with shunt and UV release – 1No.

Outgoing: 2000A, 3Pole MDO, Microprocessor type (with 3 O/C, 1 E/F release) with shunt and UV release – 2No.

1600A, 3Pole MDO, Microprocessor type (with 3 O/C, 1 E/F release) with shunt and UV release – 2No.

1000A, 3Pole MDO, Microprocessor type (with 3 O/C, 1 E/F release) with shunt and UV release – 2No.



Busbar: 2500A Copper TPN

#### Supply & Providing NGR to 1600Amp Transformer

Application and getting Power allocation from Power distributor for getting power supply

Preparation of drawings submission, getting approval from DGMS, arranging inspection and getting sanction order.

Supply and fixing laminated drawings of SLDs, layout, GI drawing and shock treatment chart.

### 5.9.2 HT PANEL:

#### **5.9.2.1 Technical Specification (11kvht Distribution Board/Switch Gear Panel)**

##### **Standards**

The items shall be in accordance with the following standards amended up to date wherever applicable. Where appropriate Indian standards are not available, the relevant IEC standards shall apply.

- IS: 12729: Common specification for High voltage switch gear and Control gear standards
- IS: 13947 part 1 & 2: Specification for Low voltage switch gear and Control gear
- IS: 13118: HVAC Circuit breakers.
- IS: 7098 part 1 : Specification for Cross linked Polyethylene insulated PVC sheathed Cables for working voltage up to and including 1100 Volts
- IS: 7098 part 2 : Specification for Cross linked Polyethylene insulated PVC sheathed Cables for working voltage from 3.3kV up to and including 33Kv
- IS: 1554: Specification for PVC insulated PVC sheathed cables.
- IS: 3961: Recommended current ratings of cables.
- IS: 3043: Code of practice for earthing.
- IS: 5216 : Safety procedures & practice in electrical work
- IS: 2026 : Specification for Power Transformers
- IS: 6600: Guide for loading of oil immersed transformers
- IS 335 : New insulating oil Specification
- IS 12463 : Inhibited mineral insulating oils

#### **5.9.2.2 11kv In-Door Switch Gear Panel With Vacuum Circuit Breaker**

##### **1. Double door type:**

Material of construction: 2.5mm thick CRCA steel, double door type. Lay out drawing of the panel with back side cable terminal boxes to be provided with offer for review.

The 11kV Indoor Switch Gear with Vacuum circuit breaker shall be rated for 630A min, 11 kV, 50 Hz, 13.1kA min (3sec) withstand capacity. Please refer Single Line Diagram drawing No. 1 for detailed requirements and ratings of Incomer, CT's, PT's and other outgoing feeders. The Vacuum circuit breakers shall be of, horizontally isolated, horizontal draw out, flush front, metal clad type accommodated in a double door type, IP54 enclosure 2.5mm thick CRCA sheet steel housing with all metal parts earthed and treated against corrosion, robust & vermin proof. The front doors, front covers as well as rear covers shall be reinforced in order to ensure the safety of operating personnel. The Vacuum Circuit Breakers shall consist of three fully encapsulated Vacuum interrupter poles.

2. Easy access must be available to parts of the VCB panel. The breaker with draw out carriage shall be accurately aligned and provided with wheels on roller bearings for easy removal
3. The panel painting shall be epoxy powder coated at high temperature. However Contractor shall provide detailed pre-treatment and painting procedure to withstand the highly corrosive atmosphere prevailing at IREL site.

4. Electrically operated auxiliary switches shall be provided as required for the control and indicating purposes and in addition there shall be not less than 3 nos. NO and NC contacts available as spare. Each circuit breaker shall have a mechanical 'open /closed' indicator.
5. Closing mechanism shall be spring assisted electrically operated (with a spring charger having spring charge indication). The spring charging motor should be of totally enclosed construction. Built in manual charging handle should be provided with every circuit breaker for effortless manual spring charging.
6. Bus bars shall be air insulated extensible type with high conductivity copper and shall be designed for a temperature rise of 35 C over an ambient of 45 C. The bus bars and interconnections shall be adequately supported to withstand thermal and dynamic overloads during system short circuit.
7. Switchgear shall be capable of withstanding high-pressure tests on cable. The incomer and outgoing cable entry (outgoing cables) shall be from the back side cable termination box located at 1meter approx above ground.
8. **The following safety arrangements shall be provided for the safety of the personal and to prevent mal operation**
  - Inter-lock to prevent the circuit breaker from being forwarded or reversed unless the breaker is off.
  - Inter-lock to prevent the truck from being withdrawn or replaced except in the fully withdrawn position.
  - Inter-lock to prevent the breaker from being closed unless it is fully engaged in service position.
  - Inter-lock to prevent earth connection from being made by the earthing device except than the circuit breaker is open.
  - Inter-lock to prevent the breaker from being made alive without its carriage in position.
  - Inter-lock (Electrical & mechanical) between the incomer breakers, outgoing breakers, and bus coupler breakers for safe operation.
  - **Breaker should have the provision for Instantaneous Overcurrent/Earth Fault (50/50N) tripping system**
9. The breaker should have Service / Test / Isolated positions to facilitate testing of control circuit. Automatic dust-proof safety shutter assembly should be provided for shrouding of live terminals while the breaker is drawn out.
10. Any other auxiliary relays required for Closing, Tripping, Annunciation etc. which are not shown in the single line diagram 1 and are inevitable for the completion of the commissioning shall be included in the VCB. The VCB panel shall be anti condensation Space heaters with thermostat working on 230 V AC.
11. The following indication lamps shall be provided for each cubicle,
  - Red, Green and Yellow indication for "OFF", "ON" and "AUTO TRIP".
  - White lamp with push button for healthy trip circuit indication.
  - Blue lamp for spring charged Indication.
12. The panel shall be provided Cubicle lamp for illumination, switches and socket.
13. The panel shall be provided Annunciator with test/reset/acknowledgement push button.
14. The panel shall be provided Spring charging handle.
15. The panel shall be provided Set of suitably rated copper bus bars for interconnection and earthing.
16. The panel shall be provided Cable box and terminals suitable for XLPE cable for incomer and outgoing at the back side approximately at 1 meter aboveground level. The cable entry shall be from side box only for all the incomer and outgoing feeders.
17. Vacuum Circuit Breaker panel shall have the following specifications:
  - Type - Indoor
  - Operating mechanism - Motor Charged Spring
  - Control Voltage - 24V DC/110V DC / 110V AC with suitable provision for supply voltage for the same
  - Voltage Rating for Spring Charging Motor - 230V AC
  - Voltage Rating for Anti Condensation Heater - 230V AC
  - Rated Short time withstand current with duration - 13.1 kA (3 sec) min

**V. Make of VCB: Siemens/ ABB/ Crompton/ Schneider or Equivalent make subject to approval from EIC.**

18. **PT's:** 3 phase, Class 0.5, cast resin, fixed type potential transformers 11kV/Sqrt 3 / 110 V/Sqrt3, 150VA with 2A control fuse at HT Side and 2A MCB at LT Side shall be provided as indicated in the single line diagram.

19. CT's: Cast resin type current transformers of rating as shown in the approved schematic diagram for metering and protections/LBS based HT metering system.

20. Protection Relays

Over current & earth fault Protection relays shall be provided for each outgoing feeders and incomers etc. covering the protective requirements as detailed in the approved single line diagram.

21. Digital Power Analyzers

Digital Power Analyser with LCD display, TRUE RMS measurement, CT ratio programmable at site, and suitable for measuring following parameters, shall be provided. V, A, KW, R-Y-B voltages and currents, R-Y-B KW, kWh, kVAr, kVA and power factor, frequency, R-Y-B Voltage and current harmonics

Digital Power Analysers shall be suitable for RS 485 communication.

22. Nine channel Annunciator

Microprocessor based Annunciator with Push Button for Test/ Accept/ Reset/ Lamp test facility, Selection of NO/NC field contacts for operation of Alarm or Trip (Yellow colour for Alarm and Red colour for Trip). Annunciator shall have operating Voltage of 230V with Hooter Facility.

Annunciator shall be immune to noise and surges and have Alarm and shutdown selection by dipswitches. Electronic hooter suitable for operation shall also be supplied. Number of windows shall be nine. Windows shall be marked as below:

- 1) Winding Temperature Alarm.
- 2) Winding Temperature Trip.
- 3) Over Current Trip.
- 4) REF Trip.
- 5) Earth Fault Trip.

23. Testing

Routine Tests shall be conducted on the VCB Panel as per IS 12729 amended up to date and video recording to be submitted to IREL for review. IREL representatives shall have the right to inspect the progress of work, quality of materials used / workmanship and to witness the Routine tests if any after completion of work at the premises of the manufacturer.

The following shall constitute the routine tests:

- a) Test on auxiliary and control circuit
- b) Measurement of resistance of the main circuit
- c) Tightness test
- d) Design and visual check

**B. Technical Specification of 11 KV VCB panel:**

- a. The VCB panel shall consist of 11 KV 3 phase 630 A minimum , Horizontal draw Out Horizontal / Vertical Break, Indoor type vacuum Circuit Breaker with Copper Bus Bar.
- b. Closing and tripping of VCB will be both electrically & manually operatable (Both Manual and motorized spring charging facility must be provided).
- c. Protection System: All the relays to be provided and the same have to be digital (Make: Siemens/ L&T/ ABB/AREVA or equivalent subject to approval from EIC). VCB panel shall be wired with two numbers of over current and one earth fault relay placed on the phases respectively. Relays to be provided are over current, earth fault & earth leakage relays etc. Moulded type CT of ratio 200 /5 and PT of ratio 11000 /110 V must be provided. 3 Numbers surge suppressor of 9 KV, 10 KA to be provided inside the panel at incoming side. Panel should be provided with all necessary control fuses and CBCT earth leakage relay should be provided at outgoing side.
- d. Control voltage for spring charging motor and ripping system will be 110 V AC/ DC. In case of DC supply 110 V DC power pack must be provided inside the panel.
- e. Ammeters & voltmeters with selector switches , TNC switches 3 phase digital energy meter ( Intelligent panel meter L&T or equivalent make with provision of measurement and display of KVA, KVAr , KW, Current, voltages, Power factor etc.)
- f. The VCB panel shall be provided with LED type indicating lamps 22.5 mm panel cutout ( for ON , OFF, Break trip, Trip Circuit Healthy, supply of three phases etc.) space heater with thermistor control shall be provided. The panel shall consist of 110 V AC/DC lighting supply.
- g. VCB Details

Rated voltage: 12 KV Horizontal draw Out Horizontal / Vertical Break.

Rated current: 630 Amps minimum

Breaking capacity: 13.1 KA or higher

Making Capacity: 33.4 KA or higher

Fault level: 250 MVA or higher

Spring charging motor: 110 V AC/ DC

Short time current rating: 13.1 kW or Higher

Make of vacuum interrupter: Siemens/ ABB/ Crompton/ Schneider or Equivalent make subject to approval from EIC.

h. Enclosures:

- The enclosures shall be made out of 2.0 mm / 2.5 mm thick sheet steel with Double door arrangement and all necessary supports as per IS 2026.
- The panel shall be designed to have 250 MVA fault capacity.
- The Incoming and Outgoing cable terminal box to be provided of air insulation type at suitable height with suitable bushing and cable gland for entry of 185 sq.mm 3 core COPPER Armoured Cable.
- Painting: The VCB panel shall be painted with suitable epoxy based colour.

i. Drawings and documents: The successful bidder shall start the fabrication after getting the approval of drawings from EIC.

j. Testing

Routine Tests shall be conducted on the VCB Panel as per IS 12729 amended up to date. IREL representatives shall have the right to inspect the progress of work, quality of materials used / workmanship and to witness the Routine tests if any after completion of work at the premises of the manufacturer.

The following routine tests have to be carried out by the successful bidder:

- Test on auxillary and control circuit
- Measurement of resistance of the main circuit
- Tightness test
- Design and visual check

Sl. No	Details	UOM	Qty
01	Supply of draw out type vacuum circuit breaker (11 kV, 630 A min, 13.1kA min for 3 sec.) for receiving 11kV supply from Power distributor .Vacuum circuit breaker panels conforming to IS 12729 should have protection relays, digital power analyser, analog meters, control MCB, indication lamps, Hooters etc. The control voltage for operation of the panel shall be from in build system and shall be 24V DC/110VDC/110 V AC (suitable provision for the control voltage to be provided by party) for trip, closing the breaker.VCB panel should have panel lighting and panel heater with temperature control thermostat. The distribution board shall be complete meeting all the requirements as specified in the technical specification.	Nos	1

### 5.9.3 LT Panel(ACB):

Item Description	QTY	Make
<b>Incomer ACB comprising of</b>		
2500A, 415V 3P 50 kA 3pole with microprocessor release ACB with adjustable O/L, S/C ,EF, Instantaneous with CBCT ELR.	1	ABB/SIEMENS/Schneider/ Eaton
Indicating LED ( panel cutout22.5mm dia. ) for 3 phases (Red , blue , Yellow)	One set	ABB/SIEMENS/Schneider/ Eaton
CT 2500/5 15 VA CT CL-1	3	Any reputed make
Digital voltmeter 96mm x96 mm	1	Any reputed make
Voltmeter selector switch	1	Any reputed make
Digital ammeter 96mm x 96 mm	1	Any reputed make
Ammeter selector switch	1	Any reputed make
Multifunction meter displaying all critical parameters (KWH, Frequency, Reactive power, Harmonics, PF etc.)	1	Any reputed make
CBCT with Earth Leakage relay range :1- 8 amp approx. with CBCT ID:300mm minimum	1	Any reputed make
Local/Remote selector switch	1	Any reputed make
Single phase preventer	1	Any reputed make

<b>Outgoing ACB comprising of</b>		
2000A, 415V 3P 50 kA 3pole with microprocessor release ACB with adjustable O/L, S/C ,EF, Instantaneous with CBCT ELR.	2	ABB/SIEMENS/Schneider/ Eaton
Indicating LED ( panel cutout22.5mm dia. ) for 3 phases (Red , blue , Yellow)	Two set	ABB/SIEMENS/Schneider/ Eaton
CT 2000/5 15 VA CT CL-1	6	Any reputed make
Digital voltmeter 96mm x96 mm	2	Any reputed make
Voltmeter selector switch	2	Any reputed make
Digital ammeter 96mm x 96 mm	2	Any reputed make
Ammeter selector switch	2	Any reputed make
Multifunction meter displaying all critical parameters (KWH, Frequency, Reactive power, Harmonics, PF etc.)	2	Any reputed make
CBCT with Earth Leakage relay range :1- 8 amp approx. with CBCT ID:300mm minimum	2	Any reputed make
Local/Remote selector switch	2	Any reputed make
Single phase preventer	2	Any reputed make

<b>Outgoing ACB comprising of</b>		
1600A, 415V 3P 50 kA 3pole with microprocessor release ACB with adjustable O/L, S/C ,EF, Instantaneous with CBCT ELR.	2	ABB/SIEMENS/Schneider/ Eaton
Indicating LED ( panel cutout22.5mm dia. ) for 3 phases (Red , blue , Yellow)	Two set	ABB/SIEMENS/Schneider/ Eaton
CT 1600/5 15 VA CT CL-1	6	Any reputed make
Digital voltmeter 96mm x96 mm	2	Any reputed make
Voltmeter selector switch	2	Any reputed make
Digital ammeter 96mm x 96 mm	2	Any reputed make
Ammeter selector switch	2	Any reputed make

Multifunction meter displaying all critical parameters (KWH, Frequency, Reactive power, Harmonics, PF etc.)	2	Any reputed make
CBCT with Earth Leakage relay range :1- 8 amp approx. with CBCT ID:300mm minimum	2	Any reputed make
Local/Remote selector switch	2	Any reputed make
Single phase preventer	2	Any reputed make
<b>Outgoing ACB comprising of</b>		
1000A, 415V 3P 50 kA 3pole with microprocessor release ACB with adjustable O/L, S/C ,EF, Instantaneous with CBCT ELR.	2	ABB/SIEMENS/Schneider/ Eaton
Indicating LED ( panel cutout22.5mm dia. ) for 3 phases (Red , blue , Yellow)	Two set	ABB/SIEMENS/Schneider/ Eaton
CT 1000/5 15 VA CT CL-1	6	Any reputed make
Digital voltmeter 96mm x96 mm	2	Any reputed make
Voltmeter selector switch	2	Any reputed make
Digital ammeter 96mm x 96 mm	2	Any reputed make
Ammeter selector switch	2	Any reputed make
Multifunction meter displaying all critical parameters (KWH, Frequency, Reactive power, Harmonics, PF etc.)	2	Any reputed make
CBCT with Earth Leakage relay range :1- 8 amp approx. with CBCT ID:300mm minimum	2	Any reputed make
Local/Remote selector switch	2	Any reputed make
Single phase preventer	2	Any reputed make

#### 5.9.4 **MCC:** **DESIGN, MANUFACTURE AND SUPPLY OF MAIN LT MCC PANELS**

##### **1. GENERAL**

- This specification covers Design, fabrication, supply of Motor Control Centre.
- The supply should be complete in all respect and any equipment or accessories not covered in this specification but essential for proper design, operation and maintenance of MCC covered under this specification shall be included.
- Where found necessary, IREL reserves the right of selecting the manufacturer of Electrical equipment, instrument and controls or any other specified items in the interest of standardization and successful bidder shall supply equipment of particular make, if so required.

##### **2. STANDARD**

- All equipment shall be designed, assembled and tested in accordance with latest standards of Indian standards institution wherever available, in cases where suitable Indian standards are not available, generally acceptable codes and practices shall be adopted.
- The MCC should conform to the latest Central Electricity Regulations 2023 as regards safety, earthings and other essential provisions specified therein for the installation and operation of electrical plants.
- All exposed surfaces shall be painted as per clause 5.8.2 d.
- All equipment shall comply with the statutory requirements of the Government of India and State Government of Kerala. The equipment and installation shall also conform to the provisions of statutory and other regulations in force such as the Indian Mines Act, AERB etc. Approval of drawing and or installation by the statutory authorities should be arranged and any changes required by the same authorities shall be made by successful bidder at no extra cost.

##### **3. DESCRIPTION OF MOTOR CONTROL CENTRE (MCC)**

- 3.1 The Motor Control Centre shall be freestanding, modular, multitier construction made out of minimum 2.5 mm CRCA sheet, and shall be in 02 (two) parts.
- 3.2 Structures including doors and panels shall be capable of withstanding the internal pressure created by faults within the structure (equal to the maximum fault-current rating for a specified duration) without to the operating personnel. The minimum standard required is detailed in IS 3427.
- 3.3 Structures shall be provided with barriers to prevent the transfer of ionized gases between compartments except busbar chambers.

- 3.4 Outgoing feeder units shall be arranged in tier formation with single front for main LT panel. Incomer and bus bar coupler shall be located in non-tiered separate cubicle.
- 3.5 Direct access or accidental contact with the busbar and primary connections shall not be possible. All aperture and slots shall be protected by baffles to prevent accidental shorting of busbars by the entry of maintenance tools. To provide a tight seal between cubicle and insulating panels shall be provide for busbars crossing from one cubicle to another.
- 3.6 Extra protection covers (See thro' acrylic cover) removable providing access to live power equipment /circuit shall be provided with tool operated fasteners to prevent unauthorized access.
- 3.7 One metal sheet shall be provided between two vertical sections running to the full height of the switch gear except for the horizontal busbar compartment. However each shipping section have metal sheet at both ends.
- 3.8 Adequately designed supporting structure shall be provided for the complete enclosure system, to attain the structural rigidity of the board. Front panels shall be made rigid, with stiffeners as necessary. Board shall be extendable at both ends.
- 3.9 **MCC SIZE**

Terminal block for termination of motor power cable and control cable to be provided. Terminal blocks should be of suitable size for terminating aluminum power cable.

The maximum operating dimensions of MCC shall be limited to the following

The height of the panel shall not be more than 2350mm. Maximum operating height shall be approximately 1800 mm.

Horizontal busbar chamber shall be at top 300 mm approx.

Horizontal cable chamber at the bottom shall of 250(approx.) mm for cable glanding purpose. Width 550 mm (at the incomer feeder width may be more )

Cable alay shall be of 300m (approx.) width

The board shall be supported on base frame made out of ISMC -100, at the bottom. MCC shall be also provided with "DANGER BOARD".

All Feeder doors will be hinged (metallic) type and will be bolted to MCC with suitable slotted bolts. All Cable Alay doors will be hinged (metallic) type and will be bolted to MCC with suitable slotted

### **Bolts**

All back side doors of MCC will have a width of 800mm (approx.) & will be of hinged(metallic) type and will be bolted to MCC with suitable slotted bolt.

Each feeder module shall be with hinged type, front openable doors, with mechanical interlock with the main power switch, so that normally the module door can be open only when the main power switch of the module is made off. However, this interlock shall be defeatable . Cable chambers (Front and Rear) & all vertical bus alay chambers shall be with hinged type front door. Horizontal bus chambers shall be with bolted type front panel. Main horizontal 3 phase and neutral bus bars shall be in a front openable bus chambers, that runs along the entire length of the MCC, at the top. Each vertical pillar shall have the vertical cable chamber. Each cable chamber shall be with cable gland plates. Power and control cable shall have bottom entry for the MCC.

The bolted type earthing terminals shall be provided in the board to comply with the requirements of Central Electricity Regulations 2010. Earth bus system shall be extended to each incoming and outgoing modules. The main chassis shall be grounded to the earth bus system. Arrangement for terminating the 4th core of the each out going feeder cable to the earth bus system shall be provided, for each individual module.

The Bus Bars are to be made out of Copper of suitable size to carry 1000A continuous rating and 50KA fault current for 3 secs. The Bus support will be of FRP of suitable size .Insulating sleeves will be provided on bus bars. ALL main bus bars will be located on top and feeder bus bars will be located on back side .Bus bars shall be of Copper conforming to IS 613 (2000), and shall be properly supported. Main power bus shall be supported with high quality non-hygroscopic insulating material having good electrical and mechanical properties. The bus bars shall be clearly marked by the following colours coding for easy identification:

A Phase :	Red
B Phase :	Yellow
C Phase :	Blue
Insulated Neutral:	Black
Earth Busbar:	Green

Taping to the individual units from the bus bars shall be by means of cables or solid bus bars depending upon the ratings of the switches. The connection between bus bars and other conductors made of different metal as well as their connection with the terminals of the equipment shall be made such as the prevent corrosion and local heating.

Each feeders control shall be isolated with two pole MCB. For internal control wiring, standard 1.5 sq.mm copper conductor of 1.1 K.V grade conforming to IS 694 shall be used. Power wiring for incomers and bus coupler shall be done by means of aluminum/copper flats of adequate cross section which can withstand the specified fault level.

Power and control terminals shall terminate the cable conductor by pressure type clamping by means of screws/bolt & nut arrangement on copper conductor strips.

All control terminal block for external cabling shall be on 35mm DIN rail mounted consisting of individually removable terminals. Control terminals block shall be extendable at site. Each control terminals shall be suitable to terminate at least two conductors of appropriate size (Copper round) each.

Space heater shall be provided in individual vertical pillars of the MCC. Each heater shall be controlled by individual thermostat.

Each module of the MCC will be provided with designation plate riveted on the front door/front panel. Size of letter on such designation plate shall not be less than 8mm. Power and control component in each module shall also be provided with circuit component identification plate with letter size not less than 6 mm. Successful party to collect the name plate details from IREL.

All components of MCC will be as per the technical specification.

#### 4. **TESTS:**

All necessary tests shall be carried out by the successful tenderer to demonstrate whether the materials and equipment offered confirm to the relevant standards and specifications. This shall include all tests required by mandatory regulations to the satisfaction of relevant Government authority. All routine tests shall be carried out at manufacturers work in presence of purchaser or his representative.

Party to submit test certificate along with delivery of material. Party to submit CPRI type test certificate of equivalent panel supplied by him earlier.

#### 5. **DRAWINGS & DOCUMENTS:**

Party shall submit General Arrangement drawing , 2 sets of Single Line Diagram, Control Circuit diagrams, General Arrangement drawing, Bill of material and explanatory notes on electrical circuits for approval before fabrication & carrying out internal wiring.

Party to submit two sets of drawings consisting of GA Drawing, Control Circuit Drawing, Single Line Diagram, Bill of material specifying rating, make, model no etc at the time of supply.

#### 6. **PAINTING PROCEDURE:**

MCC shall be completely Powder coated painted and prewired and ready for external cabling at site. If required, final coating of paint shall be carried out at the site after completion of installation.

Item Description	QTY	Make
<b>1 No Incomer Feeder each comprising of</b>		
630A, 50 kA 4pole with microprocessor release MCCB with adjustable O/L, S/C ,EF, Instantaneous with CBCT ELR.	1	ABB/SIEMENS/Schneider/ Eaton
Indicating LED ( panel cutout 22.5mm dia. ) for 3 phases (Red , blue , Yellow)	One set	ABB/SIEMENS/Schneider/ Eaton
CT 630/5 15 VA CT CL-1	3	Any reputed make
Digital voltmeter 96mm x 96 mm	1	Any reputed make
Voltmeter selector switch	1	Any reputed make
Digital ammeter 96mm x 96 mm	1	Any reputed make
Ammeter selector switch	1	Any reputed make
Multifunction meter displaying all critical parameters (KWH, Frequency, Reactive power, Harmonics, PF etc.)	1	Any reputed make
CBCT with Earth Leakage relay range :1- 8 amp approx. with CBCT ID:300mm minimum	1	Any reputed make
Local/Remote selector switch	1	Any reputed make
Single phase preventer	1	Any reputed make
<b>DOL Starter Motor Feeder each comprising of (Number of feeders shall be as per requirement)</b>		



MCCB Breaking capacity 50 Ka(Min)	As per requirement	ABB/SIEMENS/Schneider/ Eaton
3 pole Contactor- AC-3 Duty with 2 NO +2 NC (Coil voltage-110 V )		ABB/SIEMENS/Schneider/ Eaton
CT mounted bimetallic over load relay with reset cord.		ABB/SIEMENS/Schneider/ Eaton
Digital ammeter, size 96mm x96 mm		Any reputed make
6A Two Pole control MCB		ABB/SIEMENS/Schneider/ Eaton
ON/OFF/TRIP indicating LED type lamp		ABB/SIEMENS/Schneider/ Eaton
Push Button ON/OFF with normal actuator		ABB/SIEMENS/Schneider/ Eaton
Auxiliary contactor with 2 NO +2 NC		ABB/SIEMENS/Schneider/ Eaton

CBCT Earth leakage relay	As per requirement	Any reputed make
Local/Remote selector switch		Any reputed make
Single phase preventer		Any reputed make

<b>CONTROL SUPPLY FEEDER</b>		
415V/110V Control Transformer	As per requirement	Any reputed make
ON/OFF rotary switch		Any reputed make
MCB 2 Pole (C curve) at incoming of control Transformer		ABB/SIEMENS/Schneider/ Eaton
double pole MCB at outgoing of control transformer		ABB/SIEMENS/Schneider/ Eaton

#### NOTE

1. All 3 pole power contactors will have 2NO+2NC auxiliary contacts.
2. For Indicating LED lamps Red will be used for ON, Green will be used for OFF & Amber will be used for trip.
3. All MCCB should have mechanical interlock with feeder door such that when MCCB is in ON condition, feeder door cannot be opened.
4. All Feeders will have FRP based terminal block for terminating outgoing 3 phase power cable & connection from relay/contactors terminal to outgoing terminal block will be through ISI marked flexible copper cable. (one amp per sq mm)
5. Switch gears rating specified or its higher rating may be considered.

#### 7. Testing of all panels:

- (i) Manufacturers test reports, test certificates of each of the switch board components i.e. MCCB, Contactor, MCB, O/L relay, SPP, CT, Digital meters, pt, etc are to be provided. (IS: 13947(1993) part1 &2: Specification for Low voltage switch gear and Control gear shall be followed)
- (ii) All routine tests as per relevant codes and standards shall be conducted on the switchboards/components. Test reports and test certificates shall be submitted for the same.

Routine tests may be conducted on the panels individually. IREL representatives shall have the right to inspect the progress of work, quality of materials used/ workmanship and to witness the Routine tests after completion of work at the premises of the manufacturer. The panel manufacturer shall give at least 15 days advance information to client about the manufacturing and routine tests plan so that IREL can attend the same.

The successful bidder shall be responsible for final assembly and inter-connection of bus bars/wiring. Switchgear panels shall be aligned and levelled on their base channels and bolted or tack welded to them as per the instructions of the Engineer-in-charge. The earth bus shall be made continuous throughout the length. Loosely supplied relays and instruments shall be mounted and connected on the switchgear. Wherever the instruments and relays are supplied separately, they shall be mounted only after the associated control panel have been erected and aligned.

List of approved Makes of Equipment and Materials:

Party has to supply the material preferably from the approved list mentioned below .However any deviation to the make of material shall be approved by the EIC but acceptance of make is at the sole discretion of IREL.

1	LV Panel	-	
2	ACB, MCCB	-	ABB, Siemens, Schneider,Eaton
3	Digital Panel meter	-	AE, Meco, Konzerv, Schneider
4	Indicating lamps LED type	-	Siemens, Technic, Schneider, ABB
5	CTs and PTs	-	AE, Kappa, Pragati, ECS,
6	Indicating Instruments	-	AE, Meco, Rishab, Konzerv, Schneider
7	Push button	-	Siemens, ABB, Schneider
8	Contactors, Timer and overload relays	-	Siemens, Schneider, ABB, Eaton
10	MCB	-	Schneider, ABB, Legrand, Siemens,Eaton.

General Design requirements and specifications APFC based Capacitor Bank System

The scope of the successful bidder scope shall include design & supply of APFC based power factor improvement capacitor bank systems as given below

**8. 200 Kvar APFC panel:**

**Item Description:**

SL NO	ITEM DESCRIPTION	UNIT	QUANTITY
1	200 kVAr Automatic Power Factor Correction Panel with 7% detuned copper wound reactor along with auto and manual option as per detail specification consisting of 8x25kVAr. Supply Voltage:440V, 50Hz , 3phase	Each	02

**Technical Specification**

**a) Panel**

APFC panel shall be made out of 2.5 mm thick CR sheet , powder coated , dust and vermin proof, indoor type, free standing , floor mounting, gasket sealing suitable for IP52 protection. The bus bars shall be made out of high conductivity tinned copper (1 Ampere / sq.mm) and shall be properly sleeved. Lifting hooks shall be provided at the top of panel. All doors shall be connected to earth with copper flexible. The panel shall be in cubicle design (each feeder components are housed in individual cubicle and fully compartmentalized having total segregation between each cubicle. Suitable cable and bus bar alleys as well as separate metering and relaying compartments shall be provided. For selection of copper flat or copper flexible cable for power wiring of panel ( connecting MCCB to contactor, contactor to reactor , reactor to capacitor etc ), minimum one ampere per sq.mm shall be selected. All MCCB shall have Thermal magnetic Release and breaking capacity of 50 kilo ampere (Minimum) and to be provided with door interlock handle. Detachable gland plates of 3mm thick shall be provided at the bottom and top of the cable chamber as per cable entry, suitable for the termination of cables with compression type glands to the sizes. . It shall be provided with hinged doors on the front with necessary handles and earthed using flexible copper conductor. The doors shall be provided with neoprene gaskets. Suitable channel base frame should be provided for the panel board. Adequate space should be provided in the cable chamber for safe bending and termination of cables. All components of the switchboard shall be approachable from front. The Bus bar chamber cover should be bolted type. Supporting arrangement for dressing of power and control cables in cable alleys also shall be provided. The front operable/lockable door shall act as a cover for the switchboards. The bus bar should be extendable at both ends. No bus bar should be protruded in the cable alley. MCCBs shall be provided with Shunt trip,

Auxiliary switch & Extended rotary Handle

**b) Capacitor**

- Type: Cylindrical type
- Peak inrush current withstand capacity: 500 times of rated current or higher.
- Number of switching operations per year: 20000 or higher.

iv) Losses: max 0.35W/kVAr

v) Over current withstand Capacity : 3 x In or Higher.

c) **Power Factor Controller**

Microprocessor based intelligent energy management relay with fully automatic detection of step sizes and VAR based compensation

d) **Control Supply:**

Control Supply shall be 110V, AC. Control transformer of minimum 5 kVA rating 415v/110V shall be provided inside panel with provision of two pole MCB both at incoming and out going of control transformer.

e) **Cooling Fan**

Panel shall be provided with suitable cooling fan.

f) **Switch Gear**

Sl.no	Description	200 Kvar
1	Incomer	400 amp, 4 pole MCCB with over load and short circuit protection with breaking capacity 50kA, APFC relay,
		auto manual selector switch, emergency push button. Auto / manual selector switch - 1 nos. Analog voltmeter (0-500)V , Acc. class 1 with 90 deg defl. Scale. Analog Ammeter (0-400) A , Acc. class 1 with 90 deg defl. Scale. 6A 3 pole voltmeter & ammeter selector switch. 400/5A 15VA class 1 resin cast CT. Multi function meter class I accuracy for measuring voltage, current, power factor, energy, Reactive power, Frequency, Harmonics shall be provided.
2	Outgoing 25kVar	8 Numbers (each panel) of 25 Kvar outgoing feeder with 80 A, 3 Pole MCCB of breaking capacity 50 kilo ampere (min), 35 Kvar Capacity Duty conductor, ON/OFF push button, ON/OFF indication lamp, 2 pole control MCB , One number auxiliary conductor with 2 NO+2 NC.

g) **Painting Procedure:**

APFC panel shall be completely Powder coated painted and prewired and ready for external cabling at site. If required, final coating of paint shall be carried out at the site after completion of installation.

**Bus bar sizing, connection and supports:**

Minimum clearance between phase to phase shall be 25.4mm and that between phase to neutral/earth shall be 19 mm.

**Earthing**

Two independent earthing points shall be provided outside the panel near bottom and these shall be inter-connected with suitable earthing bus bars. All earthing points inside & outside shall be interconnected to these earthing points with suitable size of **tinned Copper** conductor.

**Name plates**

Switch board/distribution board shall be provided with danger plate and nameplates for all incoming and outgoing feeders. These nameplates shall be of PVC (black colour base & white letters engraved) screwed to panel. PVC identification ferrule numbers shall be used for all internal wiring. The nameplate shall contain the following information.

Panel Board Identification name & number Feeder name.

Switch/ fuse rating.

Switchboard Normal Current/Voltage rating

**Supports**

Bus bars shall be rigidly fixed to the supports, of SMC/DMC solid block type base. Bus bars shall be firmly held within the slots in sheet type supports, which in turn shall be rigidly fixed to the chamber.

### Tests

All routine tests as per relevant codes and standards shall be conducted on the switchboards/components. Routine tests shall be conducted on the panels individually.

### **9. List of approved Makes of Equipment and Materials:**

1	APFC Panel	-	CPRI tested manufacturer
2	MCCB	-	ABB, Siemens, Schneider, L&T, GE
3	Digital Panel meter	-	AE, Meco, Konzerv
4	Indicating lamps LED type	-	L & T, Siemens, Technic, Schneider, ABB
5	CTs	-	AE, Kappa, Pragati, ECS,
6	Indicating Instruments	-	AE, Meco, Rishab, Konzerv, Schneider
7	Push button	-	L & T, Siemens, ABB, Schneider
8	Capacitor	-	ABB, EPCOS, L&T, Shreem, Schneider, GE
9	Contactor, Timer and overload relays	-	L&T, Siemens, Schneider, ABB
10	MCB	-	Schneider, ABB, Legrand, Siemens
11	Selector switches	-	Essen, Kaycee Switron, Reco, L & T, Siemens, Schneider
12	7% Series Reactor	-	ABB, EPCOS, L&T, Shreem, Schneider
13	650/1100 volts HFFR (Halogen free fire retardant) copper conductor cables	-	Gloster, Nicco, Havells, Finolex or any make with ISI mark sample to be approved by IREL.

### **10. Lighting distribution panel**

Incomer feeder and details	Brief description of Outgoing feeder and details
63A 4pole MCCB, with adjustable over current & Short Circuit protection, Minimum 50 kA, CT, PT of required rating, proper termination, digital volt meter, digital ammeter, On off indication at local internal door with door interlocking handle and provision of wiring up to TB for remote indication and meter installation for Ammeter, Handle for operation of MCCB from the internal door of the panel. CBCT earth leakage relay has to be provided	4 nos outgoing feeders cubical type each consisting of having 1 number of 16A 4 pole MCCB of 50 kA min with door interlocking handle. CBCT earth leakage relay has to be provided.

### **11. Lighting distribution board**

#### **(i) Construction & Other General Requirements:**

The Switchboards shall be fabricated out of 2.5mm sheet steel. It shall be provided with double door with hinged doors on the front doors with necessary handles and earthed using flexible copper conductor. The doors shall be provided with neoprene gaskets. Suitable channel base frame should be provided for the panel board. Doors, panel joints etc shall be provided with neoprene gaskets. Detachable gland plates of 3mm thick shall be provided at the bottom of the cable chamber as per cable entry, suitable for the termination of cables with compression type glands to the sizes as specified. Adequate space should be provided in the cable chamber for safe bending and termination of cables. The enclosure shall be provided with lifting hooks, supporting legs and double earth terminals with double washers. The switchboard shall be in cubicle design (each feeder components are housed in individual cubicle except for those mentioned) and fully compartmentalized having total segregation

between each cubicle. Suitable cable and bus bar alleys as well as separate metering and relaying compartments shall be provided. All components of the switchboard shall be approachable from front. The Bus bar chamber cover should be bolted type. Supporting arrangement for dressing of power and control cables in cable alleys also shall be provided. The front operable/lockable door shall act as a cover for the switchboards. The bus bar should be extendable at both ends. No bus bar should be protruded in the cable alley. Back side all the door plates shall be fitted with nut and bolt and shall be operable and with required neoprene Gaskets. Suitable provision to reach all the components all bus bars of the panel.

**Painting Procedure:** Panels shall be completely Powder coated painted and prewired and ready for external cabling at site. If required, final coating of paint shall be carried out at the site after completion of installation.

- (ii) For power interconnections within the panel board Rigid multiwire copper conductor, with PVC insulation, of adequate cross section i.e., current carrying capacity not less than the outgoing switch rating shall be used. Cable lugs / sockets of suitable size and type shall be used for all inter-connections. For incoming and outgoing feeders of the switchboards, Aluminium conductor cable will be used and hence the panel has to be designed for receiving these and wherever required cable boxes shall be provided in panel by removable gland plates and shall be provided on top/bottom of panel, for cable entries. To prevent accidental contacts, all interconnecting cables/ bus bars and all terminals also shall be shrouded. Provision for clamping the cables inside the cable alley should be provided. Standard colour code of red, yellow and blue for phases and black for Neutral, green for earth to be followed for all bus bars/conductors.
- (iii) **Auxiliary wiring and Terminals:** Wiring for all controls, protection, metering, signalling, etc. inside the switchboard shall be done with 650/1100 volts grey colour HFFR (Halogen free fire retardant) copper conductor cables. Minimum size of these conductors shall be 1.5 Sq.mm. Control wiring to components fixed on doors shall be flexible type.
- (iv) The complete panel would be sub-divided into different sections and each section shall have its own control circuit with fuse and indication. All control wiring should be provided with necessary cable sockets/ lugs at both ends. Conductors shall be terminated using compression type lugs. Each termination shall be identified at both the ends by PVC ferrules. Power connection to outside shall be through terminal blocks of adequate rating. All incoming and outgoing control cables preferably to be terminated through TB. The identification termination numbers should match with those on the drawings.
- (v) **Components of switch board** The panel shall be provided with MCCBs, fuses, current transformers, contactors, meters, relays and instruments etc. of size, capacity. The switchgears should be positioned inside the panel board as per manufacturer's standards.

#### Moulded Case Circuit Breakers.

Moulded case circuit breakers (MCCBs) shall be incorporated wherever required and shall be of extra current limiting type and preferably double break. MCCBs shall conform to IS 13947-1/IEC 60947-1 for general rules and IS 13947-2/IEC 60947-2 for circuit breakers in all respects. MCCB shall be suitable for isolation as per standard, single phase 240V or three phase 415 V, 50Hz, AC supply.

#### Construction:

The MCCB case & cover shall be made of high strength heat resistant and flame retardant thermosetting insulating material. The operating handle shall be quick make, quick break trip free type. The operating handle shall have suitable 'ON', 'OFF', 'TRIPPED' indicators. In order to ensure suitability for isolation complying with IS13947-2/IEC 60947-2, the operating mechanism shall be designed such that the toggle or handle can only be in 'OFF' position. Three phase MCCBs shall have a common operating handle for simultaneous operation and tripping of all the three phases.

#### Digital panel meters

Digital panel meters for measuring Voltage (volt meter), Current (Ammeter) and energy (Multifunction meter) In the incomers and current in each motor feeders for three phase with selector switch as required.

#### Current Transformers (CT's)

CT's shall be cast resin insulated type or tape insulated as specified in schedule of quantities. Primary and secondary terminals shall be marked indelibly. CT's shall preferably be mounted on stationery parts. CT rating and ratios shall be as per feeder ratings indicated in the schematic. These shall be capable of withstanding momentary short circuit and symmetrical short circuit current for 1 second. Neutral side of CT's shall be earthed. Protection CT's shall have low reactance, accuracy class "5P" and an accuracy limit factor greater than "10". Instrument CT's shall be of accuracy class "1.0" and accuracy limit factor less than "5.0" (But If other class and accuracy are specified in the schematic or elsewhere in this specification, CT's of these specified requirements shall be provided).

#### Measuring instruments

Instruments like digital ammeter, Voltmeter etc. are also included in the scope of supply. All AC meters shall be of class 1 accuracy. Voltmeter shall be suitable for direct line connection. Voltmeters shall be connected through MCB's only. All voltmeters shall be provided with selector switches. Ammeters shall be CT operated and with selector switch

#### Indicating Lamps

The Panel mounting indicating lamp shall be wide band LED type with in built surge suppressor to protect LED against switching surges. The operating voltage is 110V/230V AC for 415V System and the illumination Level is minimum 100 lux on the front face of the lens. The colour of lamps shall be as per drawings/standards.

#### Connections

Busbars shall be made of standard punched holes for modular design, this shall also enable extension of panel if required at later date. The bolts & nuts used for connections to busbars shall be of the same material as Bus bar. Due to corrosive nature proper tinning shall be done on the bus bar. Connections to the bus bars shall be made by drilling holes. However, no holes shall be left in the bus bars except at the both ends of the main bus bar for panel extension. The bolts & nuts used for connections to bus bars shall be of Aluminium alloy or tinned forged brass. For tapping of connections from bus bars suitable size PVC sleeved copper conductor (minimum size 4.0 Sq. mm) shall be used with suitable size and type of crimped lugs/cable sockets. For connection of feeder above 63 Amps only bus bar links with heat shrinkable PVC shall be used. Suitable size cable boxes shall be provided for incoming/outgoing cables. For all outgoing cables, cable trays of suitable sizes in sides and tops, as required for proper cable connections/laying inside the panel, shall be provided. Switchboard shall be suitable for Aluminium conductor PVC insulated incoming and outgoing cables. Removable gland plates shall be provided for cable entries.

#### Earthing

Two independent earthing points shall be provided outside the panel near bottom and these shall be inter-connected with suitable earthing bus bars. The size of Earthing Strips shall be according to the earth fault current /KA ratings and meeting the statutory rules and regulations. For distribution boards and small sub switchboards, MCC panel's etc. suitable aluminium/copper strips shall be provided as earth strip. All earthing points inside shall be interconnected to these earthing points with suitable size Cu/Al conductor.

#### Name plates

Switch board/distribution board shall be provided with danger plate and nameplates for all incoming and outgoing feeders. These nameplates shall be of PVC (black colour base & white letters engraved) screwed to panel. PVC identification ferrule numbers shall be used for all internal wiring. The nameplate shall contain the following information.

Panel Board Identification name & number Feeder name.

Switch/ fuse rating.

Switchboard Normal Current/Voltage rating

#### Tests

- (i) Manufacturers test reports, test certificates of each of the switch board components i.e. MCCB, Contactor, MCB, O/L relay, SPP, CT, Digital meters, etc. are to be provided. (IS: 13947(1993) part 1 & 2: Specification for Low voltage switch gear and Control gear shall be followed)
- (ii) All routine tests as per relevant codes and standards shall be conducted on the switchboards/components. Test reports and test certificates shall be submitted for the same for inspection as desired by EIC.

#### 5.9.5 CABLES:

##### **Supply part:**

##### **Procurement, supply, laying and commissioning of LT & HT Cables as mentioned below:**

Sl.no	Item description	UOM	Qty
1	3C Aluminum armoured HT (11KV) cable & end termination	Meter	<b>As per requirement</b>
2	3.5C Copper armoured LT(1.1KV) cable & end termination	Meter	
3	1.5 Sq.mm Copper armoured control cable(1.1KV) & end termination	Meter	

### 5.9.6 MOTORS:

## Technical Specifications

Sl.No	ITEM DESCRIPTION	Quantity	UOM
	<p>The scope of work includes supply of totally enclosed fan cooled squirrel cage induction motor with enclosure confirming to protection IP 55 foot mounted (B3) continuously rated (S1) suitable for 415 volts            +/- 10%, 3 phase, 50Hz +/- 5 % frequency, AC supply ambient temperature 45 degree minimum class F insulation with temperature rise limited to Class-B and altitude less than 1000 M above MSL confirming to IS:12615:2011 with its latest amendments of the following KW and RPM compliance to <b>IE3</b> for efficiency,4P motors.(Capacity shall be as per requirement)</p> <p><b>MAKE : CROMPTION GREAVES/Bharat Bijlee/ Siemens/ ABB/Kirloskar/Hindustan Motors.</b></p>	As per requirement	

5.9.7 **UPS**: Supply of UPS System along with accessories as per the technical specification and commissioning of the UPS system as mentioned below:

Lot	Details	Unit	Quantity
01	Supply of 5 kVA online ups system with 60 minutes backup at maximum load as per the technical specification.	Number	01

## Technical Specification For 25kva Online Ups System

<b>Sl.No.</b>	<b>SPECIFICATIONS</b>	<b>FEATURES</b>
1.	POWER RATING	5 KVA
	Back up	60 minutes
2.	TYPE	True Online Double Conversion.
3.	MODE OF OPERATION	Single System
4.	INPUT PARAMETERS	Inbuilt Isolation Transformer at Input. Voltage Nominal- 415V AC Three phase Frequency Range-47 to 53Hz Phase- Three Phase
5.	OUTPUT PARAMETERS	Voltage-220V AC Single Phase. * Isolation Transformer , input 220V and output 220V (110-0-110) center tapped. Voltage Regulation- +/- 1% Typical Frequency- 50Hz Frequency regulation: +/- 0.05Hz in free running +/- 3Hz in sync mode.  Wave Form- True Sine wave Harmonic Distortion- < 2% with Linear load < 5% on Non Linear Load.  Power Factor: 0.8 Crest factor: 3:1 Efficiency overall is > 85%. Cold start feature available.

6.	D.C.PARAMETERS	Voltage- 180VDC or suitable DC Ripple: < 1%. Battery Isolation from DC Bus Battery Type : SMF Battery Details: 12v/26AH/15 Nos or Equivalent Battery Rack : MS Multi-Tier Charger : Thyrostrised temperature compensated batter charging with automatic float cum boost charging capability with settable float & boost charging voltages and current levels and boost charger timer
7.	INVERTER	Sine wave PWM Technology with IGBT as switching devices. Overload rating:  110% for 30mints. 150% for 10 sec 200% for 05 Cycles.
8.	BY-PASS	Static Switch Mechanical Bypass switch. Voltage: three Phase, 230V AC or suitable Overload rating: 100% for 60 milliseconds. Transfer Time: Less than 5 milliseconds in Sync mode.
9.	OTHERS	Transient response: For 100% load variation.
		full load to no load to fullload: Dip < 3% Peak < 3% Recovery Time: 2-3 cycles.
10.	ISOLATION	UPS output Isolated from mains Input (Total Galvanic Isolation).
11.	GENERAL PARAMETERS	Operating Temperature: 0-45 deg cel (50 deg cel Peak). Storage: -20 to =65 degree Centigrade. Relative humidity: 0 to 95% (Non Condensing) Noise Level: Less than 55dBA at 1 mtr.
12	MECHANICAL PARAMETERS	Enclosure Protection:IP-21 Instillation on Castor Wheels. Simple Operating Controls.
13	INDICATIONS (LED)	a) Mains On b) Inverter On c) Battery On Charge d) Mains Over/Under Voltage e) Phase Fail f) Low Battery Imminent g) Battery Over/Under Voltage h) Inverter Over/Under Voltage i) Inverter Overload j) Overheat
14	PROTECTIONS	a) Input Over/Under Voltage b) Phase fail c) DC over/under Voltage d) Inverter Over/Under Voltage e) Inverter Overload f) Overheat g) SOAR protection for IGBTs h) Output AC Over/Under Voltage i) High speed fuses for Semi-conductor devices Snubber Circuits for Power Semi-Conductors.



15.	METERING (DIGITAL)	16 x 2 LCD to measure the following: l) AC Input/Output Voltage per Phase m) Load percentage n) DC Voltage o) Battery Percentage p) Output Frequency.
16.	AUDIBLE ALARAM	Built in Buzzer operates on fault Conditions.
17.	REMOTE INDICATIONS	A potential free contact is provided for fault conditions and alarms.
18.	EARTHING	Two nos earthing points shall be provided in UPS cabinet for earthing.
19.	LOAD	UPS shall be designed to take 6kw inductive(induction motor) load with maximum individual load 3kw

#### 5.9.8 **Procurement and supply of Misc items**

##### a. Cable end termination kit / straight through jointing kits suitable for 11kv XLPE insulated GI armoured cable

- Indoor cable end termination kit
- Outdoor cable end termination kit
- Make: Raychem, 3M, Multi pressing.
- Any other make shall be with the approval of EIC
- Manufacturers test report to be submitted.

##### b. 11kV SURGE ARRESTOR (Lightning Arrestor)

- 11kv, 50hz out door type pole mounting
- Confirming to IEC/ISO/BS/IS Subject: IEC 99- Part 4 IS 3070- Part 3 Metal- oxide surge arresters without gaps for a.c systems.
- IS 5621 Hollow insulators for use in electrical equipment.
- IEC 233 Tests on hollow insulators for use in electrical equipment.
- IEC 270 Partial discharge measurement
- IEC 455 Guide for solventless polymerisable resinous compounds used for electrical insulator.
- IEC 815 IS 13134 Guide for selection of insulators in respect of polluted conditions.

##### c. Lighting Arrestors

- Type Gapless Metal oxide – outdoor
- Arrestor rating (KV rms) 9
- Continuous Operating voltage (kV rms) 7.65
- Nominal discharge Current: 10 Rating (KA) (8x20 micro impulse shape)
- Long Duration discharge class Distribution Class
- Degree of protection: IP 55
- Maximum residual voltage at 10 KA (KV peak) : 32
- Maximum switching lighting residual 24 Voltage (kVp) at 1Ka
- Partial discharge at 1.05 COV not greater than (PC) 50
- High current impulse withstand voltage 100 at 65 kA (kVp)

##### d. 40mm dia earthing electrode

- Earthing pipe must be made out 40 mm nominal bore & 4 mm wall thickness heavy gauge (no minus Tolerance allowed) Hot Dip G.I pipe (as per IS :- 1239, Part-1, 1990 & REC construction Standard –J-2) of Any reputed make & 3 mtr. long
- The pipe electrode shall be cut tapered at the bottom side for a length of 75 mm and welded clamp at top end.
- The pipe shall be in one piece and no joint shall be allowed in the electrode.
- Staggered drills hole of 12 mm Dia of interval of 150mm up to 2 meter from bottom side shall be made before galvanization.
- The GI Earthing Clamp/ Strip (C- Clamp Type) is to be of 75mm width, 10mm thickness & flange length of 65 mm to be welded with pipe before galvanization.

- This should be suitable for termination of 4 nos of GI Flat to the earth electrodes.
- The Clamp/ Strip & Earthing pipe after fabrication will be hot dip galvanized confirming to IS: 2629/85 with latest amendments.
- The clamp shall have two holes in both sides suitable for 5/8 x 2" Bolt & provided with two GI Bolts of 5/8 x 2" long half threaded with spring washer.
- The galvanization tests are to be conducted as per IS: 2633/72 & IS: 6745/72 & its latest amendments. All galvanizing shall be carried out by the hot dip process, in accordance with Specification IS 2629. However, high tensile steel nuts, bolts and spring washer shall be electro galvanized
- The zinc coating shall be smooth, continuous and uniform. It shall be free from acid spot and shall not scale, blister or be removable by handling or packing. There shall be no impurities in the zinc or additives to the galvanic bath which could have a detrimental effect on the durability of the zinc coating. The weight of zinc deposited shall be in accordance with that stated in Standard IS 2629 and shall not less than 0.61kg/m<sup>2</sup> with a minimum thickness of 86 microns for items of thickness more than 5mm, 0.46kg/m<sup>2</sup> (64 microns) for items of thickness between 2mm and 5mm and 0.33kg/m<sup>2</sup> (47 microns) for items less than 2mm thick.

e. Danger Notice Plates:

Fixing of danger board is part of erection of poles.

- (i) As per provisions of IE Rules 1956, Danger Notice Plates in Hindi or English and, in addition, in the local language with the sign of skull and bones are required to be provided on power line supports and other installations.
- (ii) It is further stipulated in the I.E. Rules that such Notice Plates are not required to be provided on supports like PCC, tubular, wood, steel rails, etc. which cannot be climbed easily without the aid of ladder or special appliances.
- (iii) To adopt a uniform pattern and for helping easy procurement, a specification on Danger Notice Plates has been drawn up.
- (iv) The Danger Notice Plates shall comply with IS:2551-1982.
- (v) Size of Danger Notice Plates as follows are recommended:
- (vi) For display at 11 KV (or higher voltages) installations – 250x200mm
- (vii) The corners of the plate shall be rounded off.
- (viii) The location of fixing holes as shown in Figs. 1 to 4 is provisional and can be modified to suit the requirements of the purchaser.
- (ix) All letterings shall be centrally spaced. The dimensions of the letters, figures and their respective position shall be as shown in figs. The size of letters in the words in each language and spacing between them shall be so chosen that these are uniformly written in the space earmarked for them.
- (x) Under Rule No. 35 of Indian Electricity Rules, 1956, the owner of every medium, high and extra high voltage installation is required to affix permanently in a conspicuous position a danger notice in Hindi or English and, in addition, in the local language, with the sign of skull and bone.
- (xi) The plate shall be made from mild steel sheet of at least 1.6mm thick and vitreous enamelled white, with letters, figures and the conventional skull and cross-bones in signal red color (refer IS:5-1978) on the front side. The rear side of the plate shall also be enamelled.

f. Push Button stations:

Push button station (Local control) with all interconnecting wiring on/off push button wiring up to TB for external connection. Hole cut for cable end & gland fixing of size 150mmx200mmx100mm approx (Cast aluminum enclosure) of 2 mm thick minimum. Push button shall be installed for all drives near the motor.

Lot nos	Description	Unit	Quantity
1.	Supply of cable end termination kit indoor type.	Each	As per requirement
2	Supply of cable end termination kit outdoor type.	Each	

### 5.9.9 **Erection and commissioning of HT works:**

#### **Scope of work:**

The works part mainly consists of following major activities:

- (i) Laying of LV/1100V grade upto 4C X400 sqmm cables
- (ii) Laying of HT 11KV cables
  - (UNDER GROUND, OVERHANG AND OVER THE SURFACE AS WELL AS ROAD CROSSINGS)
  - Jointing and termination of 11kv cables
  - Cable route marker installation
  - Earthing of poles
- (iii) Stringing of the PVC insulated AAC conductors on poles
- (iv) Pipe earthing pits
- (v) GI flat fixing
- (vi) DGMS approval of installation for energization (It is for kind information that obtaining clearance from DGMS is in the scope of party and no specific bill of quantity is available in the contract. So party has to arrange the necessary approval. Only the document submission with signing is in the scope of IREL)

#### **Laying of 11kv Ht Cable Underground to the termination point**

##### General Scope of work:

Laying, jointing and end termination of cables shall be carried out following the relevant IS standards i.e. IS 1255:1983 with its latest amendments.

- (i) The scope of work includes making holes in wall, excavation of soil of all type including road crossing & drain crossing, railway line crossing through existing pipe already laid
- (ii) 185/50 sqmm 3core cable with aluminium conductor, XLPE insulation, PVC sheath, GI strip armoured, laying of bricks (7nos per meter minimum) on the cable to avoid damage of cable from top side, laying of cables through PVC/HDPE /MS pipe at road crossing and drain crossing as per instruction of EIC, refilling of cable trench by excavated soil upto the original level, end termination of cables using appropriate size indoor/outdoor type end termination kits following safe electrical practice (As per electrical rules and act).
- (iii) Depth of excavation of soil in trench: upto 1m, Width of excavation: upto 600mm, Minimum nos of bricks to be used: 7nos of bricks per meter of trench.
- (iv) The cables are to be terminated in panels using end termination kit suitable for indoor purpose and the termination of the cables on the poles and connection to the overhead lines conductors using out door end termination kit.
- (v) The over hang cables to be suitable laid and fixed to the structures by suitable means, clamps etc.

##### Installation of the cable route markers:

- i. The cable route markers shall be installed at an interval of 50meters along the length of laying of cables.
- ii. The cable route marked shall be buried under ground upto suitable height so that they cannot be easily removed from the ground. The depth of installation of the cable route marker shall be 300mm approx.
- iii. The supply of cable route marker is in the scope of successful bidder as specified by EIC.

##### Testing of the cables:

For laying and testing of cables standard procedure to be followed as applicable to the relevant IS standard (11kv XLPE cable)

- i.) Each of the cable drums shall be tested for insulation level before laying.  
The earth resistance from phase to phase, phase to earth to be done using a properly calibrated megger of minimum 1000v.
- ii.) Similarly after the cable jointing is over the length of the cable to be checked using the same megger/insulation tested. The process shall be repeated after each jointing.
- iii.) Report of testing of the cables to be submitted.
- iv.) Cables are also to be laid from pole to pole at road crossings and whenever is required. Cables to be tested for insulation level before laying and jointing done.

### Testing of cables

#### Insulation resistance to earth

- (i) This to be measured with all fuse links in place all switches on all lamps and appliance in position by applying a voltage not less than twice the working voltage (subject to a limit of 500V).
- (ii) Insulation resistance of the whole or any part of the installation to earth must not be less than 50 Mega ohms divided by the number of outlets (points and switch positions) except that it need not exceed 1 Mega ohm for the whole installation.
- (iii) Insulation resistance between conductors: Test to be made between all the conductors connected to one pole or phase conductor of the supply and all the conductors connected to the middle wire or neutral or the other pole or phase conductors of the supply. For this test, all lamps shall be removed and all switches put on. The result of the test must be 50 Mega ohms divided by the number of outlets (point and switch positions) but need not exceed one Mega ohm for the whole installation.
- (iv) Resistance of metal conduits/sheaths (Earth continuity test): In case of cables encased in metal conduit or metallic sheathing, the total resistance of the conduit or sheathing from the earthing point to any other position in the completed installation shall not exceed 2 ohms.

### Testing of Cables

- a) Before energising, the insulation resistance of every circuit shall be measured from phase to phase and from phase to ground. This requires 3 measurements if one side is grounded and 6 measurements for 3 phase circuits.
- b) Where splices or terminations are required in circuits rated above 650 volts, measure insulation resistance of each length of cable before splicing and/or terminating. Report measurements after splices and/or terminations are complete.
- c) DC High Voltage test shall be made after installation on the following:
  - i. All 1100 Volts grade cables in which straight through joints have been made.
  - ii. All cables above 1100 V grade.

All required information, data, drawings etc required by any statutory authority shall be supplied by the contractor as and when requested by the EIC.

## 5.9.10 **LT Works:**

### **Scope of work:**

The scope of work includes Shifting, Erection and commissioning of VCB, transformers, Electrical panels, Lighting distribution board, junction boxes, push button station, plug & socket, push button station, laying and termination of cables over trays & conduits, earthing pits, GI earthing flat fixing, cable tray fixing etc as per bill of quantity following safe electrical practice (As per electrical rules and act).

### **Testing and Commissioning:**

All checks and tests as per the Manufacturer's drawings/manuals, relevant code of installation shall be carried out by you as part of the installation work.

Successful bidder shall arrange testing of relays, meters etc. The testing of equipment like VCB, transformers, electrical panels etc shall also have to be arranged by you. Payment for above work shall be deemed to have been included in the erection of panels.

### **Testing of transformer:**

Winding insulation, resistance shall be measured from primary and secondary to ground and between primary and secondary.

Test the operation of the tap changer. Measure primary and secondary voltage ratios as per nameplates.

Check the polarity of terminals and the phase's sequence.

### **Testing of panels:**

The successful bidder shall perform operating tests on all switchgear and panels to verify operation of switchgear/panels and correctness of the interconnections between various items of the equipment. This shall be done by applying normal ac or dc voltage to the circuits and operating the equipment for functional checking of all control circuits, e.g. closing, tripping, control interlock, supervision and alarm circuits. All connections in the switchgear shall be tested from point to point for possible grounds or short circuit.

All electrical equipment alarms shall be tested for proper operation by causing alarms to sound under simulated abnormal conditions.

The successful bidder shall arrange testing and calibrations of relays if any. The testing equipment including primary and secondary injection sets (if required) etc. shall also have to be arranged by you. Payment for above work shall be deemed to have been included in the erection of switch boards/control panels.

Insulation resistance tests shall be carried out by following rating meggers:

- |  |                   |
|--|-------------------|
| a) Control circuits up to 220 V                      | : by 500 V megger |
| b) Power circuits, bus bars, connections Up to 1.1kV | : by 1000V megger |
| c) Power circuits, bus bars, connections above 1.1kv | : by 2500V megger |

Before electrical panel is energized, the insulation resistance of each bus shall be measured from phase to ground. Measurement shall be repeated with circuit breakers in operating positions and contact open. Before switchgear is energized, the insulation resistance of all DC control circuits shall be measured from line to ground.

The following tests shall be performed on all circuit breakers during erection:

Contact alignment and wipe shall be checked and adjusted where necessary in accordance with the breakers manufacturer's instructions.

Each circuit breaker shall be closed manually and its insulation resistance measured from phase to phase and phase to ground before erection.

All adjustable direct acting trip devices shall be set using values given by the Engineer-in-charge/manufacturer. Before switchgear is energized the following tests shall be performed on each circuit breaker in its test position.

Close and trip the circuit breaker from its local & remote control switch, push button or operating handle. Switchgear control bus may be energized to permit test operation of circuit breaker with AC closing with prior permission of the Engineer-in-charge.

Trip breaker either manually or by applying current or voltage to each of its associated protective relays. Before switchgear is energized, the test covered above shall be repeated with each breaker in its normal operating position.

All electrical equipment alarms shall be tested for proper operation by causing alarms to sound under simulated abnormal conditions.

#### Performance for Panels:

Circuit (breaker or Supplier module designation/bus no.)

Insulation resistance tests (contacts open, breaker racked in position).

- |  |                       |
|--|-----------------------|
| Between each phase of bus                              | : Mega ohm            |
| Between each phase and earth                           | : Mega ohm            |
| DC and AC control & auxiliary circuits                 | : Mega ohm            |
| Between each phase of CT/PT and CT & PT circuit if any | : Mega ohm CT checks: |

CT ratio

CT secondary resistance CT polarity check

Check for contact alignment and wipe.

Check/test all releases/relays Check mechanical interlocks.

Check switchgear/control panel wiring.

Check electrical interlocks.

Checking of breaker/control circuits for Closing-local and remote (wherever applicable) Tripping-local and remote (wherever applicable)

Opening time of breaker/contact.

Closing time of breaker/contact.

(This Performa shall be jointly signed by the Engineer-in-charge and the Contractor.)

#### Completion tests:

After supply and installation of complete project or a particular building/area, you shall carry out following tests before switching on the power to installation and the results shall be recorded and submitted to the Engineer- in-charge. If results are not satisfactory/as per the standard, the contractor shall identify the defects/short coming and -shall rectify the same. Nothing extra shall be paid for carrying out these tests and contractor has to arrange all necessary instruments.

#### Insulation resistance to earth:

This to be measured with all fuse links in place all switches on all lamps and appliance in position by applying a voltage not less than twice the working voltage (subject to a limit of 500V). Insulation resistance of the whole or any part of the installation to earth must not be less than 50 Mega ohms divided by the number of outlets (points and switch positions) except that it need not exceed 1 Mega ohm for the whole installation.

#### Insulation resistance between conductors:

Test to be made between all the conductors connected to one pole or phase conductor of the supply and all the conductors connected to the middle wire or neutral or the other pole or phase conductors of the supply. For this test, all lamps shall be removed and all switches put on. The result of the test must be 50 Mega ohms divided by the number of outlets (point and switch positions) but need not exceed one Mega ohm for the whole installation.

Polarity of single pole switches:

Test shall be made to verify that all non-linked single pole switches are on phase conductor (Live) and not on the neutral or earthed conductor.

Lot No	Description	Unit	Quantity
1	LT ACB panel (415V, LT panel):Erection and commissioning of the panel including earthing. Draft sketch of the panel may be collected from EIC before participating in the tender if required. Connection of power cables (One incoming and outgoing feeders) by glanding , socketing, end termination etc as per requirement, termination of all the control cables in the panel by glanding, socketing etc as required at the site and energizing the panel after all connections are over, testing of the panels for its functioning, tripping, etc) (required glands sockets, cable joint kit etc has to be provided by the successful bidder. Base frame is excluded from the scope of party).Testing of the equipment before energization as per specification to be carried out and test report to be submitted.	Each	As per requirement
2	LT Motor control panels: Erection and commissioning of the panel including earthing. Connection of power cables(One incoming and all required cables from outgoing feeders) by glanding, socketing, end termination etc as per requirement, termination of all the control cables in the panel by glanding, socketing etc as required at the site and energizing the panel after all connections are over, testing of the panels for its functioning, tripping, etc) (required glands sockets, cable joint kit etc has to be provided by the successful bidder. Base frame is excluded from the scope of party).Testing of the equipment before energization as per specification to be carried out and test report to be submitted.	Each	As per requirement
3	Local control push button station for pump motors: Installation, Connection of control cables, socketing, glanding , termination, testing and commissioning of local push button stations and control cables (by glanding, socketing, end termination etc as per requirement, termination of all the control cables in the panel by glanding, socketing etc. as required at the site and energizing the panel after all connections are over, testing of the panels for its functioning, tripping, etc.) (required glands sockets, cable joint kit etc. has to be provided by the successful bidder. Base frame is excluded from the scope of party).Testing of the equipment before energization as per specification to be carried out and test report to be submitted. All works to be carried out as per technical specification.	Each	As per requirement
4	LDB (415V,63A): Erection and commissioning of the distribution board, store in a safe place till fixing and installation on the desired frame welded in the structures by welding to nut bolting including earthing. Connection of power cables (one incoming and all required cables from 4 numbers outgoing feeders) by glanding, socketing, end termination etc as per requirement, termination of all the control cables in the panel by glanding, socketing etc as required at the site and energizing the panel after all connections are over, testing of the panels for its functioning, tripping, etc). (Required glands sockets, cable joint kit etc has to be provided by the successful bidder. Base frame is excluded from the scope of party).Testing of the equipment before energization as per specification to be carried out and test report to be submitted. (LDB along with nut bolts are free issue items)(size of the lighting distribution board is approximately 500mm(W) x 1500mm(L) x 1500mm Height) Maximum.	Each	2
5	APFC panel 200 kVAR: Erection and commissioning of the Capacitor panel including earthing. All cables are to be connected in the panelas per standard procedure using glands and sockets etc. (required glands sockets, cable joint kit etc has to be provided by the successful bidder. Base frame is excluded from the scope of party).Testing of the equipment before energization as per specification to be carried out and test report to be submitted. All works to be carried out as per technical Specification.	Each	2
6	Erection and commissioning of thermoplastic Junction boxes of different sizes up to 200x 200 mm.	Each	As per requirement

Note: Any items supplied and not erected due to site conditions has to be returned back to IREL.

Inspection and Testing:

Transformers, HT & LT panels & Cables shall be inspected and tested by IREL's representative at party's workshop before dispatch. However IREL reserve the rights to waive the inspection subject to submission of video recording of test conducted at party's work and dispatch clearance form IREL. Party has to inform us at least 15days in advance regarding completion of the manufacturing of the item. Party has to arrange all necessary test facilities & test equipments required for testing. The tenderer shall furnish Type test certificate and routine test format along with offer

### 5.10 INSTRUMENTATION

#### 5.10.1 PLC & SCADA SYSTEM AND ITS ACCESSORIES (Expanding the existing "AB" make PLC& SCADA system)

#### 5.10.2 M.S. CABLE TRAY LADDER TYPE WITH ALL THE ACCESSORIES (300MM WIDTH)

#### 5.10.3 INSTRUMENTATION EARTHING SYSTEM

- Earthing pipe must be made out 40 mm nominal bore & 4 mm wall thickness heavy gauge (no minus Tolerance allowed) Hot Dip G.I pipe (as per IS :- 1239, Part-1, 1990 & REC construction Standard –J-2) of Any reputed make & 3 mtr. long
- The pipe electrode shall be cut tapered at the bottom side for a length of 75 mm and welded clamp at top end.
- The pipe shall be in one piece and no joint shall be allowed in the electrode.
- Staggered drills hole of 12 mm Dia of interval of 150mm up to 2 meter from bottom side shall be made before galvanization.
- The GI Earthing Clamp/ Strip (C- Clamp Type) is to be of 75mm width, 10mm thickness & flange length of 65 mm to be welded with pipe before galvanization.
- This should be suitable for termination of 4 nos of GI Flat to the earth electrodes.
- The Clamp/ Strip & Earthing pipe after fabrication will be hot dip galvanized confirming to IS: 2629/85 with latest amendments.
- The clamp shall have two holes in both sides suitable for 5/8 x 2" Bolt & provided with two GI Bolts of 5/8 x 2" long half threaded with spring washer.
- The galvanization tests are to be conducted as per IS: 2633/72 & IS: 6745/72 & its latest amendments. All galvanizing shall be carried out by the hot dip process, in accordance with Specification IS 2629. However, high tensile steel nuts, bolts and spring washer shall be electro galvanized
- The zinc coating shall be smooth, continuous and uniform. It shall be free from acid spot and shall not scale, blister or be removable by handling or packing. There shall be no impurities in the zinc or additives to the galvanic bath which could have a detrimental effect on the durability of the zinc coating. The weight of zinc deposited shall be in accordance with that stated in Standard IS 2629 and shall not less than 0.61kg/m<sup>2</sup> with a minimum thickness of 86 microns for items of thickness more than 5mm, 0.46kg/m<sup>2</sup> (64 microns) for items of thickness between 2mm and 5mm and 0.33kg/m<sup>2</sup> (47 microns) for items less than 2mm thick.
- Most advance Heavy duty Earth Inspection Pit Cover made of high- grade polypropylene or equivalent shall be included. These earth pit cover shall be light weight and lockable.

#### Features-

1. It shall make a conductive layer around the electrode tightly.
2. It shall be hygroscopic in nature and have best moisture retaining qualities.
3. No need to add water over time.
4. Whole system shall be maintenance free.
5. Shall moist for a longer period and lowers ground resistance Make- Allywell/ Schwaertz/

Erico/ Indelec/ ABB/ OBO / Truepower

#### 5.10.4 CONTROL ROOM INTERIOR WORK

##### 1. PANEL AND FLOOR WORK

Sl. No.	Parameter	Qty	Unit
	Providing suspended False ceiling at an approximate height of 3.0 m from floor level using powder coated aluminium tee and angle sections and PVC panels. Support for Ceiling/Paneling must be done with powder coated aluminium T-section and L — Section of 1.5 mm thick or nearest. Size of the sections shall be selected according to the size of the room in order to avoid any sagging. Paneling shall be done with 12mm thick hollow Sintex PVC panel of minimum 250mm (10') width. The colour of the panel must be Ultra white or as directed by the Engineer-in- charge before commencing the work. 4- 6 Nos. opening of approximate size 1250x 160 mm with aluminium frame shall be provided on the ceiling with powder coated aluminium boarder to suit standard tube light fitting.  The rate shall include cost of materials including necessary fittings required for the work, supply & fixing charges etc. for carrying out the complete work	As per requirement	m2
2	Providing PVC wall panel / partition using Powder Coated aluminium sections of width 30mm or nearest & 12mm thick hollow sintex PVC and other fitting required for the work for three sides of the control room. The spacing of the aluminum	As per requirement	m2



3	Supply & fixing of partially glazed UPVC door approx. size (1.0m x 2.1m) partially using multiboard 6mm thick or nearest at bottom, 5mm or nearest thick superior quality glass panes at top with door frame of size 60x40mm or nearest, shutter frame 100x50mm or nearest, welding & finishing the edges, joints properly with DYNA/EVERITE/HARDWIN make light weight door closer at top & SS pivots must be used as hinges, and other fittings such as lock with keys, handles, stoppers, tower bolts at top and bottom, push & pull marks for door arrangements etc, all with prior approval from the company for model, actual size etc, including fitted to existing door opening fixed with anchor bolts suitably. The rate shall include cost of materials, supply, fabrication, & fixing charges etc., for carrying out the complete work.	As per requirement	m2
4	Providing Vinyl flooring inside the control room above existing floor/platform using 3.0 mm thick or nearest after making the surface smooth, dry & clean and using FEVICOL or equivalent adhesive. The brand of material used must be 'Tusker' or equivalent at the sole discretion of the Engineer-in-charge. The vinyl sheet must have a minimum roll width of 1.5 m and necessary cutting shall be provided wherever required. The rate shall include cost of materials, supply & fixing charges etc. for carrying out the complete work.	As per requirement	m2
	sections must be equidistant as far as possible for good aesthetic. Rate shall include cost of materials, supply, fabrication, fixing charges, fittings, bolt & screws etc. for carrying out the complete work.		

All the Measurement is tentative only for reference. The Actual quantity will based the size of control room.

## 2. ELECTRIFICATION of Transformer room

- i. 230V single phase, 2 wire lighting & power distribution system completely
- ii. An adequate equipment grounding system
- iii. All work shall be done in accordance with the IS standard.
- iv. All the wire shall have been manufactured in accordance with IS specification.
- v. Position of Lighting and distribution boards shall be as per requirement.
- vi. The rate shall be per point wise. This rate shall include all materials, & labour required for completing the point.

## 3. LIGHTING ARRESTER SYSTEM

The lightning protection system shall be of the advanced type which is designed to send upward streamer earlier than the other surrounding metallic points, attract lightning to a preferred point and safely convey the lightning energy to ground with a predetermined route.

The lightning terminal should not use battery power, solar power, electronic spark device or any other active component for its operation. Air Terminal made of non-corrosive robust stainless steel materials, utilize advance and sustainable technologies, comply and tested to NF C-17 102 and UNE 21186 standards also tested by CPRI India, the device tested for 100 KA of 10/350µs waveform of lightning impulse current withstand test.

Provide complete Protection by capturing dangerous lightning discharges and safely channeling it to earth.

The lightning air terminal shall be an Early Streamer Emission terminal which will respond dynamically upon leader activity in the near zone. The lightning air terminal shall be maintenance free type & frequent testing should not be necessary for ensuring the working of it. The central finial shall be elevated above the spheroid and it should be sharp pointed Arcing shall occur between the panel sections of the spheroid and the finial tip only upon the progression of a lightning leader.

- Reliable performance in all weather conditions
- Suitable for corrosive environments

- Earthing pipe must be made out 40 mm nominal bore & 4 mm wall thickness heavy gauge (no minus Tolerance allowed) Hot Dip G.I pipe (as per IS :- 1239, Part-1, 1990 & REC construction Standard –J-2) of Any reputed make & 3 mtr. long
- The pipe electrode shall be cut tapered at the bottom side for a length of 75 mm and welded clamp at top end.
- The pipe shall be in one piece and no joint shall be allowed in the electrode.

- Staggered drills hole of 12 mm Dia of interval of 150mm up to 2 meter from bottom side shall be made before galvanization.
- The GI Earthing Clamp/ Strip (C- Clamp Type) is to be of 75mm width, 10mm thickness & flange length of 65 mm to be welded with pipe before galvanization.
- This should be suitable for termination of 4 nos of GI Flat to the earth electrodes.
- The Clamp/ Strip & Earthing pipe after fabrication will be hot dip galvanized confirming to IS: 2629/85 with latest amendments.
- The clamp shall have two holes in both sides suitable for 5/8 x 2" Bolt & provided with two GI Bolts of 5/8 x 2" long half threaded with spring washer.
- The galvanization tests are to be conducted as per IS: 2633/72 & IS: 6745/72 & its latest amendments. All galvanizing shall be carried out by the hot dip process, in accordance with Specification IS 2629. However, high tensile steel nuts, bolts and spring washer shall be electro galvanized
- The zinc coating shall be smooth, continuous and uniform. It shall be free from acid spot and shall not scale, blister or be removable by handling or packing. There shall be no impurities in the zinc or additives to the galvanic bath which could have a detrimental effect on the durability of the zinc coating. The weight of zinc deposited shall be in accordance with that stated in Standard IS 2629 and shall not less than 0.61kg/m<sup>2</sup> with a minimum thickness of 86 microns for items of thickness more than 5mm, 0.46kg/m<sup>2</sup> (64 microns) for items of thickness between 2mm and 5mm and 0.33kg/m<sup>2</sup> (47 microns) for items less than 2mm thick.

Most advance Heavy duty Earth Inspection Pit Cover made of high grade polypropylene or equivalent shall be included. These earth pit cover shall be light weight and lockable.

#### Technical Specification of Lightning Arrester Counter

Lightning strike counter shall be weatherproof type and have 5 to 6 digit event counters. It shall be able to count smallest strike.

Its working shall be a voltage sensing type counter, so that it will not register nearby strikes and static discharge due to induction effect. It shall not require external power supply.

#### Technical Specification of Down conductor Copper Cable

High Voltage Cable of minimum 70 Sq. mm cross-section insulated Copper Cable for lightning current dissipation to the earth system with necessary and suitable fixing Clamp, Connector accessories etc. Copper lug termination should be fixed at both ends of the down conductor cable.

#### Technical Specification of Elevation Mast

Suitable height of 50 mm OD GI mast as per requirement of coverage radius of ESEAT shall be supplied. However the mast height must be of minimum 3 meter. Suitable base for mounting the mast & air terminal with adaptor Coupler/reducer, anchoring wires, Clamps ...etc shall be included along with supply of elevation mast. The mast base plate shall be fixed with similar metal plate mounted in concrete block with nuts and bolts arrangement. The concrete block with metal fixing plate shall be made above the Weighbridge operator room. There shall be coupling of insulating material in between ESEAT and Elevation mast. The base Plate thickness shall be 6 mm. Elevation mast and its shall be manufacturer as per IS standard.

#### Technical Specification of Test Link Box

Weather proof TEST LINK box will all accessories shall be provided for down conductor in order to disconnect the earth termination system for enabling measurements. Necessary cable gland whole shall be provided in the box. Earth terminal shall be welded in the box. The size of the Test link box shall be suitable for connecting down conductor and tripod earth electrode. The material of Construction of the box shall be of GI with minimum 2mm thickness or equivalent.

Necessary gland for cable connection shall be included. Test link box and its accessories shall be manufacture as per the IS standard.

#### 4. EARTHING PIT

- Earthing pipe must be made out 40 mm nominal bore & 4 mm wall thickness heavy gauge (no minus Tolerance allowed) Hot Dip G.I pipe (as per IS :- 1239, Part-1, 1990 & REC construction Standard –J-2) of Any reputed make & 3 mtr. long
- The pipe electrode shall be cut tapered at the bottom side for a length of 75 mm and welded clamp at top end.
- The pipe shall be in one piece and no joint shall be allowed in the electrode.

- Staggered drills hole of 12 mm Dia of interval of 150mm up to 2 meter from bottom side shall be made before galvanization.
- The GI Earthing Clamp/ Strip (C- Clamp Type) is to be of 75mm width, 10mm thickness & flange length of 65 mm to be welded with pipe before galvanization.
- This should be suitable for termination of 4 nos of GI Flat to the earth electrodes.
- The Clamp/ Strip & Earthing pipe after fabrication will be hot dip galvanized confirming to IS: 2629/85 with latest amendments.
- The clamp shall have two holes in both sides suitable for 5/8 x 2" Bolt & provided with two GI Bolts of 5/8 x 2" long half threaded with spring washer.
- The galvanization tests are to be conducted as per IS: 2633/72 & IS: 6745/72 & its latest amendments. All galvanizing shall be carried out by the hot dip process, in accordance with Specification IS 2629. However, high tensile steel nuts, bolts and spring washer shall be electro galvanized
- The zinc coating shall be smooth, continuous and uniform. It shall be free from acid spot and shall not scale, blister or be removable by handling or packing. There shall be no impurities in the zinc or additives to the galvanic bath which could have a detrimental effect on the durability of the zinc coating. The weight of zinc deposited shall be in accordance with that stated in Standard IS 2629 and shall not less than 0.61kg/m<sup>2</sup> with a minimum thickness of 86 microns for items of thickness more than 5mm, 0.46kg/m<sup>2</sup> (64 microns) for items of thickness between 2mm and 5mm and 0.33kg/m<sup>2</sup> (47 microns) for items less than 2mm thick.

Most advance Heavy duty Earth Inspection Pit Cover made of high grade polypropylene or equivalent shall be included. These earth pit cover shall be light weight and lockable.

#### **Article 1 Commissioning:**

After completion of the complete erection of the plant in all respect the successful bidder shall commission the Plants in accordance with provisions and terms of this Agreement.

IREL shall provide the operating personnel, all raw materials and utilities required for Commissioning.

The successful bidder shall provide maintenance personal and supply the commissioning spares if any and consumables etc. required for Commissioning.

The commissioning shall be completed within ten days after erection of the plant in all respect.

#### **Article 2 Final Acceptance:**

Final Acceptance shall occur in respect of the Works when:

- a. The successful bidder has fulfilled all the obligations as defined in the RFP.
- b. The successful bidder has completed all the works as defined in the RFP.
- c. The successful bidder has completed the commissioning works.
- d. The successful bidder has cleared all the debris, waste etc from the project area.
- e. The successful bidder has obtained all the statutory clearances including DGMS permission.
- f. The successful bidder demonstrated the Performance Guarantee as defined in clause no. 6

#### **Article 3 Ownership of materials and products:**

Notwithstanding anything in this Agreement, IREL shall have absolute rights of the input Materials & output Products at all times and shall have ownership and title over the Plant and the Works in progress. However, the risk and liability of the Plants including all its components like equipment, material, structure, associated facilities and resources shall lie with the Agency till until taking over of the plant by IREL. The Agency shall at all times be responsible for monitoring the safety and security of its manpower, equipment, tools & tackles etc. being used for completion of Works till handing over to IREL.

#### **Article 4 Risk Purchase Clause**

After signing of Agreement, if the Agency fails to execute the activities outlined in the Scope of Work as per this Agreement or at any time repudiates the order, IREL have the right to invoke the security deposit and execute the order from other agencies at the risk and cost of the Agency. IREL reserves the right to take over the plant to carry out the unfinished work and proceed with production activities without any payment to the Agency.

#### **Article 5 Declaration of the Agency**

The Agency acknowledges that prior to the execution of this Agreement, the Agency has after a complete and careful examination made an independent evaluation of the Site conditions and all the information provided by IREL and has determined to the Agency's satisfaction the nature and extent of such difficulties, risks and hazards as are likely to arise or may be faced by the Agency in the course of performance of its obligations hereunder. The Agency shall not be entitled for any compensation or extension in time, whatsoever on account of its failure to make such examination and evaluation.

The Agency does not, and shall not, at any time, claim ownership of the land and/or space provided for the purpose of installation of the Plants. The Agency is undertaking the Works for and on behalf of IREL.

#### **Article 6 Billing and Payment**

- The Agency shall raise an invoice for each of the Project Milestone completed as per the Billing Schedule, and shall submit the same to IREL.
- Each bill/ invoice shall state the amount billed and be accompanied with progress report for each milestone and any other supporting documents as required and finalised with IREL. The bills will be paid within 30 days after receipt of Invoice with all supporting documents, measurement sheets and other supporting documents as required for clearing the bill.

- As the award of Works is divisible, The Agency shall submit complete and correct separate invoices and documents for supplies and services both for payments to be made.
- The Agency shall reimburse IREL all costs, charges, damages or expenses which IREL may have paid or incurred, if and to the extent to which the Agency is liable under this Agreement to pay upon written request of the Engineer-in-Charge, failing which such costs, charges, damages or expenses shall be deducted by IREL from any money due or becoming due by IREL to the Agency under this Agreement or any other Agreement failing which such amounts shall be considered as debt from the Agency to IREL and shall be recoverable accordingly.
- Liquidated Damages to be deducted shall be adjusted in the current invoice or next following invoice raised, as may be applicable;
- Agency shall give an undertaking in non-judicial stamp paper that it shall not have any further claim from IREL after the payment of final bill. In the event of acceptance by the Agency of the final bill in full and final settlement of Agreement, the Agreement shall be deemed to have come to an end and there after the Agency shall be stopped from raising any dispute whatsoever of the said Agreement. Submission of conditional acceptance/undertaking by the Agency shall render the final bill (along with other dues) pending, for which the Agency shall be solely responsible;
- Taxes and Duties : The amount of Goods and Services Tax (GST) as applicable/assessed on the Agreement Value under this Agreement shall be paid separately by IREL; however, in case of delay in submission of GST by Agency to relevant tax Draft Agreement for to install a Pre HUS facility consists installation of new Electrical substation, feeding bunker, de sliming system and spiral separator for upgradation of HM is raw sand prior to existing HUS for increasing the throughput of HUS to 200 tph on EPC basis authority IREL shall have the right to withhold further payment of GST until the GST submission is regularized by the agency;
- It shall be sole responsibility of the Agency to ensure that all kinds of taxes/duties/levies are deposited by it, in time and in the prescribed manner, with the concerned taxation authorities and IREL shall not bear any responsibility, whatsoever, with regard to non/delayed payment of taxes/duties/levies by the Agency to the concerned taxation authorities;
- In case the Government subsequent to the Bid Due Date imposes any new tax, duty or levy, the same shall be reimbursed, if applicable, on production of relevant statutory documentary evidence. Further, in case of variation (increase/decrease) in the rate of tax, duty or levy after the Effective Date of Agreement, the said varied rate shall be reimbursed/recovered on production of relevant statutory documentary evidence;
- In case of waiver/concession of statutory taxes and duties admissible under law/act., for which Agency shall make sincere efforts, the benefit of the same shall be passed on to IREL.
- Any increase/decrease in taxes and duties on account of statutory increase/decrease/fresh imposition of any duty or taxes which take place during the extended period of Agreement shall be admissible/availed of, provided it is admissible against these levies;  
Agency shall make sincere efforts, the benefit of the same shall be passed on to IREL.
- The Agency shall comply with the provisions of the Goods and Services Tax (GST) laws and rules framed their under and the orders or instructions issued in this behalf by the appropriate authorities. The Agency shall also make available the records to the appropriate taxation authorities as and when required;
- The Agency shall bear all kinds of tax/penalty/interest etc. imposed by taxation authorities for non- observance of the taxation laws and procedures and IREL shall not bear any liability or responsibility, whatsoever, in this regard;
- Tax deduction at source (TDS) shall be made towards income tax from all the invoices of the Agency at rates applicable as per income tax act and rules.

#### **Article 7 Liquidated Damages**

- In case of delay in achieving the handing over to IREL, Liquidated Damages as mentioned below shall be applicable
- Liquidated Damages (LD) shall be levied where reasons are attributable to Agency for delays in execution of this Agreement. LD shall be levied @0.5% per week or part thereof on the Agreement Value for each week of delay in achieving handing over subject to a maximum of 10 % of the total Agreement Value

#### **Article 8 Defects Liability**

- The Agency shall be responsible for all the Defects and deficiencies, except usual wear and tear in the Project or any Section thereof, till the expiry of a period of 1 (one) year commencing from the date of issue of taking over by IREL (the "Defects Liability Period").
- The Agency shall repair or rectify all Defects and deficiencies observed by IREL during the Defects Liability Period within a period of 15 (fifteen) days from the date of notice issued by IREL in this behalf, or within such reasonable period as may be determined by IREL at the request of the Agency, in accordance with Good Industry Practice.
- For the avoidance of doubt, any repair or rectification undertaken including any additional tests, shall be carried out by the Agency at its own risk and cost
- In the event that the Agency fails to repair or rectify such Defect or deficiency within the period specified, IREL shall be entitled to encash the Performance Bank Guarantee

#### **Article 9 Insurance**

- The Agency, at its sole cost and expense, shall continue to obtain and maintain all the construction insurance policies and operational insurance policies required to be taken in respect of the Plant or as may be necessary in accordance with the Prudent Operating Practices. The Agency shall ensure that IREL is named as an additional insured on all insurance policies with respect to third party liability insurance. Any failure by the Agency to obtain the insurance coverage or certificates of insurance as required, shall neither relieve the Agency of the insurance requirements set forth herein nor relieve or limit in any way the Agency's obligations and liabilities under any other provision of this Agreement;
- The under mentioned minimum coverage or such additional coverage as may reasonably be required, shall be maintained or caused to be maintained by the Agency throughout the Agreement
  - ♣ Workers Compensation and Employers General Liability Insurance
  - ♣ Builders All Risk Insurance Marine Cargo insurance (if required)
  - ♣ All Risk Property/Comprehensive Machinery Insurance
  - ♣ Third party Liability Insurance
- To the extent that the above insurance policies are available through Indian insurance companies, preference shall be given to using these companies.
- Notwithstanding any liability that may arise under this Agreement, any loss for which compensation is due to the Agency under this Clause, shall not be charged to IREL.
- The Agency shall cause its insurers or agents to provide IREL with certificates of insurance for required replacement policies or renewals evidencing the endorsements of policies, at least thirty (30) days prior to either termination or expiration of any policy hereunder.

#### **Article 10 Force Majeure**

- "Force Majeure" is an event beyond the control of Agency and not involving the Agency's fault or negligence and which is not foreseeable. Such events may include, but are not restricted to acts of IREL/ Agency either in its sovereign or contractual capacity, wars or revolution, hostility, acts of public enemy, civil commotion, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts and freight embargoes or any other event which IREL may deem fit to consider so. The decision about Force Majeure shall rest with IREL that shall be final and binding. Force Majeure clause has to be compulsorily embedded in the order;
- If there is delay in performance or other failures by the Agency to perform obligations under this Agreement due to event of a Force Majeure, the Agency shall not be held responsible for such delays/failures;
- If a Force Majeure situation arises, the Agency shall promptly notify IREL in writing of such conditions and the cause thereof within fifteen (15) days of occurrence of such event. Unless otherwise directed by IREL in writing, the Agency shall continue to perform its obligations under the Agreement as far as reasonable/practical and shall seek all

reasonable alternative means for performance not prevented by the Force Majeure event;

- If the performance in whole or in part or any obligation under this Agreement is prevented or delayed by any reason of Force Majeure for a period of exceeding sixty (60) days, IREL may at its option terminate the Agreement, without any financial repercussion on either side;
- Any delay or non-performance by either Party hereto caused by the occurrence of any event of Force Majeure shall not:
- constitute a default or breach of the Agreement;
- give rise to any claim for damages or additional cost or expense occasioned thereby; If and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure
- If and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure

#### **Article 11 Breach of Terms, Suspension and Termination**

- Should either Party here-to commit breach of any of the terms of this Agreement and in any such case the other Party, shall be entitled, without incurring any liability what-so-ever, to fore-bear from doing such acts or fulfilling such obligations as are to be done or fulfilled by it here under until the Party committing breach on terms herein makes good the said breach;

#### **Suspension**

- IREL may suspend the Works in whole or in part at any time by giving the Agency a notice in writing, if the Agency shall be in breach of this Agreement or shall fail to perform any of its obligations under this Agreement, including the carrying out of the Works; provided that such notice of suspension (i) shall specify the nature of the breach or failure, and (ii) shall provide an opportunity to the Agency to remedy such breach or failure within a period not exceeding 30 (thirty) days after receipt by the Agency of such notice of suspension.
- On receiving the notice of suspension from IREL, the Agency shall stop all such work, which IREL has directed to be suspended with immediate effect. IREL may at any time cancel the suspension notice for all or any part of suspended work by giving written notice to the Agency specifying the part of work to be resumed and the effective date of suspension withdrawal. The Agency shall resume the suspended work as expeditiously as possible after receipt of such withdrawal of suspension notice. In the event of suspension of work, IREL shall not be liable to the Agency for any damage and loss.

#### **Temporary Suspension:**

- IREL may at any time temporarily hold the progress of work being performed under the Agreement or any part thereof by notice in writing to the Agency. All the work so held shall be resumed by the Agency and extended suitably for the period amounting to temporary suspension based on a schedule as directed by IREL and mutually agreed upon between the Agency and IREL.
- IREL will not pay the Agency for any work, which is performed during such an interval of suspension, and IREL shall not be liable to the Agency for any damages or loss caused by such suspension of work.

#### **Event of Default**

- Event of Default means the Agency Event of Default or IREL Event of Default or both as the context may admit or require.

#### **Agency Event of Default**

- Any of the following events shall constitute an event of default by the Agency ("Agency Event of Default") unless such event has occurred as a result of IREL Event of Default or a Force Majeure event; a. the Agency fails to remedy any breach hereof or any failure in the performance of its obligations hereunder, as specified in a notice of suspension pursuant to Draft Agreement for procurement, supply, transportation, dismantling, erection and commissioning of pre HUS facility at chavara plant on EPC basis hereinabove, within 30 (thirty) days of receipt of such notice of suspension or within such further period as IREL may have subsequently granted in writing
  - a. The Agency fails to commence the Works within thirty (30) days from the Effective Date;

- b. The Agency fails to ensure that handing over of the Plant is achieved within eight (8) months of the Effective Date;
  - c. Any representation made or warranties given by the Agency under this Agreement is found to be false or misleading;
  - d. The transfer, pursuant to law of either (a) the rights and/or obligations of the Agency under the Agreement, or (b) all or material part of the Agency; except where such transfer in the reasonable financial and technical capability to perform, its material obligations under the Agreement;
  - e. The Agency suspends or abandons the Works without prior consent of IREL, provided that the Agency shall be deemed not to have suspended/ abandoned operation if such suspension/ abandonment was (i) as a result of Force Majeure Event and is only for the period such Force Majeure is continuing, or (ii) is on account of a breach of its obligations under this Agreement by IREL;
  - f. the Agency becomes insolvent or bankrupt or enters into any agreement with its creditors for relief of debt or take advantage of any law for the benefit of debtors or goes into liquidation or receivership whether compulsory or voluntary;
  - g. the Agency fails to comply with any final decision reached as a result of arbitration proceedings hereof;
  - h. the Agency submits to IREL a statement which has a material effect on the rights, obligations or interests of IREL and which the Agency knows to be false;
  - i. any document, information, data or statement submitted by the Agency in its Bid, based on which the Agency was considered eligible or successful, is found to be false, incorrect or misleading;
  - j. The Agency repudiates this Agreement or otherwise evidences an intention not to be bound by this Agreement.
- IREL Event of Default  
 The following events shall constitute events of default by IREL ("IREL Event of Default"), unless any such IREL Event of Default has occurred as a result of Agency Event of Default or due to a Force Majeure Event:
    - a. IREL is in breach of this Agreement and has failed to cure such breach within sixty (60) days of receipt of notice in that behalf from the Agency;
    - b. IREL repudiates this Agreement or otherwise evidences an intention not to be bound by this Agreement; Draft Agreement for procurement, supply, transportation, dismantling, erection and commissioning of pre HUS facility at chavara plant on EPC basis
    - c. Any representation made or warranties given by IREL under this Agreement is found to be false or misleading.

#### Recourse to Event of Default

- In case of an event of default, the following recourse is available to IREL and the Agency or both as the situation may warrant:
  - a. In case of occurrence of Event of Default mentioned above , the Agency shall have an option to ask for extension from IREL specifying the conditions that have restricted the Agency to complete the tasks in stipulated time. However, IREL's decision on said matter shall stand final as the case may be;
  - b. In case of occurrence of Event of Default mentioned in above Sub-clauses, IREL shall have the option to seek Termination of Agreement. The Termination shall be governed by relevant clauses of this Agreement
  - c. In case of occurrence of Event of Default mentioned in Sub-clauses, the Agency shall have an option to seek Termination of this Agreement. In seeking the Termination of the Agreement, Agency would have to clearly demonstrate that the Event of Default has occurred despite all possible steps taken by Agency to avoid Termination. The Parties shall mutually decide the modalities of Termination. Termination due to Agency Event of Default Agreement, upon the occurrence of an Agency Event of Default, IREL shall be entitled to terminate this Agreement by issuing a Termination Notice (the "Termination Notice") to the Agency, provided that before issuing the Termination Notice, IREL shall by a notice in writing inform the Agency of its intention to issue the Termination Notice (the "Preliminary Notice"). In case the underlying breach/default is not resolved within a period of sixty (60) days from the date of the Preliminary Notice, IREL shall be entitled, to terminate this Agreement by issuing the Termination Notice. Provided further, that IREL shall be entitled to forfeit the Security Deposit;



- Upon termination of this Agreement by notice of either Party to the other pursuant to Sub-clauses hereof, the Agency shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Works to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum.

#### Payment upon Termination

- Upon termination of this Agreement pursuant to Sub-clauses hereof, IREL shall make the following payments to the Agency (after offsetting against these payments any amount that may be due from the Agency to IREL):
- Draft Agreement for procurement, supply, transportation, dismantling, erection and commissioning of pre HUS facility at chavara plant on EPC basis
  - a. remuneration pursuant to Articles hereof for Works satisfactorily performed prior to the date of termination;

#### Disputes about Events of Termination`

If either Party disputes whether an event specified in Sub-clauses hereof has occurred, such Party may, within 30 (thirty) days after receipt of notice of termination from the other Party, refer the matter to arbitration pursuant to Sub-clauses, and this Agreement shall not be terminated on account of such event except in accordance with the terms of any resulting arbitral award.

### **Article 12 Resolution of Disputes**

#### Conciliation

- All disputes or difference whatsoever arising between the Parties out of or relating to the Agreement shall be settled through discussions between the Chairman & Managing Director of IREL and the Authorised signatory of the Agency (the "Conciliation"). In case an amicable settlement is not arrived at, the matter shall be settled through Arbitration by appointment of sole arbitrator as approved by CMD, IREL.
- Conciliation shall be resorted to prior to invoking Arbitration. The Arbitration clause is to be invoked by the Parties to the Agreement only on failure of Conciliation proceedings to amicably settle the disputes;

#### Arbitration.

- All disputes and differences of any kind what so ever arising out of or in connection with the Agreement or carrying out of the works (whether during the course of works or after their completion and whether before or after determination, abandonment or breach of Agreement) shall be referred to and settled by the person authorized and notified in writing by IREL who shall state his decision in writing. Such a decision may be in the form of a final certificate or otherwise, within a period of 30 days from the date of receipt of such reference to them.
- If the Agency 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 IREL, representative
- in accordance with the provisions of the Arbitration and Conciliation Act and the Rules framed there under from time to time, and for the time being in force. Such written appeals should however specify only those matters in dispute, which have been referred to such authorized person but not satisfied with the decision and the reasons leading to his dissatisfaction.
- If the period of 30 days has expired at any stage, stipulated in the preceding paras without any response from the Agency before such expiry, the Agency is deemed to have communicated his satisfaction to the decision of IREL at the relevant stage and all his rights of further appeal or as the case may be, adjudication are deemed to have been waived once and for all.
- The seat of arbitration will be at Chavara unit, Kollam and only the appropriate Court coming under High Court of Kerala will have jurisdiction to entertain all matters of litigation to the exclusion of all other courts.
- The Agency 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 to and / or referred to Arbitration. Draft Agreement for procurement, supply, transportation, dismantling, erection and commissioning of pre HUS

facility at chavara plant on EPC basis

#### Copyright and Intellectual Property rights

- As between the Parties, the Agency shall retain the copyright and other Intellectual Property rights in the Agency's Documents and other design documents made by (or on behalf of) the Agency. The Agency shall be deemed (by signing this Agreement) to give to IREL a non-terminable transferable non-exclusive royalty- free license to copy, use and communicate the Agency's Documents, including making and using modifications of them. This license shall:
  - apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
  - entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Agency' Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
  - in the case of Agency's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by this Agreement, including replacements of any computers supplied by the Agency:
- The Agency's Documents and other design documents made by (or on behalf of) the Agency shall not, without the Agency's consent, be used, copied or communicated to a third party by (or on behalf of) IREL for purposes other than those permitted under this Articles
- As between the Parties, IREL shall retain the copyright and other Intellectual Property rights in this Agreement and other documents made by (or on behalf of) IREL. The Agency may, at its cost, copy, use, and obtain communication of these documents for the purposes of this Agreement. They shall not, without IREL's consent, be copied, used or communicated to a third party by the agency, except as necessary for the purposes of the Agreement.

#### **Article 13 Security Deposit**

- Agency shall submit, within twenty one (21) days from the issuance of order or at the time of signing of Agreement, whichever is earlier, a Security Deposit (the "Security Deposit") in the form of a demand draft/ banker's cheque / bank guarantee, for an amount equal to five percent (5 %) of the Agreement Value .
- Bank guarantee shall be as per format given at Annexure, valid for twenty (20) months (2 month beyond the Duration of Agreement) from the date of issue with an additional claim period of ninety (90) days beyond expiry and shall be issued from any scheduled bank. Other instruments for Security Deposit in place of bank guarantee shall be in favour of "IREL (India) Limited" payable at Chavara,Kollam;
- In case of breach of any of the terms of this Agreement, IREL, at its sole discretion and without prejudice to its other rights, may encash the entire Security Deposit without assigning any reasons to the Agency;
- Extension of Security Deposit  
The Agency may initially provide the Security Deposit for a period of twenty (20) months; provided that it shall procure the extension of the validity of the Security Deposit, as necessary, at least 2 (two) months prior to the date of expiry thereof. Upon the Agency providing an extended Security Deposit, the previous Security Deposit shall be deemed to be released and IREL shall return the same to the Agency after submission of the extended Security Deposit.
- Forfeiture of Security Deposit The Security Deposit shall stand forfeited in favour of IREL, without any further notice to the Agency in the following circumstances:
  - In case of any failure whatsoever on the part of the Agency at any time during performance of his part of the Agreement including the extended periods of the Agreement, where notice is given and time for rectification allowed;
  - If the Agency indulges at any time in any subletting/ sub-contracting of any portion of the Works without approval of IREL;
  - If the Agency abandons the Agreement; Notwithstanding anything in the Agreement, the refund of the Security Deposit,

shall be subject to IREL's right to deduct its dues which are payable by the Agency to IREL;

- The Security Deposit shall be released (without any interest) only after completion of the Works, subsequent issuance of Final Acceptance Certificate by IREL to Agency and compliance of statutory provisions after deduction of any dues from the Agency arising out of any claim by IREL on the Agency.

#### **Article 14 Declaration of the Agency**

The Agency acknowledges that prior to the execution of this Agreement, the Agency has after a complete and careful examination made an independent evaluation of the Site conditions and all the information provided by IREL and has determined to the Agency's satisfaction the nature and extent of such difficulties, risks and hazards as are likely to arise or may be faced by the Agency in the course of performance of its obligations hereunder. The Agency shall not be entitled for any compensation, or extension in time, whatsoever on account of its failure to make such examination and evaluation;

The Agency does not, and shall not, at any time, claim ownership of the land and/or space provided for the purpose of installation of the Plants. The Agency is undertaking the Works for and on behalf of IREL.

#### **Article 15 ENGINEER-IN-CHARGE**

The Engineer-in-charge shall represent and act on behalf of IREL at all times during the currency of the Agreement. All notices, instructions, orders, certificates, approvals and all other communications under this Agreement shall be given by the Engineer-in-charge, except as herein otherwise provided.

The Engineer-in-charge shall have authority for

- general supervision, follow up of supply and direction of the Works
- direction to stop the Works whenever such stoppage may be necessary to ensure the proper execution of the Agreement
- To reject all Works and Materials which do not confirm to the Agreement.
- The Engineer-in-charge shall have no authority to relieve the Agency of any of his duties or obligations under this Agreement nor except as expressly provided here-inunder or elsewhere in the Agreement to order any work involving delay or any extra payment by IREL or to make any variation of or in the Works

## **PERFORMANCE GUARANTEE TEST**

### **1. General**

For the purpose of this Project, the Bidder shall carry out the Performance Guarantee test as per flowsheet(s) and this Clause.

#### **1.1 Performance guarantee tests shall be carried out on the following equipment only for 100% of the specified capacity and desired output.**

- De sliming Hydro-cyclone,
- Spirals,
- pumps

#### **1.2 Performance Guarantee Test (PGT) shall be carried out by the Selected Bidder in presence of the IREL only after the offered equipment supplied have operated satisfactorily as per the operating parameters given in the technical specification.**

#### **1.3 For each equipment, load test shall be carried out for 100% of the rated capacities for a minimum period of five days for minimum duration of 8 hours/day. The hours of load test will be taken in to account only if the plant has run for a minimum of 4 hours at a stretch. This is applicable unless otherwise specifically not mentioned in the technical specification.**

#### **1.4 During operations of the equipment at no load and at full load, performance of all the drive shall be checked in respect of current drawn by the motors, temperatures rise, vibrations, gear box noise and its heating, bearing heating etc. with respective rated values.**

#### **1.5 The Electrical & automation system along with all its auxiliaries installed under the subject package is deemed to have cleared the PG test if performance of the equipment and system and subsystem is found satisfactory.**

#### **1.6 The Selected Bidder shall submit to the IREL a mutually agreed upon Procedural Protocol with details of the Performance Guarantee (PG) Test, PG Test Procedures and PG Test Schedules for the demonstration of Performance Guarantee.**

#### **1.7 Supervision and responsibility for PGT shall lie with the Selected Bidder.**

#### **1.8 During the PG test, if there are interruptions because of the reasons attributable to IREL, the duration of PG test shall be extended by the duration of interruptions to enable PG test for 3 (three) days. However, if during the test runs, there is an interruption exceeding 1 hours due to reasons attributable to the Selected Bidder, eg. Equipment breakdown, resource mobilization etc. the PG test will be discontinued. The PG test shall be repeated by the Selected Bidder on mutually decided date by both the parties.**

#### **1.9 If even with two repetitive tests, the performance values are not reached for reasons attributable to Selected Bidder, he shall undertake at his own cost such modification or replacement as are considered necessary to obtain the performance values stipulated in this ToR & guaranteed by him. The responsibility to demonstrate performance guarantee values shall continue to remain with the Selected Bidder till the PG parameters are successfully established.**

#### **1.10 PLANT SHUTDOWN**

- i. The Successful Bidder shall be granted 1 week shutdown of the plant during the implementation of the Works. The plant shutdown means, shut down of whole or any part of the plant effected at the written request of Successful Bidder.

#### **1.11 The typical grade of the feed material to be provided by IREL to pre-HUS, which is as follows:**

HM: 10-20% (guaranteed) (Consists of Ilmenite, Rutile, Zircon, Sillimanite & Rare earth bearing mineral)

Slime: 5 to 10% (Less than 45 micron)

#### 1.12 Performance Guarantee Parameters:

Output from pre HUS facility	Quantity	Grade
Pre HUS facility throughput, tph (dry basis)	200 tph (Minimum)	-
Pre HUS facility output, tph (dry basis)	--	Output contains <2% slime

#### 1.13 TRIAL RUN AND PERFORMANCE GUARANTEE TEST

##### 1.13.1 TRIAL RUN

- a. Trial run and Performance Guarantee shall be carried out as per the provisions of **RFP**.
- b. The Successful Bidder must supervise the operation of the plant for a period of 15 (fifteen) days and the plant must run at 80% (min.) of its rated capacity. During this period, the Successful Bidder must demonstrate the performance guarantee parameters at its rated capacity for 3 (three) consecutive days meeting the stipulated performance parameters.
- c. Trial run shall be done and samples drawn from various streams at intervals mutually agreed upon for assessment of maximum, minimum and average quantities.
- d. If a plant shutdown is done in between, the next sampling should start after 3 to 4 (three to four) hours of plant restart and continue for a minimum period of five days uninterrupted thereafter. Out of the above 15 (fifteen) days of operation any continuous period of operation of 3 (three) days at a stretch shall form the basis for Performance Test.
- e. At no point of time the trial run conducted for a period of less than 3 (three) days (72 hrs) at a stretch, will be considered as valid for Performance Test. In case of shut down or break-down of plant during a continuous operation of 72 hrs (3 days) for a period of eight hours or less, the operation shall be considered continuous.
- f. A maximum span of only 2 (two) such shut down / breakdown shall be allowed during trial period. In case of plant stoppages exceed 2 (two), the aforesaid Performance Test period of 72 hours shall be counted as fresh from start-up after third stoppage and shall be continued for performance evaluation over the 3 (three) days period as stipulated above.
- g. Interruptions to the 3 (three) day period that are not contributed to the Successful Bidder will not constitute a shutdown / breakdown and would not be counted under the conditions of Clause 1.13.1 d.
- h. A notified team of representatives from the Successful Bidder and IREL should record the observations in a bound paged register with comments on any abnormalities and sign with designation, date and time.

##### 1.13.2 PENALTY

- a. The Work will not be accepted if the Successful Bidder fails to achieve the performance guarantee parameters. In case of non-compliance of the above, the Successful Bidder will be given an opportunity to improve performance by modification etc at his own cost within a period of sixty (60) days, after conducting the initial demonstration. Even after the 60 days period, if the Successful Bidder is not able to demonstrate the Performance Guarantee parameters then the contract will be closed as per the terms and conditions of the Agreement.
- b. If the Successful Bidder fails to demonstrate the guaranteed parameters (throughput) in respect to the Plant and Machinery erected by the Successful Bidder, then the penalty for deviation over the guaranteed throughput will be recovered for such shortfall at the rate of Rs. 1 lakh for every shortfall of 1 TPH or fraction thereof of such short-fall will be imposed. If not reimbursed, the same will be deducted from the Successful Bidder's final payment or from any money due and/ or payable to Successful Bidder
- c. If the slime content is more compared to the guaranteed slime percentage, a penalty shall be levied as below:
  - i) For every 0.5% increase in Slime content of Pre HUS Output (Feed to HUS) from the minimum

guaranteed slime percentage an amount equivalent to 1% of total contract value will be deducted from the Successful Bidder's final payment or from any money due and/ or payable to Successful Bidder.

- d. The overall aggregate limit of Successful Bidder's liability towards penalty in connection with the performance of Works and LD shall not exceed 10% of the Contract Total Price.

## 2. PAYMENT TERMS

### 2.1 Engineering (as per the ToR)

5% of Total quoted Price 100% payment along with GST thereon will be released on submission of detailed design and engineering data for the facility and acceptance of the same by Engineer-in-Charge.

### 2.2 Civil works including supplies(10 % of the total quoted price)

- a) 90% pro-rate along with 100% GST thereon against progressive bills duly certified by Engineer-in-Charge.  
b) Balance 10% after final completion and acceptance of the total project by Engineer-in-Charge. (Retention Amount)

### 2.3 Supply, Erection and Commissioning(75% of the total quoted price) (Electrical Works, Mechanical Works, Others)

- a) 75% along with 100% GST thereon on supply (part-supply) and after satisfactory receipt and inspection of the material by Engineer-in-Charge.  
b) 20% after assembly of components, accessories, installation and commissioning of all supplied items.  
c) Balance 5% after final completion and acceptance of the total project by Engineer-in-Charge. (Retention Amount)

### 2.4 Trial run, Performance Guarantee Test & Handover of Facility (10% of the total quoted price)

- a) 100% payment along with GST thereon after completion of work in all aspects and acceptance thereof by Engineer-in-Charge and on submission of Performance Bank Guarantee for 10% of contract value valid up to the completion of Defect Liability Period (refer Article 8 of RFP) plus a claim period of 60 days.

## 3. Right to cancel / terminate the tender/contract:

- 3.1 IREL (India) limited reserves the right to Cancel or terminate tenders /Contract whatsoever without assigning any reason thereof.  
3.2 IREL (India) Limited Reserves the right to revise/modify/ add/ reduce the scope, either in whole or in part any of the clauses mentioned herein without assigning any reason thereof. This right includes right of bill of quantities.

## 4. Evaluation Criteria

Evaluation will be done on overall L1 basis based on the Price offered as per Price schedule

## 5. Award of Contract:

Order will be awarded to technically and commercially qualified bidder with lowest price on overall L1 basis.

## 6. Contact Officials:

	Name	Telephone	Email.id
1			

Email is the preferred mode of communication

कृते आई आर ई एल (इंडिया) लिमिटेड / For IREL (India) Limited

विभागाध्यक्ष (वाणिज्य) /HOD (Commercial)

**PRICE SCHEDULE**

Price should not be quoted in this format

Sl. No	Particulars	Cost of service in totality Lumpsum (1 Lot)
1	Procurement, supply, transportation, dismantling, erection and commissioning of Pre-HUS facility- for Lumpsum (1 Lot)	

The above rate is inclusive of GST

Evaluation criteria/Award of contract will be on L1 basis.

**Declaration:-**

1. I/We have fully read and under stood and completely satisfied myself / ourselves of the conditions set forth under the tender and accept the responsibility to carry out the work at the rates mentioned above.
2. I/We have studied the site situations & requirements and held discussions with all concerned regarding the terms and conditions of the tender and the rate quoted above by me /us is after taking into consideration of all aspects thereof.

Place:

Date:

Signature of Bidder

Name & Full address

### Planning and Designing in purview of Vulnerability Atlas of India

Vulnerability Atlas of India (VAI) is a comprehensive document which provides existing hazard scenario for the entire country and presents the digitized State/UT -wise hazard maps with respect to earthquakes, winds and floods for district-wise identification of vulnerable areas. It also includes additional digitized maps for thunderstorms, cyclones and landslides. The main purpose of this Atlas is its use for disaster preparedness and mitigation at policy planning and project formulation stage.

This Atlas is one of its kind single point source for the various stakeholders including policy makers, administrators, municipal commissioners, urban managers, engineers, architects, planners, public etc. to ascertain proneness of any city/location/site to multi-hazard which includes earthquakes, winds, floods, thunderstorms, cyclones and landslides. While project formulation, approvals and implementation of various urban housing, buildings and infrastructures schemes, this Atlas provides necessary information for risk analysis and hazard assessment.

The Vulnerability Atlas of India has been prepared by Building Materials and Technology Promotion Council under Ministry of Housing and Urban Affairs, Government of India and available at their website [www.bmtpc.org](http://www.bmtpc.org).

It is mandatory for the bidders to refer Vulnerability Atlas of India for multi-hazard risk assessment and include the relevant hazard proneness specific to project location while planning and designing the project in terms of:

- i) Seismic zone (II to V) for earthquakes
- ii) Wind velocity (Basic Wind Velocity: 55, 50, 47, 44, 39 & 33 m/s)
- iii) Area liable to floods and Probable max surge height
- iv) Thunderstorms history
- v) Number of cyclonic storms/ severe cyclonic storms and max sustained
- vi) Landslides incidences with Annual rainfall normal
- vii) District wise Probable Max. Precipitation



### **PROFORMA FOR BANK GUARANTEE FOR SECURITY DEPOSIT**

WHEREAS on or about the \_\_\_\_\_ day of \_\_\_\_\_ M/s \_\_\_\_\_ (Tenderer's name & address), having its registered office situated at \_\_\_\_\_ (Postal address) (herein after referred to as 'The Tenderer') entered into a contract bearing reference no. \_\_\_\_\_ dtd. \_\_\_\_\_ with \_\_\_\_\_ (Chavara 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 SavarkarMarg, Prabhadevi, Mumbai – 400 028, India (herein after referred to as IREL (India) Limited), for \_\_\_\_\_ (details of order) (herein after referred to as 'The Contract').

AND WHEREAS under the terms and conditions of the contract the tenderer is required to keep with IREL (India) Limited a security deposit of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) or submit a Bank Guarantee in lieu of cash deposit for the fulfillment of the terms and conditions of the contract, and whereas the supplier has chosen to submit a Bank Guarantee.

We \_\_\_\_\_ Bank do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from IREL (India) Limited stating that the amount claimed is due by way of loss or damage caused to or that would be caused to or suffered by IREL (India) Limited by reason of breach of any of the terms and conditions of the said contract. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. The payment will be released within three working days from the date of demand for payment.

We undertake to pay to IREL (India) Limited any money so demanded notwithstanding any dispute or disputes raised by the tenderer in any suit or proceeding pending before any court or tribunal relating thereto, our liability under these present being absolute and unequivocal.

The payment so made by us under this guarantee shall be valid discharge of our liability for payment thereunder and the tenderer shall have no claim against us for making such payment.

We \_\_\_\_\_ Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of IREL (India) Limited under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till IREL (India) Limited certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said tenderer and accordingly discharges this Guarantee. Our Guarantee shall remain in force until \_\_\_\_\_ and unless a demand or claim under this guarantee is made on us in writing within three months from the expiry of the Guarantee period, we shall be discharged from all liability under this Guarantee thereafter.

We \_\_\_\_\_ Bank, further agree that IREL (India) Limited 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 said Agreement or to extent time of performance by the said tenderer from time to time or to postpone for any time or from time to time any of the powers exercisable by IREL (India) Limited against the said tenderer and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contract or for any forbearance, act or omission on the part of IREL (India) Limited or any indulgence by IREL (India) Limited to the said tenderer or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Consultant.

We \_\_\_\_\_ Bank lastly undertakes not to revoke this guarantee during its currency except with the previous consent of IREL (India) Limited in writing. 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