



**Request for Proposal (RFP)  
for  
Operation & Maintenance**

**of**

**GNAL's 2x65 MW Coal/Lignite based Captive Power Plant  
&  
GACL's 1X65 MW Coal/ Lignite based Captive Power Plant**

**At**

**D II/9 Dahej, Dist. Bharuch**

**Tender Enquiry Reference No:  
GNAL/CPP/O&M/2020/RFP dated 28.08.2020**

**Issued by  
GACL-NALCO Alkalies and Chemicals Private Limited**

**August 2020**

## Disclaimer

- 1. GACL-NALCO Alkalies and Chemicals Private Limited (GNAL) and Gujarat Alkalies & Chemicals Ltd. (GACL) , (Herein after referred jointly or Individually as The Owner), has prepared this document to invite qualified bidders to submit a Proposal for assisting in Operation and Maintenance(O&M) of Coal/ Lignite based captive power plants of 2x65MW capacity and 1X65 MW capacity ( under finalization) of GNAL and GACL at Plot D-II/9/1 & D-II/9/2 and Plot D-II/9 respectively near Village Rahiyad, Tal Vagra, District Bharuch Gujarat, India.*
- 2. While the Owner has taken due care in the preparation of information contained herein, neither the Owner, its Directors, employees or its advisors providing assistance to the Owner gives any warranty or make any representations, expressed or implied, as to the completeness and for purpose of accuracy of the information contained in this document or any information which may be provided in connection therewith. The information contained herein is not intended to be exhaustive. The Interested parties (the Bidders) are expected to make their own enquiries & due diligence. The bidders must confirm in writing that they have done so. They are advised not to completely rely only on the information provided in the RFP document in submitting their response. The information provided here is non-binding to the Owner, its Directors, employees and its advisors providing assistance to the Owner. The Owner reserves the right not to proceed with the initiative/ proposal as well as the right not to discuss the initiative/ proposal further with any bidder.*
- 3. No reimbursement of costs or expenses of any type whatsoever will be paid to bidders or any other persons, or entities expressing interest in the initiative for purpose of submitting an RFP response and to this end, no bidder shall have any claim against The Owner, its Directors, employees or its advisors providing assistance to the Owner, arising out of any matter relating to this RFP document of any nature whatsoever whether or not any circumstances arising as a result of such claim is based on any act or omission by the Owner, its Directors, employees or its advisors providing assistance to the Owner whatsoever and/or the content of this RFP. The Owner 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.*

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## Chapter 1

### 1.1 Invitation for Bids (IFB)

- A. **GACL-NALCO Alkalies and Chemicals Private Limited**, (hereinafter called 'GNAL'), is a joint venture company of Gujarat Alkalies and Chemicals Limited (GACL), (a Company promoted by Government of Gujarat) and National Aluminium Company Limited (A Government of India Navratna Company). GNAL is setting up a 2x65 MW Captive Power Plant with CFBC technology (GNAL's CPP) catering to meet the power, steam and utilities requirement of its own 800 TPD Caustic Soda plant and GACL's 315 TPD Chloromethane plant located adjacent to each other at the same site.
- B. GACL is also setting up a 1X 65 MW captive power plant (GACL's CPP) at the same site. GACL's CPP will share many facilities, notably fuel feeding system and limestone primary crushing system of GNAL's CPP.
- C. GNAL and GACL (herein after referred as the Owner, Jointly or individually) intend to engage the services of a reputed Operation and Maintenance Contractor/operator (The O & M Operator) to assist it in management of the entire pre-commissioning; commissioning and comprehensive Operation & Maintenance (O & M) of GNAL's CPP, at Plot D-II/9, Dahej, Dist: Bharuch, Gujarat, India.
- D. GACL's CPP plant will also be offered to the successful bidder for the O & M of GNAL's CPP in due course when this unit would be going for pre-commissioning and commissioning phase, and will become operational.
- E. The O & M Operator must have relevant experience in the pre-commissioning, commissioning, operation and maintenance in Coal / Lignite based Thermal power plants, preferably with CFBC based technology and having its executives, managers, engineers and other technical personnel with relevant experience and first-hand knowledge of managing Operations and Maintenance activities of such plant/s. It would be the sole responsibility of the O&M operator to engage competent staff and operate the plant efficiently to achieve the targets as set forth by the Owner. The plant will be operated with the highest level of safety with all statutory compliances and as per guidelines given in the operation and maintenance manual and other similar documents/manuals provided by the Process Designers, Plant and equipment suppliers, Original equipment suppliers etc. and the Owner. All these will take place under the guidance and directions of the competent management team of the Owner. For the purpose of this RFP, the term "Parties" shall mean the Owner and the O&M Contractor collectively, and the term "Party" shall mean either the Owner or the O&M Contractor, as the context may require.
- F. The 1 x 65 MW CPP (coal / lignite based unit) of GACL is in the tendering stage, which is expected to be completed for finalization of order placement by end October 2020.

- G. The Owner hereby invites proposal from the prospective bidders, for assistance in pre-commissioning, commissioning and Operation and Maintenance of the 2 x 65 MW and 1 x 65 MW Captive Power plants (CFBC) as explained in this document.
- H. M/s Thermax Limited is the Engineering, Procurement and Construction (EPC) contractor for the Boiler, Turbine and Generator (BTG) and M/s ISGEC Heavy Engineering Limited has been engaged for the Balance of Plant (BOP) for GNAL's CPP. The total scope of Engineering, supply, erection, testing and commissioning of the two packages is in the scope of the above vendors. Both the vendors are getting their major equipment's from suppliers in India.
- I. The O&M operator is required to provide pre-commissioning, commissioning and Operations and Maintenance services, for the GNAL's CPP and GACL's CPP which include handling of entire control room activities, Operations & Maintenance activities of the entire plant, Safety and Environment services, Quality assurance, and compliance to Statutory and legal requirements. The O & M services include, but not limited to, the operation and maintenance of critical utilities like steam, raw water, DM water, compressed air for instrumentation, fire water etc., as well as O&M services for fire-fighting system through fire tenders for the complete complex and as per statutory norms and the hydrant lines within the CPP terminal. The O & M operator shall provide utilities to the chemical plants of the Owner located adjacent to the GNAL's CPP under its O & M services. The plant should be maintained in a healthy condition through scheduled preventive maintenance to achieve maximum plant availability factor. The O&M Services also include maintenance required during the planned shut-downs. The Owner will provide the raw materials, auxiliary materials, spares and consumables. More details on the routine activities required to be carried out and estimated manpower typically deployed in different areas for a similar plant are provided in section 5.51.
- J. The Owner will engage other specific agencies for Offsite facilities like Fire Safety, security at the site, Surveillance through CCTV, Occupational Health Center, Centralized Stores, Centralized Control Room for Surveillance purpose etc.
- K. For critical equipment, instrumentation and other special items it shall be required to execute /tie up for Non -comprehensive Annual Maintenance Contracts (AMCs) with the respective Original Equipment Manufacturer (OEM) or with their authorized service providers. The O&M operator, in addition to deploying the experienced personnel on various equipment, it may, in consultation with the Owner, tie up comprehensive AMC (Service part only) / Annual Rate Contract (ARC) for the O& M services. This will be on felt need basis. Some of the specialized equipment /areas may include but not limited to, Turbine and auxiliaries, VFD, DCS, CEMS, SWAS, UPS, compressors and chillers, refractory works, on line sealing, hot washing of switchyard, chemical cleaning of coolers, chemical treatment of water, pest control, EPABX, and others, as may be required, at a later date. In case it is observed that the O&M operator is not able to maintain any equipment as per the requirement, the Owner at its discretion may mobilize the OEM/other specialized agency at the risk and cost of the O&M operator for necessary rectification/maintenance/advice etc.

- L. The period of the contract will be five years from the date of a taking over the plant for O&M services after the pre-commissioning and commissioning activities are over. The agreement, at the Owner's discretion on satisfactory completion of this period, may be extended on mutual agreement for a period of further Five years or any other period. An estimated period of six months for pre-commissioning and commissioning support may precede the commencement of the first contract period.
- M. On selection, the successful bidder will depute its qualified engineers, specialists and technicians etc. in each of the requisite areas along with nominated plant manager during the pre-commissioning and commissioning period to assist the Owner in ensuring that the EPC contractors deliver the power plant and supporting facilities as per the requirements under the EPC Contracts. Thereafter, the O&M contractor is to take-over the O&M of the entire power plant and ensure delivery of steam, power and other utilities according to the requirements of the Owner at its other plants. Similar requirements are envisaged for 1 x 65 MW CPP of GACL, where required manpower, other than the shared manpower, will be mobilized for the pre commissioning, commissioning and O&M of the unit.
- N. Most of the power of the GNAL's CPP will be utilized in-house by GNAL. The surplus power if any will be either sent to the DGVCL grid or to the GACL's adjacent plant or sold through the power exchanges. Power from GACL's CPP shall be wheeled into the grid. The O&M Operator shall be responsible for all the activities related to the export of power including coordination with SLDC and strictly observing the grid discipline.
- O. Bidders are required to adhere to the instructions and guidelines as provided in this RFP. Bidders may contact and visit the site at mutual convenience before submission of bid, if not done already.
- P. This document is issued to a set of selected Bidders who we believe fulfil the required criteria. The Bidder should have the following experience and should meet the requirements mentioned hereunder, which will need to be substantiated by submission of necessary documents:
- a) Operation and maintenance services, including control room operations of a minimum 3 x 260 TPH CFBC boilers and 65 MW steam extraction turbine with all auxiliary systems and supplying process utilities like steam, compressed air, water etc. at one location for a continuous period of minimum 3 (three) years;
  - b) The turnover of at least INR 100 crores, and have earned profit before tax in at least 3 (three) years out of last 5 years.
  - c) The Bidder should confirm by an affirmative statement that it has a long-term interest in carrying out such type of work in India particularly in Captive Power plants preferably CFBC based Boilers.

- d) The Bidder should have a satisfactory record and experience of having kept the Captive power plant in successful, reliable, continuous service for the entire term of its contract. Details in this respect must be provided by the Bidder/s and substantiated by documentary proof, such as client certificates ,client contact details like Official Email Id and Mobile numbers etc. Owner should be able to contact the other clients of the Bidder for competency feedback which would be critical for consideration of the qualification of the bidder.
- e) Bidder should have knowledge of operation of Plant Maintenance Module and Materials Management Modules of SAP. Knowledge with regard to Plant Maintenance Module will include creation/release/closure of maintenance notification, maintenance work order, reports generation, maintenance planning, etc. As regards Materials Management module, the Bidder should have knowledge about receipt/issue/return/inspection of materials, planning of materials requirement and reports generation, etc.
- f) Bidder shall demonstrate to the satisfaction of the Owner through proper documentation his knowledge and experience of safety & environment, regulatory and compliance aspects from his previously handled operations of power plant and utilities management
- g) On a specific request, some of the criteria, as listed above, may be relaxed provided the bidder submits a plan to manage the O&M activities under the contract to the satisfaction of the Owner. Making any concessions on the requirements will be at the sole discretion of the Owner. For this, bidder should include in his mitigation plan, the details of resources he would be deploying, on long-term basis, including senior level personnel having requisite experience. The CVs of such personnel should be provided with the technical offer to the Owner. The award of job would be subject to engaging such competent personnel by the bidder. The information submitted to the Owner will be kept in commercial confidence and not shared with anyone in routine.

## 1.2 Definitions

The following words and expressions shall have the meanings hereby assigned to them:

- i. **“Abandonment”** means the voluntary cessation of performance of obligations by the O&M Operator in respect of the whole or any material part of the Contract, for reasons other than a Force Majeure Event, for a continuous period of 30 (thirty) days. For this purpose, but without limitation to the generality of the foregoing, the O&M Operator shall be deemed to have abandoned the Contract if it shall make or fail to make a decision, or shall take or fail to take any action clearly indicating the cessation of performance by it of its obligations in respect of the whole or any material part of the

Contract for reasons other than a Force Majeure Event, for a continuous period of 30 (thirty) days. The terms “**Abandon**” and “**Abandoned**” shall be construed accordingly.

- ii. “**Adjudicator**” means the person or persons named to make a decision on or to settle any dispute or difference between the Owner and the Contractor referred to him or her by the Parties.
- iii. “**Change in Law**” shall mean the occurrence of any of the following after the date of execution of the Contract:
  - a. the enactment or issuance of any new Law, statute, rule, regulation, ordinance, order, decree, injunction, governmental authorization, agreement, decision, instruction, direction or notification of a Competent Authority or court or tribunal of competent jurisdiction including, without limitation, any law, statute, rule, regulation, ordinance, order, decree, injunction, agreement, decision, requirement, instruction, direction or notification relating to any existing taxes, import fees or assessments, import restrictions or any expropriation, compulsory acquisition or government taking;
  - b. any amendment, extension, appeal, modification or authoritative change in interpretation or application or repeal of any existing Law during the existence of the Contract.
  - c. any change of conditions to any Relevant Consent.
- iv. “**CLM**” means the Chloromethane Plant of GACL located at the same site as GNAL.
- v. “**Commissioning**”: **Commissioning activities** consist of activities associated with running or operating the CP Plant and include operating adjustments necessary for satisfactory operation of the CP Plant or part thereof.
- vi. **Comprehensive Operation and maintenance** includes involves the provision of integrated O&M services like plant operations and monitoring, supervision, remote controls, management of all maintenance activities, interaction with grid operators, regulators, asset Managers and asset Owners, and the preparation and provision of regular operations, maintenance and reporting performed by experienced and qualified staff during operational hours for 365 days/year and as per the scope as given later in the RFP. This will not include provisions of spares, consumables and as mentioned in the RFP which will be in the scope of the owner.
- vii. “**Competent Authority**” means any national, state, local, regional, territorial or municipal government or quasi government, ministry, governmental department, commission, board, bureau, agency, instrumentality, executive, legislative, judicial or quasi-judicial or administrative body, having jurisdiction over the CP Plant, the Owner or the Contractor.

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- viii. **“Contract”** means the Contract Agreement entered into between the Owner and the Contractor, together with the Contract Documents referred to therein; they shall constitute the Contract and the term “the Contract or Agreement” shall in all such documents be construed accordingly.
- ix. **“Contract Documents”** means the documents forming Contract Agreement (including any amendments thereto).
- x. **“Contractor’s Personnel”** shall mean each individual and the collective group of Contractor’s employees and their respective employees, licensees, invitees, agents and representatives, who are provided and/or utilized by the O&M Contractor for the performance of the Work.
- xi. **“Contract Price”** shall have the meaning given to such term in Clause 5.23.1.
- xii. **“CPP”** or **“CP Plant”** means the 2x65MW Captive Power Plant of GNAL & 1 x 65 MW CPP of GACL which is located at the same site as GNAL.
- xiii. **“CSP”** or **“CS Plant”** means the 800 TPD Caustic Soda plant which is the process plant of GNAL.
- xiv. **“Day”** means calendar day of the Gregorian Calendar.
- xv. **“DGVCL”** means Dakshin Gujarat Vij Company Limited” who is the Power distribution company for the region GNAL is being set up.
- xvi. **“Environmental Standards”** means all Applicable Laws, codes, rules and regulations relating to: (a) pollution, contamination, clean-up, protection and reclamation of the environment; (b) health or safety, including, without limitation, the exposure of employees or other Persons to any Hazardous Material; (c) the release or threatened release of any Hazardous Material; (d) the management of any Hazardous Material, including, without limitation, the manufacture, generation, formulation, processing, labeling, distribution, introduction into commerce, registration, use, treatment, handling, storage, disposal of material, the discharge of chemicals, gases or other substances or material into the environment, the presence of such material chemicals, gases or other substances in or on the Facility, transportation, reuse, recycling or reclamation of any Hazardous Material; and (e) any governmental approval issued by a Competent Authority with respect to the foregoing.
- xvii. **“Facilities”** means the CP Plant to be operated and maintained by the Contractor under the Contract and such other works as may be necessary for successful operation of the CP Plant in accordance with the specified technical and operational parameters.
- xviii. **“GACL”** means Gujarat Alkalies and Chemicals Limited who is one of the promoter companies of GNAL and the company who is setting up 1X 65 MW Power Plant.

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- xix. “GNAL” means GACL-NALCO Alkalies and Chemicals Pvt. Ltd and the company who is setting up 2X65 MW Coal based Captive power plant and 800 TPD caustic soda plant.
- xx. “**GCC**” means the General Conditions of Contract hereof.
- xxi. **Hazardous Material**” means (i) any element, compound, substance, chemical or biological derivative, radiation, noise, vibration, material or combination thereof which by reason of its composition or characteristics is defined in Applicable Law as a hazardous material, or (ii) any other material which any Competent Authority shall determine from time to time is harmful, toxic, or dangerous, or otherwise ineligible for handling, storage or disposal by unregulated means.
- xxii. “**Laws** means the substantive or procedural laws of any government agency or legislature, national, state or local, in India, including all acts, approvals, rules, notifications, statutes, orders, decrees, injunctions, instructions having force of law, governmental authorizations, regulations of any Competent Authority, legislature or statutory authority having jurisdiction over the matter in question.
- xxiii. “**Major Sub-Contract**” means any sub-contract entered between the Contractor and a Sub-Contractor, in relation to the Facilities, for an annual value exceeding 5% percent of the Annual O&M Fees of the Contractor or Rs. 1.0 Crore per year whichever is lower and the term “Major Sub-Contractor” shall refer to such Sub-Contractor who has entered into a Contract with the O&M Contractor.
- xxiv. “**Month**” means calendar month of the Gregorian Calendar.
- xxv. “**NALCO**” means National Aluminum Company Limited who is one of the promotor companies of GNAL.
- xxvi. “**O&M Fee**” means the annual amount quoted by the Bidder in its Price Bid, accepted by GNAL after negotiation.
- xxvii. “**Operator**” or “**Contractor**” means the person(s) whose bid to perform the Contract has been accepted by the Owner and is named as such in the Contract Agreement, and includes the legal successors or permitted assigns of the Operator/Contractor. “**O&M Contractor**” and “**O&M Operator**” would be one and the same thing for interpretation of this contract document.
- xxviii. “**Operator/Contractor/O&M Operator’s Representative**” means any person nominated by the Operator/Contractor/O&M Operator and approved by the Owner.

- xxix. **“Operating Tenure”** shall mean the time period for which the CP Plant shall be operated by the Contractor.
- xxx. **“the Owner”** shall means GNAL and GACL (Jointly or individually) its successors and permitted assigns.
- xxxi. **“Owner's Representative”** / “Engineer In-Charge” is the authorized representative who shall act on behalf of the Owner for conducting defined duties / responsibilities / authority.
- xxxii. **“Pre-commissioning”** - The **Pre-commissioning** is one of the construction activities that involves the verification of functional operability of elements within the system to achieve a state of readiness for the **Commissioning** and Start-up operation.
- xxxiii. **“Prudent Industry Practice”** means those practices, methods, techniques and standards, as updated from time to time and the exercise of that degree of skill, diligence and prudence that are generally accepted for use in the international electric utility industry which would reasonably and ordinarily be expected from a skilled and experienced O&M Contractor.
- xxxiv. **“Relevant Consent”** means any consent, license, approval, registration, permit, sanction or other authorization of any nature which is required to be obtained, maintained and complied with under the Law for undertaking, performing or enforcing the obligations contemplated by the Contract or otherwise in connection with the equipment and the CP Plant.
- xxxv. **“SCC”** means the Special Conditions of Contract.
- xxxvi. **“Site”** means the land and other places upon which the Facilities are installed, and such other land or places as may be specified in the Contract as forming part of the Site.
- xxxvii. **“Spares”** shall mean the Mandatory Spare, Recommended Spares and Critical and other Spares required for the operation and maintenance of the Facilities.
- xxxviii. **“Sub-Contractor”** means any person to whom execution of any part of the Facilities is sub-contracted directly or indirectly by the Contractor, and includes its legal successors or permitted assigns.
- xxxix. **“Term”** means the term of the Contract by a 5-year Operating Tenure which is extendable for further five years, as mutually agreed between the Owner and O&M Operator, based on the performance and review by GNAL.

- xl. **"Third party"** shall mean any party other than Owner, Owner's Personnel, Contractor, Contractor's Personnel, all Subcontractors appointed by Contractor either directly or indirectly and their respective employees, representatives and agents.
- xli. **"Time of handover"** shall mean the time when the Operation and Maintenance services in part or in full has been taken over by the O&M Contractor/Operator/O&M Operator from the Owner and the Contractor is bound to achieve the predefined targets from the facilities as required by the Owner.
- xlii. **"Willful Misconduct"** means, with respect to any Party an intentional and conscious, or reckless, disregard by such Party of any Laws of India, any common duty of care or any provision of the Contract or any other document prepared pursuant to the Contract and relating to the performance by such Party of its obligations thereunder.

### 1.3 Scope of Services and Terms of Contract

#### 1.3.1 Scope of Services

The O&M Operator's obligations cover satisfactory performance in rendering the services required for pre-commissioning & commissioning support and the O&M services as per the contract to meet the performance targets. Such services shall include, but are not limited to, the provision of control room operations and other related O&M services; the supply and monitoring of staff and labour, procurement of relevant software for Predictive and preventive maintenance, condition monitoring, monitoring Captive Power Plant Performance, Optimization and Diagnostics and tools & tackles other than those provided by OEM, as required for complete O&M services at the facility.

As far as possible manual operation in O&M would be kept at minimal by bringing in automation, which could be discussed with the selected O&M operator as and when such need is identified. This may also include all such activities that are required for day-to-day O&M of the CP Plant including but not limited to Scheduled maintenance work, Unscheduled (breakdown) maintenance and preventive & predictive maintenance work and all other allied activities as may be required for smooth functioning.

The O&M Operator shall organize and deploy a team to provide various services listed below to operate and maintain the CP Plant. These are illustrative but not exhaustive in nature:

- a. Provide pre-commissioning and commissioning support by assisting the Owner in commissioning of the GNAL's CPP plant and GACL's CPP plant from the date of mobilization till achieving synchronization of each unit. , including the achievement of Commercial Operation Date (COD), Performance Guarantee (PG) Test and further stabilization of Units.
- b. Manage and supply the utilities to CPP and supply the common utilities like steam, power, DM water, cooling water, compressed air, Fire hydrant water etc. to the process plant of the Owner in the same campus as per quantum and quality required

- c. Operate and maintain the plant to the requirements of the instructions prepared pursuant to the O&M contract. This may also include all such activities that are required for day-to-day O&M of the CP Plant including but not limited to Scheduled maintenance work, Unscheduled (breakdown) maintenance and preventive & predictive maintenance work and all other allied activities as may be required for smooth functioning.
- d. Prepare / update operation and maintenance instructions and maintenance schedules to a standard which will give the essential guidance to ensure that the plant is operated and maintained in such a way that gives effect to the manufacturers' instructions and helps the plant in optimizing its technical and commercial performance
- e. Operate and maintain the plant to the requirements of the instructions prepared pursuant to the O&M contract
- f. Ensure regular and pertinent training to the technical staff of the plant on technical and safety aspects.
- g. Undertake periodic performance tests on behalf of the Owner and report results to the Owner within reasonable time
- h. Recommend to the Owner any remedial action, which the O&M Operator considers necessary to maintain or improve performance or to correct any deficiencies revealed during plant operation or arising from inspection or analysis of test results provided that it would be at the Owner's sole discretion to accept such recommendation
- i. Maintain operational logs, operational & maintenance records, and a register of plant items and store all records relevant to availability throughout the term of the agreement.
- j. Operate such personnel policies so that operation and maintenance team remain motivated throughout the term,
- k. Supply and meet safety systems with a view to comply with applicable laws, and maintaining of high safety performance of an acceptable safety standard,
- l. Absorb Owners' values in a manner so as to maintain and ensure a public profile of the Owner as one that cares for the environment by responsible management of all activities. It shall assist the Owner in reporting the environmental performance to the authorities as required by the Licence / Environment Clearance or under any law,
- m. Carry out housekeeping and environmental care procedures and compliances,
- n. Plan the requirement of spares and major consumables judiciously and in advance with a view to ensure that plant performance is not jeopardised for lack of availability of spares and consumables and, at the same time, to ensure that undue inventory is not built up,
- o. Keep the staff aware and trained in fire, first-aid and emergency procedures, maintain adequate site based first aid and firefighting facilities and use the common fire tenders to help in emergencies in the Caustic Soda Plant, and in line with statutory requirements and the directions of the District administration,
- p. Promote good relations with the local community and with relevant local authorities,

- q. Run administrative systems which will provide accurate records of all technical parameters like Power Output, Station Heat Rate (SHR), Auxiliary Power Consumption (APC), Secondary Fuel Oil Consumption (SFOC), Plant Load Factor (PLF), Utility consumption, Coal / Lignite and Limestone consumption, Specific Water Consumption, plant records, stores, contracts and other matters as required
- r. Organise and manage contracted and subcontracted maintenance, repair and testing services as shall be required to carry out scheduled inspections, overhauls and major breakdown repairs, including demonstration of statutory overhauls for obtaining approval from the statutory bodies.
- s. Carry out the dispatch instructions set out in the PPA/power exchange/other power offtake arrangements/exports etc.
- t. Carryout the steam network management from steam production onwards up to the CPP battery limits.
- u. Operate & Maintain the fire tenders (2 numbers), including maintenance as per OEM recommendations, maintain all types of fire extinguishers, fire detection systems, hydrant systems for the complete site consisting of CPP, CSP and up to the battery limits of the CLM plant
- v. Operate & Maintain, including repairs, the surveillance systems, AAQMS, EPABX, PA systems etc
- w. Update the "as built" drawings considered significant for the operation and maintenance of the Power Project
- x. O&M operator to strictly follow the Grid Discipline and Assist the Owner in making 'Availability Declarations' and submitting invoices under the PPA/ other offtake arrangements
- y. Prepare and deliver to the consumers the invoices for steam and other utilities on behalf of the Owner.
- z. Maintain accounts, books, records and information systems relating to the operation and performance of the Power Plant, including running hours and number of starts to make the same available to The OWNER on reasonable notice
- aa. Conduct or attend and witness the reading and testing of the Meters and other such equipment required or permitted to be carried out or conducted pursuant to the prevailing statutory norms and execute required subsequent procedures. Statutory payments will be reimbursed by the Owner on submission of the official receipts etc.
- bb. Attend the meetings with regards to O&M services together with the Owner and/or with such other persons/agencies as the Owner may specify from time to time on reasonable notice at any location as specified by the owner at its own cost.
- cc. Prepare and submit the 'Progress Report' in accordance with O&M contract (Periodically – daily, weekly, fortnightly, monthly, quarterly, half yearly, yearly, etc.)
- dd. Comply with all statutory requirements and assist the Owner in reporting the same to statutory authorities. Statutory clearance/Renewal from IBR, CCOE, Electrical inspector, Inspectorate of Weights and Measures, GPCB, and other

statutory compliances are in Contractor's scope. All statutory fees to the statutory authorities will be paid by the Owner.

- ee. Manage and supply the utilities of the prescribed quality in the handover documents to CPP and supply the common utilities like steam, power, DM water, cooling water, compressed air, Fire hydrant water etc. to the process plant of the Owner in the same campus as per quantum and quality required. The details shall be provided in the handover document.

The above is not an exhaustive list of scope of services. The appointed O&M Operator needs to carry out all activities related to the complete O&M of GNAL and GACL's Power Plants at Dahej – Bharuch Power Plant.

The O&M shall provide inter alia the above services, in accordance with Laws and Prudent Industry Practices, and at its own cost and risk, without recourse to the Owner except as otherwise to be specified in the Contract to be entered into between Owner(s) and successful bidder (i.e. O& M Operator).

### **1.3.2 Time for Handover to O&M operator or his Takeover process**

The O&M Operator shall assist the Owner by providing and supervising necessary manpower, both skilled and unskilled, for carrying out the pre-commissioning and commissioning activities until the synchronization of the unit (including the period of the COD & PG Tests) and subsequently carry out O&M activities. The O&M Operator shall get familiarized with the power plant, resources, consumers of power & utilities as well as existing processes and constraints before the COD by deploying experienced personnel in the pre-commissioning and commissioning stage. Before the handing over the Plant to the O&M Operator, the Owner and the O&M Operator shall conduct a joint audit and record the major systems, equipment and assets being handed over. Both the parties before takeover process, after which the Operating Period will start, shall sign the records of joint audit. The fees for the O&M Operating period shall be payable from the date of take-over date by the O&M Operator.

### **1.3.3 Process of Handover after completion of the Contract**

At the end of agreement term of 5 (Five) years of the operating period or earlier (on account of termination), or after extension period if any, the Power Plant shall be handed over back to the Owner or its authorized representative in safe and healthy condition (with reasonable wear and tear) along with all special tools and tackles, spares & consumables (except those in the scope of the O&M operator and procured by them) in procession, all software as installed, all relevant plant data and details and all other such items either hardware or software. The contract will be closed, and balance dues cleared (if any) only after signing off the handover protocols as decided between the Owner and the O&M operator

### 1.3.4 Division of Responsibility

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
1.	Role	Owner- Handing over the complete plant and machineries and other units required for O & M of the plant	Complete Operation & Maintenance of the CP Plant/s as per scope defined
2.	Commissioning	Coordination between EPC Contractor/s & the O&M Operator	Pre-commissioning and Commissioning support to The Owner from date of mobilization at site till synchronization and O&M for achieving COD/PG Test, Stabilization of Units and thereafter
3.	Spares & Consumables	All major Spares and consumables will be procured by the Owner after due planning of procurement in advance as per the owner Procurement manual, these shall be issued to the contractor from the central stores.	The O&M Operator will plan in advance for the requirement of spares and consumables and get the approval of the owner. With prior approval of the Owner, the O & M operator may procure Minor spares/ consumable item that costs less than Rs 25000/- as a single purchase item on stand-alone basis. All such bills ( for consumables and spares if any) will be reimbursed along with monthly progressive bills. The services shall be in the scope of O & M operators
4.	Tools & Tackles	Tools & Tackles available with the Owner (as per clause 7.5) will be handed over to O&M Operator at the time of handover/ takeover by the O&M operator	To procure & maintain required Tools & Tackles other than the T&P with the Owner at the time of handover specified tools & tackles from the date of takeover
5.	Software for monitoring Power Plant Performance,	Owner will provide Plant Maintenance module in its existing SAP software.	Assist the Owner in developing and maintaining the SAP Plant Maintenance module based software. Software for the , monitoring

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
	Optimization and Diagnostics		<p>Power Plant Performance, Optimization and Diagnostics will have to be procured by the O&amp;M operator and should be compatible with the SAP versions installed in GNAL. The software package shall include scheduling and processes, Performance analysis of the plant including history of breakdowns, process disturbances among other relevant items. Interfacing with the plant equipment's through soft or hard connections will be in the scope of the O&amp;M contractor including extra hardware if any with prior approval of the OEM.</p> <p>The software with all licenses etc. will be the property of the Owner on termination of the contract. O&amp;M operator to hand over the same to the Owner in working condition with all data on termination or expiry of the contract.</p>
6.	OEM Manuals, Test Reports, etc.	OEM Manuals, Test Reports, etc. will be handed over to O&M Operator at the time of handover in soft or hard form as available.	O&M operator to maintain and preserve the same and return the same on expiry of the contract
7.	Human Resources	the Owner team as per the organogram for the coordination of smooth functioning	To provide adequate supervisory skilled, semi-skilled, unskilled personnel for pre-commissioning and commissioning activities from the date of mobilization till synchronization, and sufficient manpower as per organogram or as required whichever is

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
			<p>higher for the O&amp;M (including achieving PG test).            To provide adequate skilled O&amp;M staff and required unskilled manpower from the date of Synchronization till completion of term of agreement/ termination as per the agreement. Manpower needs would be jointly assessed. Payment for additions / deletions in the manpower will be made for each person/ employee as per the agreed rates at various levels.</p>
8.	Coal/Lignite & Limestone	Procurement and Supply of Coal/Lignite by trucks / dumpers at —Plant main gate. Owner will provide necessary hardware and software for entering necessary data in their existing SAP systems.	From the specified main entry in Power Plant managing of entire coal/lignite & Limestone logistics value chain (quality, quantity, logistics, handling, safe storage, including internal handling, weighing etc.) will be done by O&M agency as per SAP based systems provided by the Owner. The O&M operator to ensure trained SAP weigh bridge operators for the works. The representative/s of the Owner may witness the measurements at their decision/discretion. The O&M operator to ensure unloading of the material from trucks/dumpers by suitable means as applicable and proper stacking of the same as per norms in the respective yard
10.	Secondary Fuel	Procurement and Supply of Secondary Fuel up to Plant main gate	From main entry in Power Plant onwards after witnessing and certifying the quality and quantity received, Suitable

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
			Measurement will be done by O&M agency along with the Owner's store representative
11	Chemicals: 1.SODIUM HYDROXIDE (NAOH) 32% 2.HYDRO CHLORIC ACID (HCL) 3. SODIUM HYPO CHLORITE (NAOCL) 6%	The Owner will provide at the main gate through tankers/bags or at the terminal Point from the Caustic plant by the pipeline as the case may be.	Safe unloading / internal transfer through pipes, storage and handling of the chemicals. Measurement of quantity to be done by O&M representative in the presence of store representative of the Owner.
12	Water	Supply of water up to Water reservoir in Plot___, from GIDC Pumping station	O&M of complete Raw water system from the water reservoirs including help in emergency repairs to the GIDC water pipe line if required
13	DM water, Service & Fire water, Power, Compressed Air, steam, Condensate return, cooling water (supply and return), and other utilities.		O&M agency has to provide the CSP & CLM at defined terminal points besides supply to the power plant. The condensate return/ cooling water return will also have to be handled from the CLM and CSP as per design. Necessary records, metering of all supplied utilities need to be maintained which may also be used for billing purpose
14	Power Evacuation	--	Up to outgoing line terminals on gantry in 220kV Sub-Station in Power Plant, power to the input of the caustic soda plant, CLM plant and exports (through Grid)
15.	Ash	Disposal from Ash silo outlet onwards	Ash handling system up to ash hoppers and ash bed ash silo and fly ash silo. O&M of the ash unloading system installed in the silos will be in the scope of the bidder. The loading of ash for dispatch to the buyers,

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
			including quality check, weighing, preparation of required paper work etc. will be in the scope of the O&M operator. The O&M operator will have to make the necessary entries in the existing SAP system of GNAL.
15.	Security	Security of complete Power Plant premises	Coordination with Security Team for security of the Assets
16.	Statutory Clearances	Payment of statutory fees and official communication as an owner	O&M operator shall be responsible for obtaining all statutory clearances & all licenses/ calibrations as per statutory norms etc. Maintaining parameters as per statutory norms and assisting in periodic inspections as decided/conducted by the respective authorities.
17.	Effluents & Pollutants	Obtaining Initial Environment Clearance (EC) and Consent to Operate	O&M of ETP, STP as per requirements and Maintain effluents & pollutants levels as per statutory norms. Operation & Maintenance of the system, upload readings of emission of CEMS, Water etc. to GPCB & CPCB as per statutory norms
18.	Power sale	Power sale invoicing & interface with DGVCL, GACL etc.	Inputs to GNAL for raising power sale invoices to DGVCL/CSP/CLM/power exchange as the case may be. Power from GACL's CPP plant will be wheeled through the Grid.
19.	Maintenance of Power Plant Civil Structures & Buildings including STG Building, workshop, Admin	All Major maintenance activities including capital expenditure	Routine minor civil maintenance up to a limit of Rs. 25,000 per month on reimbursable basis to avoid major damages. (balance amount of the month will be

<b>Sr. No.</b>	<b>Description</b>	<b>Owner's SCOPE</b>	<b>O&amp;M Operator's SCOPE</b>
	Building, Stores and all Road repairs.		carried forward for use as and when required). On agreed rates, THE Owner may assign major tasks exceeding above limit to the O&M operator
20.	Weigh bridge, Power Plant Internal Roads & fencing / boundary wall (Complete)	Procurement and replacement	Complete Operation and maintenance. Certification as statutorily required of the weigh bridges and other similar equipment will be in the scope of the O&M operator. Necessary calibrations etc will be witnessed by the Owner's representative
21.	Landscaping, Trees & Green Belt	Landscaping design and provision of the selected species of plants, lawn and trees. Provision of necessary fertilizer etc	Ensuring provision of water for the maintenance at points as per the Owner within the boundary limits of the CPP. Daily maintenance and upkeep of the lawn, plants and trees will be in the scope of the O&M operator
22.	Power Plant Housekeeping		Housekeeping in Power plant, security and time office, weigh bridge the Owner area of administrative block, roads, work shop, drains and surrounding cleaning to be ensured & maintained as per norms by the O&M operator
23.	Plant Insurance	By the Owner & Waiver of Subrogation clause.	Inputs as and when required will be provided by the O&M operator during claims. The claims by the owner not considered admissible on account of reasons attributable to the O&M contractor and/or its representatives shall be to the account of the O&M Operator
24.	Plant Personnel Insurance	The Owner to insure its own employees	O&M Operator to insure all persons working in power plant on their behalf and to ensure that the manpower of

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
			all their sub-vendors are covered under insurance as per statutory norms
25	Canteen	The Owner would engage a AMC provider for managing the canteen where take-away services at a centralized or at any other place would be made available. The centralized dining place will be made available	Services on chargeable basis to O&M operator. Collection from a centralized place and distribution within the plant as necessary. A shared, centralized eating place shall be made available-to be used in staggered way together with other users.
26	Other Labor statutory provisions	Necessary Form-V/statutory documents from owner shall be provided <b>only</b> to the principal O & M Contractor	O&M operator to issue labor license covering all types of Labor, comply with all statutory provisions of the Labor Laws in India & Gujarat. O&M operator shall also ensure availability of Labour License to all their subcontractors.
27.	STG Overhauling	STG major Overhauling Expenditure (as recommended by OEM/TPI) by the Owner	Provision of experienced manpower to assist in carrying out STG Overhauling with Skilled and unskilled manpower under the supervision of OEM/other party appointed
28	Coal/ Lignite/ lime supply / other raw such material for the power plant	the Owner to Procure and supply	Handling the above material to be supplied to the GNAL and up to the bunkers and for GACL plant at the TP of the bunker of GNAL, O&M of THE OWNER basic equipment. Reporting stocks & consumption on daily basis
29	Start-up power, import power, back-up power	Payment of power bill	Complete coordination with Load Dispatch Center (LDC)
30	Laboratories	Provided as per contract with EPC vendors. All required Reagents under the scope of the Owner as	Lab equipment (electrical, instrumentation, mechanical, chemical) usage, maintenance, repair, calibration and upkeep.

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
		per quantity predefined as per usage patterns.	
31	Annual Rate Contract (ARC)	The owner will provide consumables or spares if required.	All required ARC (service portion) through OEM or others as per the requirement of the plant or the O&M requirement has to be arranged by and cost borne by the O&M operator
32	Use of equipment/fuel handling systems	Owner shall provide 3 Dozer, 3 loader, 3 grab crane including required spares	To be operated and maintained for those provided by Owner. Other requirement including Diesel to be sourced by O&M operator to ensure continuous operation
33	Condition monitoring, special jobs like belt vulcanizing, online leak arresting, hot wash of switchyard,		O&M operator to mobilize, use and maintain all conditioning monitoring equipment as required in the power plant. O&M Operator to mobilize specialized vendors required at their cost.
34	Firefighting equipment / fire tender	Owner will provide fire tenders (1 water and 1 powder) along with fire extinguishers as per their contract with the OEM for BTG and BOP. The Owner will arrange spares required for O&M. One-time purchase of any fire extinguishers required apart from those supplied as per contract will be in the scope of the Owner	O&M of the fire tenders for the entire complex of GNAL/ GACL and as required for emergencies outside the site premises as required by statutory bodies and all fire extinguishers and other firefighting equipment's including refilling and maintenance fire extinguishers, consumables, hoses in the scope of O&M operator. Maintaining the firefighting equipment's as per statutory requirements. Regular maintenance of the firefighting trucks as per OEM recommendation will be in the scope of the O&M operator. Diesel for the trucks will be in the scope of the O&M operator

<b>Sr. No.</b>	<b>Description</b>	<b>Owner's SCOPE</b>	<b>O&amp;M Operator's SCOPE</b>
35	ISO 9001, ISO 14001/ OHSAS 18000 certification and further requirement	Owner's team to get it implemented	O&M operator shall involve themselves with the consultant engaged by the Owner for ISO and OHSAS certification and will assist the Owner/consultant in the documentation. The O&M operator, under the guidance and direction of the owner/consultant, shall do all work for the same within stipulated time. O&M operator will maintain and follow the required procedures as per ISO/OHSAS
36	EPABX, Surveillance camera system, PA system, Internet, VC	Equipments provided	O&M including repairs by the O&M operator
37	Fabrication and erection up to 5 MT /Quarter except day to day O&M items and repairs	Beyond the limit prescribed here	Supply & fabrication and erection (excluding day to day O&M) up to 5 MT/quarter each on reimbursable basis with prior approval and against adequate documents. Consumables like welding rods etc. in the scope of O&M Contractor. GNAL would reimburse the cost of material against documents and evidence of its usage. Prior approval of the Owner would be required
38	Cable laying up to 2 KM excluding cables damaged during plant running and O&M	Cable/accessories shall be procured by Owner	Minor consumables up to a limit of Rs. 25,000 per month in the scope of O&M Contractor, which will be reimbursed. Such expenses shall require prior approval of the Owner.
39	Space and Covered storage sheds with racks,	Centralized Stores will be operated and maintained by the Owner.	Getting items issued from centralized stores and

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
	bins for Material & waste Management	Sub-stores in plant area will be equipped by the Owner with racks etc. for O&M Operator to manage	transporting to sub stores within the plant premises. Handling & supervision by the O&M agency. Heavy duty equipment like Crane, fork lifts hydra, trailer, tractor trolley etc. will be mobilized & maintained by the O&M contractor as per requirement accessed and agreed by the owner
40	Painting of Power Plant Civil Structures & Buildings including STG Building, workshop, Admin Building, Stores, boundary wall etc	The Owner through AMC will undertake all Painting activities other than touch up painting.	Routine touchup painting including labor cost up to a limit of Rs. 25,000 per month on reimbursable basis with prior approval. Damage due to negligence by the O&M contractor will be in the scope of the O&M contractor. The balance amount for the month will be carried over to the succeeding months. Consumables required for the work will be in the scope of the O&M contractor
41	IT infrastructure	The Owner to provide for IT infrastructure including IT network, desktop/laptops, printers, photocopier etc for using SAP including its licenses and other software	O&M Contractor to ensure that its staff is computer savvy and can manage the hardware provided for usage with all the Internet connections for all working in the plant. The other computers to be used by the staff of O&M Operator for their own accounting etc. shall be brought by O&M Operator. No O&M details of the plants should be stored in these computers.
42	All types of lubricants, which go into the system / equipment.	All such supply costing more than Rs 25000 as a single expenditure will be done by the Owner as per predefined	Handling the above material to be done by O&M Operator. The O&M operator shall do oil conditioning & testing.

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
		quantities as per the recommendation of OEM. Oil conditioning machine will be provided by the Owner	However, the consumption and frequency of replenishment/replacement will be as per the recommendation of the OEM or as mutually agreed by the Owner and O&M operator. Misuse / leakages of oil will be charged to the O&M operator. Supply of materials costing less than Rs 25000/- at one time for emergency will be done by the O&M vendor and will be reimbursed by the owner after applicable fiscal checks
43	Spares and consumables	All those spares and consumables which may cost more than Rs 25000 as a single expenditure will be supplied by the owner.	O&M operator will submit the yearly planning for the requirement of spares and consumables in line with the OEM recommendation or as per usage in the plant. O&M operator will keep a complete record of the consumptions and submit daily and monthly consumption data. The same will be issued from the Owner will store as per the SOP which will be prepared Jointly. Consumptions are expected to be generally in line with the OEM recommendations. O&M contractor will submit justification for excess usage or usage of high cost spares. Daily use and working consumables will be procured by the O&M Operator ensuring proper quality and quantity. To meet emergency needs, the O&M Operator may procure on reimbursable basis, with a prior approval from the Owner, those spares

Sr. No.	Description	Owner's SCOPE	O&M Operator's SCOPE
			and consumables costing less than Rs.25,000/- on a single invoice.
44	Tools and Tackles	Owner will hand over all the special tools and tackles as mentioned in this RFP available from the OEM on one-time basis	All working tools and tackles will be in the scope of the O&M contractor. Any special tools and tackles required other than the supplied by the Owner required for O & M ( like but not limited, fork-lifts (3-4 nos)) / JCB / hydras / cranes, as required for routine / O&M activities and periodic / schedule shutdowns) will be in the scope of the O&M operator. Replacing the special tools and tackles damaged will be in the scope of the O&M operator. Special tools and tackles will be handed over to the Owner on termination or expiry of the contract. The diesel and other lubricants for all moveble equipment irrespective of provided by the Owner or the O & M Operator, shall be provided by O&M Contractor.
45.	OHC	OHC operation and maintenance will be in the scope of the Owner	There will be some mutually agreed costs for providing preliminary medical treatment to the employees of the O&M operator.

### 1.3.5 Boundary Limits of the O & M Scope of work

All boundary limits are as mentioned below would be updated and agreed at the time of handing over the Owner's CP Plant/s to O&M Contractor for O & M Services. These boundary limits define the points up to which O&M Contractor shall have full responsibility, and beyond which some other agencies would be in control and responsible. During emergencies, these limits should not stop the O&M contractor for

their actions required beyond such limits to bring the situations under control in collaboration with those other agencies.

### 1.3.7.1 GNAL's CPP Plant

Sl. No.	Description	Terminal Point	Terminal Point No.
1)	Process steam		
a)	Process steam	Two separate point near caustic soda plant	TP1A & TP-1B
b)	Process return	At inlet nozzle of CST	TP-2
2)	Water		
a)	DM water to caustic soda plant and chloromethane plant	At separate points near the Battery limit of caustic soda plant and Chloromethane plant respectively.	TP-21A, TP-21B
b)	Raw Water supply to caustic soda plant & chloromethane plant	At separate points near the Battery limit of caustic soda and Chloromethane plant respectively.	TP-22A, TP-22B
c)	Raw water supply to plant	At one point inside power plant boundary	TP-23
3)	Fuel		
a)	Bed material lifting	At bed material lifting system in ground level. Bed material to be shifted by O&M operator from the Owner storage location	
b)	Lignite, coal, limestone, LDO	At main entry gate of the Owner	
4)	Fly Ash and Bottom ash		
a)	Fly ash	Outlet of fly Ash Silo Or Truck loading point for dispatch	TP-24A, TP-24B
b)	Bottom / Bottom ash	Outlet of Bed Ash Silo	TP-25A, TP-25B
5)	Air	As per system design	
a)	Service air to Caustic soda & chloromethane plants	At separate points at the battery limit of Caustic soda plant and Chloromethane plant respectively.	TP-26A, TP-26B
b)	Instrument air to Caustic soda & chloromethane plants	At separate points at the battery limit of Caustic soda plant and Chloromethane plant respectively.	TP-26C, TP-26D
6)	Cooling Water, ACW & DM Makeup	As per system design	

a)	Cooling water supply to Caustic soda plant	Supply & return points (one each) at battery limit at Caustic soda plant Return line up to cooling tower in the scope of owner.	TP-20A, TP-20B
b)	Cooling water supply to Chloromethane plant	Supply & return points (one each) at battery limit at Caustic soda plant Return line up to cooling tower in the scope of owner.	TP-20C, TP-20D
7)	Effluent Treatment Plant	As per system design. Disposal of sludge etc. in O&M operators' scope	
a)	Effluent from caustic soda plant	Connect to power plant effluent system near battery limit. Disposal of ETP sludge etc. in O&M operators scope	TP-27
8)	Sewage Treatment plant	As per system design	
a)	Sewage from caustic soda plant	Connect to Power plant sewage network at one point near battery limit	TP-28A
09)	Caustic soda supply to power plant	At terminal point of caustic soda plant battery limit	TP-30
10)	Hydrochloric acid supply to power plant	At terminal point of caustic soda plant battery limit	TP-31
11)	Sulphuric acid supply to power plant	At terminal point of caustic soda plant battery limit	TP-32
12)	Sodium hypochlorite supply to power plant	At terminal point of caustic soda plant battery limit	TP-33
13)	Fire water supply to caustic soda plant	At terminal point of caustic soda plant battery limit	TP-34
14)	Electrical		
a)	Start-up Power	At the output gantry point of plant end 220KV air insulated outdoor switchyard line bay.	
b)	Power Evacuation to Grid	At the output gantry point of plant end 220KV air insulated outdoor switchyard line bay.	
c)	Power Evacuation to Existing plant (Caustic soda plant / CLM Plant / GACL-C12)	At the output terminal of 33KV MV panel located in TG building / switchyard.	

15)	Nitrogen	At the inlet of Nitrogen charging manifold at the ground floor of turbine building	
16)	SNCR-Reducing agent(ammonia)	At main entry gate of the owner	

### 1.3.7.2 GACL's CPP plant (Tentative)

Sl. No.	Description	Terminal Point	Terminal Point No.
1	Coal/Lignite	BC5 conveyor at Bunker of 2 x 65 MW CPP	
2	Limestone	Through a plow feeder after the Limestone primary crusher in 2x65 MW CPP	
3	Raw water	From the pump house at raw water reservoir of 2 x 65 MW CPP	
4	Power (Import & Export)	At the Gantry in the 220 kV switchyard of 1 x 65 MW CPP	
5	Fly ash and bed ash	At the unloading point at the ash silos or loading point for dispatch	
6	LDO	Form GNAL LDO storage tank pumped through pipe line to GACL LDO tank	

### 1.3.8 Capital Expenditure

Assessment of requirement for capital expenditure will be jointly made in the last quarter of every calendar year (October-December) to enable budgetary provisions to be made by the Owner in their annual budget for the next year. With support from O&M Operator's employees, the Owner will procure necessary capital equipment/spares, provided, however that the Owner's decision, to procure or not any capital equipment/spares, shall be final and binding to the O & M Operator. The O & M Operator shall ensure avoidance of unplanned capital expenditures with meticulous planning and systematic maintenance of CP Plant/s.

### 1.3.9 Maintenance Responsibility Matrix

S No	Activity	OEM		Work supervision		T&P, manpower		Consumables & Spares	
		Cost	Arranged by	Cost	Arranged by	Cost	Arranged by	Cost	Arranged by
1	Annual Overhauling	O	O	O&M	O&M	O&M	O&M	O	O
2	Breakdown and corrective maintenance	O&M/ O if Insurance (If	O&M	O&M	O&M	O&M	O&M	O	O

		applica ble)							
3	Preventive maintenance	NA	NA	O&M	O&M	O&M	O&M	O	O
4	Routine Maintenance	NA	NA	O&M	O&M	O&M	O&M	O	O
5	AMC	O&M	O&M	O&M	O&M	O&M	O&M	O	O

OEM: Original equipment manufacturer      O – Owner, O&M – O&M contractor T&P: Tools & Plant

For avoidance of doubt, all material costs for Capital Overhauling activities is in the scope of Owner.

### 1.3.10 . Terms of Contract

O&M contract shall include an estimated six months' pre-commissioning and commissioning support period followed by a 5-year Operation and Maintenance period. Based on the performance and review this can be extended on mutually agreed terms between the Owner and the O & M operator for further five years or any suitable period. Six months of pre-commissioning and commissioning period will be considered for CPP (until synchronization). The O&M Operator will consider 5 years' time from the date of takeover of the last unit, if GTR is delayed.

### 1.3.11 Site Visit

It is strongly recommended that the bidders should visit the site to understand before submission of their bids and assess the current condition of upcoming CP Plant/s at D II/ 9 Dahej, Dist. Bharuch and other facilities in the vicinity.

### 1.3.12 Bid Validity and Bid security

- 1.3.12.1 Bid validity Date: Four months of due date for submission of price bid.
- 1.3.12.2 The Bidder shall furnish, as a part of their Bid, a token refundable interest free Bid Security of Rs. 10,00,000/- (Rupees ten lac Only) in the form of Bank Demand Draft (DD) or a Bank Guarantee in a prescribed format favouring 'GACL-NALCO Alkalies and Chemicals Private Limited' Payable at Vadodara.
- 1.3.12.3 Bids without Bid Security shall be rejected.
- 1.3.12.4 The Owner reserves the right to accept or reject any variation or deviation in the bid.
- 1.3.12.5 The Owner in its absolute discretion has a right to amend / vary any of the conditions for invitation of the Bid or Request for Proposal.

### 1.3.13 Address for Communication

Regarding Submission of Bid Security, Bids & Queries:  
**Head of CPP plant**

THE OWNER: COAL BASED CAPTIVE COGENERATION POWER PLANT AT Dahej, Dist. Bharuch	RFP for Long Term Complete O&M of THE OWNER CPP at Dahej	Page 32 of 154
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**GACL-NALCO Alkalies & Chemicals Pvt. Ltd.**

**401-403, Yashkamal building**

Sayajigunj,

Vadodara – 390020, Gujarat

Email: [Sudhir.bhargava@gnal.co.in](mailto:Sudhir.bhargava@gnal.co.in) & [Samit.panchal@gnal.co.in](mailto:Samit.panchal@gnal.co.in)

Only those bidders qualified through expression of Interest are eligible to bid for this RFP (Request for Proposal).

1.3.14 Bidding Documents are not transferable.

1.3.15 The Owner reserves the right to accept / reject, at its sole discretion, any or all bids without assigning any reason. No further correspondence shall be entertained in this regard.

1.3.16 Bidders are requested to read the bidding documents for complete details on the requirements as well as other terms and conditions of the contract.

1.3.17 GNAL 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.

## CHAPTER 2

### 2.0 Instructions to Bidders (ITB)

#### A. General

<b>2.1 Scope of Bid</b>	<p>2.1.1 GNAL invites bids for the Operation and Maintenance Services (the “Services”) including the Pre commissioning and commissioning support, as described under Scope of Services in IFB of the Bidding Document.</p> <p>2.1.2 The successful Bidder would be expected to meet the performance targets for services. The Details are provided in Chapter 6.</p> <p>The successful bidder will also be awarded the Job of O &amp; M of GACL’s 65 MW Similar Power plant.</p>
<b>2.2 Cost of Bidding</b>	<p>2.2.1 The Bidder shall bear all costs associated with the preparation, submission and any incidental expenditures incurred on his Bid up to final Bid evaluation and subsequent award of the job. The Owner will in no case be responsible or liable for any of the costs incurred by the bidders.</p>
<b>2.3 Site Visit</b>	<p>2.3.1 The Bidder, at the Bidder’s own responsibility and risk, is encouraged to visit and examine the Site and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for the Services. The visit shall be with prior appointment and the costs of visiting the Site shall be borne by the bidder. <i>Please mail your request to</i> address/s indicated in the Bid Data Sheets.</p>

#### B. Bidding Documents

<b>2.4 Content of Bidding Documents</b>	<p>2.4.1 This RFP comprises the following:</p> <ul style="list-style-type: none"> <li>Chapter 1 Invitation of Bids (IFB)</li> <li>Chapter 2 Instructions to Bidders (ITB)</li> <li>Chapter 3 Bid Data Sheets (BDS)</li> <li>Chapter 4 General Conditions of Contract (GCC)</li> <li>Chapter 5 Special Conditions of Contract (SCC)</li> <li>Chapter 6 Performance Guarantee (PG)</li> <li>Attachments and Annexures</li> </ul>
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	<p>2.4.2 The Bidder is advised strongly to go through all the instructions, terms and conditions, and specifications in the RFP very carefully. Failure to furnish all information required by the RFP or to submit a bid not substantially responsive to the RFP in every respect will be at the Bidder's risk and may result in the rejection of its bid. The bidder shall submit all the documents that add credentials to their candidature.</p>
<p><b>2.5 Clarification on Bidding Documents</b></p>	<p>2.5.1 To facilitate evaluation of RFP, the Owner may, at its sole discretion, seek clarifications in writing from any Bidder regarding its bid. All communication will take place only on email. Notwithstanding anything contained in the RFP document, GNAL reserves the right to not take into consideration any such clarifications sought by it for evaluation of the bid.</p> <p>2.5.2 A prospective Bidder requiring any clarification to the bidding documents may notify GNAL in writing by E-Mail at the Owner's address/s indicated in the Bid Data Sheets. The Owner will respond only by E-Mail to any request for clarification or modification of the bidding documents that it receives prior to a final pre-bid meeting. This will be last opportunity for the bidders to seek any pending clarifications.</p> <p>2.5.3 The Bidder and any of its personnel or authorized representative will be granted permission by the Owner to enter upon its premises and land for the purpose of inspection. However, only upon the express condition that the Bidder, its personnel and agents will release and indemnify the Owner and its personnel and authorized representative from and against all liability in respect thereof for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of the inspection.</p> <p>2.5.4 The amendment if any, pertaining to RFP will be notified on the GNAL official website and also may be sent in writing through e-Mail to all prospective Bidders that have received the bidding documents and will be binding on them. Bidders are requested keep abreast of the notifications in the GNAL website and also immediately acknowledge the receipt of any such amendment by an e-Mail and provide comments, if any, within one week. It will be assumed that the Bidder in its bid have taken the information contained therein into account through the website if not notified individually.</p> <p>2.5.5 In order to give prospective Bidders reasonable time to take the amendment into account in preparing their bid, the Owner may, at</p>

	its discretion, extend the deadline for the submission of bids if circumstances demand so.

### C. Preparation of Bids

<b>2.6 Language of Bid</b>	2.6.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Owner shall be in English. If supporting documents and printed literature furnished by the Bidder are in language other than English, the bidder must provide self-authenticated translation of the relevant passages in English.
<b>2.7 Documents Comprising the Bid</b>	<p>2.7.1 The Bid submitted by the Bidder shall comprise the following:</p> <p>(a) <b>Bid Security Refer para 2.11 &amp; para 3.6</b></p> <p>EMD shall be furnished in accordance with the bid document in a separate sealed envelope and clearly titled as “EMD” to be submitted to communication address of GNAL</p> <p>(b) <b>Attachment 2: Tools &amp; Tackles and Software for O&amp;M</b></p> <p>All special tools and tackles as per the list provided in para 7.5 shall be provided by GNAL. Those tools &amp; tackles not available at the Owner CP Plant at Dahej, Bharuch, and which may be required by the bidder in day-to-day O&amp;M or for planned/unplanned shutdown shall be arranged by the O&amp;M Operator on its own.</p> <p>The owner is using SAP platform. If operator intends to bring its own software, it must be compatible with the SAP. The price of the same must be included in the overall price for providing O&amp;M services</p> <p>(c) <b>Attachment 3: Subcontractors Proposed by the Bidder</b></p> <p>The Bidder shall include in its bid details of all major items of supply or services that it proposes to purchase or hire on lease or subcontract and shall give details of the name and nationality</p>

of the proposed Sub-Contractor/s, including the Vendors, for each of those items. Bidders are free to list more than one Sub-Contractor / Vendor against each item of the facilities. The Owner reserves the right to not allow any proposed Sub-Contractor / Vendor from the list prior to award of contract. After discussion between the Owner and the O&M Operator, Contract Agreement shall be completed, listing the approved Sub-Contractor(s) / Vendor(s) for each item

**(d) Attachment 4: Takeover Plan**

The bidder shall furnish a Takeover Plan, which shall include a proposed organization structure and the details of qualification & experience of all key personnel (at least up to top four levels).

**(e) Attachment 5: Deviations**

Any deviation that the bidder has considered with regard to the clauses in the bid document shall be mentioned in this section along with the reference to respective clause and a note on explanation on the deviation as well as rationale for the same. If these have price implication, it shall be specifically mentioned. All deviations must be explicit and stated upfront and discussed prior to submitting the Bid. It is our endeavour that all deviations will be resolved in the pre bid meetings to be held. However, any deviations not acceptable to the owner or which comes to notice later which may or may not have commercial implications may lead to cancellation of the Contract at Owner's Convenience.

**(f) Attachment 6: Certificate regarding Acceptance of all Conditions of RFP**

The complete RFP document, together with all the Annexures and Attachments shall be signed and stamped on each page by the bidder as a token of its acceptance *in-toto*, except for the deviations as mentioned in Attachment 5. The Bidder is encouraged to discuss it at the earliest prior to submitting the price bid, which once submitted may not be allowed to be modified.

**(g) Attachment 7: Guarantees**

The O&M Operator shall provide guarantee that the GNAL's CPP and GACL's CPP shall be operated faithfully, honestly and with due diligence and care and shall execute, perform and carry out the work under this agreement with the highest standards of efficiency, safety and statutory compliances. The Contractor will, as a prudent operator,

	<p>provide an effective supervision and monitor all the jobs of Operation and Maintenance awarded to them to maintain the plant in a healthy condition so as to achieve maximum life of all the parts of plant equipment &amp; machineries etc. The plant availability should be guaranteed for 350 days in a year. The plant should be able to operate at its full potential within 90 days of its commissioning, except for the factors absolutely not within the control of the Contractor.</p> <p>The other guaranteed parameters are listed in Chapter 6.</p> <p><b>(h) Attachment 8: Price Schedule – Break Up of Charges for Commissioning Support and Long-Term O&amp;M</b></p> <p>The Priced part of the bid, <u>with no prices mentioned therein</u>, should be sent with the Technical Bid. The prices in the prescribed format must be submitted before the due date, but only when specifically advised to do the same through a separate communication. Technical bid must not indicate the price. If it is found to have prices mentioned, the Bid may be rejected. The ‘Price bid’ should be submitted strictly in the format provided and only when GNAL seeks it by a special communication for the submission of ‘Price Bid’.</p> <p><b>Price Bid with price schedule (duly filled) must be enclosed in a separate envelope and clearly titled as “PRICE-BID”.</b></p>
<p><b>2.8. Bid Prices</b></p>	<p>2.8.1 The Bidders shall quote for the scope of work on a “<b>Single Responsibility</b>” basis such that the total bid price covers all the O&amp;M Operator’s obligations mentioned in or to be reasonably inferred from the bidding documents in respect of long term complete operation and maintenance of the Owner’s CP Plant at Dahej, Bharuch.</p> <p>2.8.2 The bidder will need to submit separate quotes for the GNAL 2 x 65 MW CPP and GACL 1 x 65 MW separately.</p> <p>2.8.3 The prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract in accordance with the provisions of bidding document, if any. Otherwise, prices quoted by the Bidder shall be firm during the entire duration of the Contract.</p>
<p><b>2.9 Currencies of Bid and Payment</b></p>	<p>2.9.1 The prices shall be quoted by the Bidder in Indian Rupees (INR) only. It is to be noted that all payment under contract will be made in INR only.</p>

<p><b>2.10 Bid Validity</b></p>	<p>2.10.1 Bids shall remain valid till <b>four months from the date of submission of the Price Bid.</b></p> <p>2.10.2 In an unlikely event and exceptional circumstances, the Owner may request bidders to extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing. A Bidder may refuse the request <b>without</b> having Bid Security amount forfeited. Only unconditional acceptance of request for such extension by Bidder shall be considered.</p>
<p><b>2.11 Bid Security</b></p>	<p>2.11.1 Bid Security amount shall be paid through a Bank Demand Draft or a Bank Guarantee in the prescribed format. No interest or fees in any form will be payable for the Bid Security.</p> <p>2.11.2 The Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the award of the Contract to the successful Bidder.</p> <p>2.11.3 The Bid Security may be forfeited:</p> <ul style="list-style-type: none"> <li>(a) If the Bidder withdraws its bid during the period of bid validity specified by the bidder in the bid form.</li> <li>(b) If the Bidder does not accept the arithmetic correction of his Bid Price.</li> <li>(c) If the Bidder does not withdraw any deviation listed in Attachment which may have commercial implications or material impact on the performance of the desired job under the contract</li> <li>(d) In the case of a successful Bidder, if the Bidder fails within the specified time limit <ul style="list-style-type: none"> <li>(i) to sign Contract Agreements</li> <li>(ii) to furnish the required Performance Securities and act as per the Contract agreements signed.</li> </ul> </li> </ul>

<p><b>2.12 Format and Signing of Bid</b></p>	<p>2.12.1 The Bidder shall prepare one original set of documents comprising the Bid and clearly marked "ORIGINAL." In addition, the Bidder shall submit 02 copies of the Bid and clearly marked as "COPY-1 &amp; COPY-2." In the event of discrepancy between them, the original shall prevail.</p>
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	<p>2.12.2 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder. All pages of the Bid where entries or amendments have been made shall be initialed by the person or persons signing the Bid.</p> <p>2.12.3 The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Owner, or as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.</p>
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#### D. Submission of Bids

<p><b>2.13 Sealing and Marking of Bids</b></p>	<p>2.13.1 The bid document shall be divided into two sections:</p> <p>A. Technical Bid'</p> <p>Technical Bid would comprise of all the bid documents, including Commercial terms and condition and Price Schedule <u>but without price</u> – while indicating the word 'Quoted' against each price entry, Bid Security.</p> <p>And,</p> <p>B. 'Price Bid'.</p> <p>The Price bid shall comprise of the Price Schedule as per the format provided in Attachment 10 or as modified and notified later.</p> <p>C. These documents shall be submitted separately, as and when advised, in double sealed envelopes duly marked as (1) "TECHNICAL BID" and/or (2) "PRICE BID" respectively. When and if asked to submit both the bids at the same time, these 2 envelopes shall then be sealed in an outer envelope duly marked as "<b>TECHNICAL &amp; PRICE BID</b>".</p> <p>D. The bid security shall be furnished in a separate sealed envelope, duly marked the envelope as "<b>BID SECURITY</b>" and this envelope shall then be sealed in outer envelope duly marked as "<b>BID SECURITY</b>".</p> <p>E. The copy of the bid documents submitted by the bidder should also be packed in a similar way and should clearly be denoted as "COPY".</p>
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	<p>2.13.2 The inner and outer envelopes shall</p> <p>(a) be addressed to the Owner at the address indicated in the bidding document;</p> <p>2.13.3 If any of the envelope is not sealed and marked as above, the Owner will assume no responsibility for the misplacement or premature opening of the Bid.</p>
<b>2.14 Deadline for Submission of Bids</b>	<p>2.14.1 Bids shall be delivered to the Owner at the address specified above no later than the time and date specified in the bidding document or notified separately.</p> <p>2.14.2 The Owner may extend the deadline for submission of bids by issuing an amendment, in which case all rights and obligations of the Owner and the bidders previously subject to the original deadline will then be subject to the new deadline.</p>
<b>2.15 Late Bids</b>	<p>2.15.1 Any Bid received by the Owner after the deadline prescribed in bidding document may be returned unopened to the Bidder on demand or disposed of in absence of such a demand within 30 days. Bidder is requested to mention the name and address of the bidder on this envelop so that the unopened bid can be sent back on demand.</p>

### **E. Bid Opening and Evaluation**

<b>2.16 Bid Opening</b>	<p>2.16.1 The Owner will open all bids on the date at the place specified in the bidding document. Only the Technical Bids provided in a separate envelop inside the bid shall be opened for technical evaluation at this stage.</p> <p>2.16.2 The Price Bids shall be kept sealed till later stage.</p>
<b>2.17 Process to be Confidential</b>	<p>2.17.1 Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process. The details on the methodology of evaluation and the results of evaluation shall not be declared to any bidder.</p> <p>2.17.2 Any effort by a Bidder to influence the Owner/Owner's Management regarding RFP, processing of bids or award decisions may result in the rejection of his Bid.</p> <p>2.17.3 The bidding documents provided by the Owner are and shall remain or become the property of the Owner and are transmitted to the Bidders solely for the purpose of preparation and the submission of a Bid in accordance herewith. Bidders</p>

	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.
<b>2.18 Clarification of Bids</b>	<p>2.18.1 To assist in the examination, evaluation, and comparison of bids, the Owner may, at the Owner's discretion, ask any Bidder for clarification of the Bidder's Bid, including breakup of the prices, and other information that the Owner may require. The request for clarification and the response shall be in writing or by mail, or fax. In routine no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Owner in the evaluation of the bids.</p> <p>2.18.2 No Bidder shall contact the Owner on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Owner, it should do so in writing through email.</p>
<b>2.19 Examination of Bids and Determination of Responsiveness</b>	<p>2.19.1 Prior to the detailed evaluation of bids, the Owner will determine whether each Bid (a) has been properly signed; (b) is accompanied by the required security; and (c) is substantially responsive to the requirements of the bidding documents and is generally in order.</p> <p>2.19.2 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Services; (b) which limits in any substantial way, or is inconsistent with the bidding documents, the Owner's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids</p> <p>2.19.3 If a Bid is not substantially responsive, it will be rejected by the Owner, and may not subsequently be allowed to be made responsive by correction or withdrawal of the nonconforming deviation or reservation.</p>
<b>2.20 Correction of Errors</b>	2.20.1 Bids determined to be substantially responsive will be checked by the Owner for any arithmetic errors. Arithmetical errors will be rectified by the Owner on the following basis: if there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the

	<p>unit price shall prevail, and the total price shall be corrected; if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; if there is a discrepancy between the amounts in figures and in words, the amount in words will prevail. Such rectification will be informed to the participating Bidder.</p> <p>2.20.2 The amount stated in the Bid will be rectified by the Owner in accordance with the above procedure for the correction of errors and, with the written concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount as rectified by Owner, the Bid will be rejected, and the Bid Security may be forfeited.</p> <p>2.20.3 The Owner may waive any minor infirmity, nonconformity or irregularity in a bid that does not constitute a material deviation, whether or not identified by the Bidder in Attachment to its bid, and that does not prejudice or affect the relative ranking of any Bidder as a result of the Evaluation.</p> <p><b>2.20.4 Critical Provisions</b></p> <p>No deviation, whatsoever, is permitted by the Owner to the provisions relating to the clauses indicated in Attachment regarding Acceptance of all Conditions except for the deviations statement. Bidders are required to furnish a certificate in Attachment indicating their compliance to all the conditions.</p> <p>2.20.5 At the time of evaluation of Bid, the bidder shall withdraw the deviations which are not accepted by Owner. In case the bidder does not withdraw the deviations not accepted by Owner, if any, its bid will be rejected and security deposit forfeited.</p>
<p><b>2.21 Evaluation and Comparison of Bids</b></p>	<p>2.21.1 The Owner may evaluate and compare only the bids determined to be substantially responsive in accordance with bidding documents. Technical evaluation criteria as indicated in the document will be used for evaluation.</p> <p>2.21.2 In evaluating the bids, the Owner will determine for each Bid the evaluated Bid price by adjusting the Bid price for making any correction for errors and/or as per criteria mentioned in section 2.25.</p> <p>2.21.3 The Owner reserves the right to accept or reject any variation or deviation.</p>

## F. Award of Contract

<b>2.22 Technical Responsive Criteria of Bids</b>	<b>SN</b>	<b>Compliance Criteria</b>	<b>Compliance Requirement</b>	<b>Provided (Yes /No)</b>
	1.	Bid security in separate sealed envelope	Shall provide	
	2.	Price Bid in a separate sealed envelope	Shall provide	
	3.	Technical Bid in a separate sealed envelope including following attachments	Shall provide	
	4.1	List of Tools & Tackles and Software for O&M Predictive/preventive Maintenance (PM) & Analysis in RFP format	Shall provide	
	4.2.	List of Sub-Contractors proposed by the Bidder in RFP format	Shall provide	
	4.3.	Takeover Plan, with a detailed Organogram and the details of qualification & experience of key personnel.	Shall provide	
	4.4.	Deviations (if any) in RFP format	Shall provide	
	4.5.	Certificate regarding acceptance of important conditions in RFP format	Shall provide	
	4.6.	Guarantees in the prescribed format	Shall provide	
<p>*Note: Bids shall be evaluated on the technical responsiveness criteria outlined in the above table. Any bidder failing to meet each of the above criteria may become non-responsive and the bid may not be considered for further evaluation. The Contract may be considered to be awarded to the lowest evaluated responsive bidder as per Price Schedule &amp; NPV calculations; however, GNAL may exercise its own discretion. The decision by the GNAL Management shall be final.</p>				
<b>2.23 Award Criteria</b>	2.23.1 The Owner will award the Contract to the Bidder whose Bid has been found the most suitable to the Owner.			
<b>2.24 Owner's Right to Accept Any Bid and to Reject Any or All Bids</b>	2.24.1 The Owner reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to			

	the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Owner's action.
<b>2.25 Competitive bidding evaluation Process</b>	<p>2.25.1 GNAL may use 'merit' based evaluation of the technical offer wherein the bidders may be given merit points, which may result into price loading on the bidders who are having lower merit points as compared to the bidder with the highest merit points. The criteria for allocating such merit points to the bids, based on bid evaluation process, shall be determined by GNAL and the details of the same may not be revealed to the bidders. The decision of GNAL shall be final in this matter.</p> <p>2.25.2 GNAL shall consider such selection of the 'most competitive bid' through a process of 'Reverse Auction' (RA), in which case it would be mandatory for all the bidders to participate in the RA. The remote participation in RA shall be facilitated with an access / guidance provided by GNAL team. The procedures for participation in RA shall be communicated separately at appropriate time, at least 48 hours prior to conducting the RA. If there are any deviations taken by the bidder which may call for 'loading' on their prices or if there are lower merit points for a bidder resulting into 'loading' on their prices, the same shall be taken into account in the RA process. The prices quoted by those bidders in RA process shall be automatically inflated to the extent of such 'loadings', details of which would be shared with the concerned bidder prior to RA.</p> <p>2.25.3 Having been selected as 'the most competitive bidder' in RA or 'competitive bidding process' conducted through physical presence of the bidders shall not automatically qualify the bidder for the award of the job. GNAL reserves its right to discuss/negotiate further with such a bidder or with other bidders and award the contract to any of such bidders at its sole discretion. However, as a broad criterion, 'the most competitive bidder' shall have first right of refusal to any counter offer that GNAL decides to make.</p>
<b>2.26 Notification of Award and Signing of Agreement</b>	2.26.1 The Bidder whose Bid has been accepted will be notified of the award by the Owner prior to expiration of the Bid validity period by mail or a Letter of Intent. This letter (hereinafter and in the Conditions of Contract called the "Letter of Intent (LOI)") will state the Contract price payable to the O&M Operator in consideration of supply and services as prescribed in the Contract to be signed.

	<p>LOI will be issued in two copies to successful Bidder and Bidder shall return one copy of said LOI duly signed to Owner</p> <p>2.26.2 The notification of award will constitute the formation of the Contract.</p> <p>2.26.3 The Contract, with all the detailed terms and conditions, will incorporate all agreements between the Owner and the successful Bidder. The detailed contract, drawn later, may contain certain additional but relevant provisions which may have been inadvertently left out in earlier communications / discussions with the bidder during the bidding and selection processes. The Contract will be signed jointly by the Owner and successful Bidder along with the attachments within 15 days of receipt of the LOI. The successful bidder shall sign the Contract together with the required Performance Security. Some of the performance criteria in the contract may be determined subsequent to the Guarantee Test Run of the plant. In such case, these criteria, forming an integral part of the contract, shall be signed later as an 'supplement' to the Contract.</p> <p>2.26.4 The Owner will notify the name of successful Bidder to other bidders, either through individual communication or by publishing on its Web-site and return bid security to them.</p> <p>2.26.5 In case, the successful Bidder doesn't sign the Contract within the stipulated timeline or furnish the performance security, then the Owner will invite the next eligible bidder for commercial negotiation. As an alternative, the Owner reserves the right to re-bid the process.</p>
<p><b>2.26 Performance Security</b></p>	<p>2.26.1 Within 15(Fifteen) bank's working days after receipt of the Letter of Intent/ or as specified by the Owner the successful Bidder shall submit the Owner a Performance Security in prescribed form of a Bank Guarantee for an amount stipulated in the para 4.6.2.</p> <p>2.26.2 Failure of the successful Bidder to comply with the requirements of bidding document shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.</p>
<p><b>2.27 Advance Payment</b></p>	<p>2.27.1 The Owner will make an Advance Payment of 10% of the Annual Contract Price as stated in the bidding document ( Para 5.36).</p>

<b>2.28 Notice to Proceed</b>	2.28.1 After receipt of Performance Security and as per the estimation, the Owner will issue NTP (Notice to Proceed) along with an advance.
<b>2.29 Effective Date</b>	2.29.1 Effective Date will be the date on which the Owner makes the advance payment to the O & M operator. However, O & M operator shall submit the requisite documents for making advance payments not later than 15 days from receipt of LOI.
<b>2.30 Labour Laws</b>	<ul style="list-style-type: none"> <li data-bbox="464 508 1430 654"><b>a.</b> The Bidder shall furnish valid Employee Provident Fund (EPF) code number, Professional tax registration together with supporting relevant document duly notarized by notary public to this effect along with Performance Security.</li> <li data-bbox="464 660 1430 875"><b>b.</b> The successful Bidder shall obtain license under Contract Labor (R&amp;A) Act 1970 read with rules framed thereunder and furnish the same to GNAL within 30 (Thirty) days from the acceptance of Award of Contract failing which the Award of Contract may be cancelled / terminated without any further notice and their Bid Security may be forfeited.</li> <li data-bbox="464 882 1430 949"><b>c.</b> The Bidder shall ensure that he complies with all labour laws including payment of minimum wages.</li> <li data-bbox="464 956 1430 1046"><b>d.</b> Owner shall provide the necessary documentation support like Form 5 for issuance of labor license to Successful bidder and its subcontractors</li> </ul>

## CHAPTER 3

### 3. Bid Data Sheets (BDS)

The following bid specific data for the Plant to be operated and maintained shall amend and/or supplement the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in the ITB. It is clearly understood and agreed that the selected O&M Operator shall achieve good performance of the Owner's Coal Based CP Plant (2X65 MW and 1X65 Mw) at Plot D-2/9 Dahej Industrial Estate, Dist Bharuch as mentioned in attachment 7 of Guarantees referred in para 2.7 above. It is also clearly understood and agreed that the selected O&M Operator/Contractor/ shall carry out all activities related with complete O&M of the Owner CP Plant at Plot D-2/9 Dahej Industrial Estate, Dist. Bharuch for a period of 5(Five) years from the date of takeover after the GTR.

#### A. INTRODUCTION

##### 3.1. Names & Address of Coal Based Captive Power plant:

###### **GNAL's CPP (2X65 MW) and GACL's CPP (1X65 MW)**

**Plot D-2/9, Dahej Industrial Estate, Village Rahiyad, Taluka Vagra,  
District Bharuch, Gujarat, India**

#### B. THE BIDDING DOCUMENTS

##### 3.2. Communication Address of Owner:

Head CPP Plant  
GACL-NALCO Alkalies & Chemicals Pvt. Limited  
401-403, Yashkamal Building, Sayajigunj.  
Vadodara – 390020, Gujarat.  
[Sudhir.Bhargava@gnal.co.in](mailto:Sudhir.Bhargava@gnal.co.in)  
[Samit.panchal@gnal.co.in](mailto:Samit.panchal@gnal.co.in)

##### 3.4 Pre-Bid Meeting:

The Bidder or his authorized representative (maximum two persons) is invited to attend pre-bid meeting which will take place at the following address:

GACL-NALCO Alkalies and Chemicals Private Limited  
401-403, Yashkamal Building,  
Sayajigunj, Vadodara – 391346 (Gujarat)

A pre-bid meeting is **scheduled on September. 06, 2020 at 1430 hours**. The purpose of the meeting is to clarify all issues regarding the Bidding Documents. In order to avoid any deviations in the bid to be submitted, the Bidders are encouraged and requested to submit all their doubts and questions by E-Mail to reach the Owner as soon as possible. Based on the clarifications given the Owner may modify the Bid document through an amendment and not through the record notes of the pre-bid meeting. The Bidders will be informed about the modified bid-documents through

email. Non-attendance at the pre-bid meeting will not be a case for disqualification of a Bidder.

### C. PREPARATION OF BIDS

#### 3.5 Qualification Requirements for Bidders:

Only the Bidders qualified by the assessment of the Owner are eligible to bid against this RFP.

Validity of Bid: **Until four months of due date for submission of Price bid.**

### D. SUBMISSION OF BIDS

3.6 Refundable Bid Security: Rs. 10,00,000/-in the form of Bank Demand Draft (DD) or Bank Guarantee in prescribed format favoring 'GACL-NALCO Alkalies and Chemicals Private Limited' payable at Vadodara to be submitted along with the bid. Bid Security of all unsuccessful bidders will be refunded after receipt of Performance Security from appointed O&M Operator.

#### 3.7 Address for Submission of Bid & Bid Security:

Head CPP Plant  
GACL-NALCO Alkalies and Chemicals Private Limited  
401-403, Yashkamal Building,  
Sayajigunj, Vadodara – 391346 (Gujarat)

3.8 UNPRICED/Technical Bid including commercial terms and condition  
Due Date & Time: **17 Sept. 2020, 4:00 PM**

#### 3.9 PRICE BID Due Date & Time: To be determined

### E. BID OPENING AND EVALUATION

#### 3.9 Location of Bid Opening:

GACL-NALCO Alkalies and Chemicals Private Limited  
401-403, Yashkamal Building,  
Sayajigunj, Vadodara 391346 Gujarat, India

Date of Technical Bid Opening: 18 Sept **2020**

Time of Technical Bid Opening: **04:00 PM**

Date of Price Bid Opening: (will be communicated at the earliest)

Time of Price Bid Opening: (will be communicated at the earliest)

For Reverse Auction Process, the 'Price Bids' shall be opened a few hours prior to the scheduled time of Reverse Auction.

3.10 Currency chosen for the purpose of evaluation: **Indian Rupees (INR)**

**F. Takeover of CPP Plant**

3.11 Time Period for Bidder to accept letter of Intent & submit Performance Guarantee: Within 07 Days from issue of Letter of Intent

3.12 Time Period in which Owner makes an advance payment to the appointed O&M Operator: Within 15 Days from receipt of advance Bank Guarantee in a prescribed format, invoice and other relevant documents specified in para 5.36.

3.13 Time Period in which appointed O&M Operator reports to site for commissioning support: Within 15 Days of receipt of an advance payment & Notice to Proceed. The deployment of manpower during pre-commissioning period would be progressive, as requisitioned by the Owner

3.15 Time Period during which Guarantees, Penalties & Incentives shall be applicable: 360 days from the date of take-over of the plant by the O&M Operator or as mutually agreed otherwise.

## Chapter 4

### 4. General Conditions of Contract (GCC)

#### 4.1 Contract Documents

- 4.1.1 All documents forming part of the Contract (and all parts thereof) are intended to be correlative, complementary and mutually explanatory. The Contract shall be read as a whole document.
- 4.1.2 The Contract will be signed in two originals and the Contractor shall be provided with one signed original and the one will be retained by the Owner.

#### 4.2 Interpretation

##### 4.2.1 Language

All Contract Documents, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be written in English and the Contract shall be construed and interpreted in accordance with that language.

##### 4.2.2 Singular and Plural

The singular shall include the plural and the plural the singular, except where the context otherwise requires.

##### 4.2.3 Headings

The headings and marginal notes in the General Conditions of Contract are included for ease of reference, and shall neither constitute a part of the Contract nor affect its interpretation.

##### 4.2.4 Persons

Words importing persons or parties shall include firms, corporations and government entities.

##### 4.2.5 Construction of the Contract

The Contract to be entered into between the Owner and the O&M Contractor shall comprise of all the relevant terms and conditions as mentioned in RFP and other terms and condition as may be mutually agreed subsequently. In case of any conflict, the terms and conditions of final Agreement shall prevail.

##### 4.2.6 Entire Agreement

The Contract constitutes the entire agreement between the Owner and Contractor with respect to the subject matter of Contract and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract.

#### **4.2.7 Amendment**

No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party hereto.

#### **4.2.8 Independent Contractor**

The Contractor shall be an independent Contractor performing the Contract. The Contract does not create any agency, partnership, joint venture or other joint relationship between the parties hereto.

Subject to the provisions of the Contract, the Contractor shall be solely responsible for the manner in which the Contract is performed. All employees, representatives or Sub-Contractors engaged by the Contractor in connection with the performance of the Contract shall be under the complete control of the Contractor and shall not have any right whatsoever of employment with the Owner or be deemed to be employees of the Owner, and nothing contained in the Contract or in any subcontract awarded by the Contractor shall be construed to create any contractual relationship between any such employees, representatives or Sub-Contractors and the Owner. The Contractor is responsible for arranging all statutory permissions including but not limited to all Labor licenses, IBR, Weights and measures, and the Owner shall have no liability or obligation whatsoever in this regard.

#### **4.2.9 Non-Waiver**

4.2.9.1 No relaxation, forbearance, delay or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect or restrict the rights of that party under the Contract, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

4.2.9.2 Any waiver of a party's rights, powers or remedies under the Contract must be in writing, must be dated and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

#### **4.2.10 Severability**

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

#### **4.2.11 Third Party Rights**

Nothing in this Contract is intended to confer any rights / remedies under or by reason of this Contract on any third party.

#### **4.2.12 Liquidated Damages/Penalty**

The Parties acknowledge that any sums stipulated by way of liquidated damages/Penalty (including but not limited to the liquidated damages specified under Section 6 of this RFP), are reasonable and represent genuine pre-estimates of the loss incurred by the Owners in case of non – compliance by the O&M Contractor to the terms and conditions of the Contract. The Contractor waives any right it may have to raise any claim or defence that such payment is in the nature of a penalty.

#### **4.3 Notices**

4.3.1 Unless otherwise stated in the Contract, all notices to be given under the Contract shall be in writing, and shall be sent by Registered post or E-Mail to the address of the relevant party set out in the Contract Coordination Procedure.

4.3.2 Any notice sent by E-Mail shall be valid if its acknowledged by the receiving party. The Party sending any notice by Email should approach the receiving party to check whether email is received by the other Party or not.

4.3.3 Any notice sent by post or special courier shall be deemed (in the absence of evidence of earlier receipt) to have been delivered ten (10) days after dispatch. In proving the fact of dispatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, stamped and conveyed to the postal authorities or courier service for transmission by airmail or special courier.

4.3.4 Either party may change its postal address, E-Mail address and addressee for receipt of such notices by ten (10) days' notice to the other party in writing.

4.3.5 Notices shall be deemed to include any approvals, consents, instructions, orders and certificates to be given under the Contract.

#### **4.4 Governing Law**

4.4.1 The Contract shall be governed by and interpreted in accordance with laws in force in India. The Courts of Vadodara (India) shall have exclusive jurisdiction in all matters arising under the Contract.

#### **4.5 Settlement of Disputes**

##### **4.5.1 Adjudicator Disputes**

- 4.5.1.1 If any dispute of any kind whatsoever shall arise between the Owner and the Contractor in connection with or arising out of the Contract—the Parties shall seek to resolve any such dispute or difference by mutual consultation. If the Parties fail to resolve such a dispute or difference by mutual consultation, then the dispute shall be referred in writing by either Party to the Adjudicator, with a copy to the other Party.
- 4.5.1.2 The Adjudicator shall give its decision in writing to both Parties within twenty-eight (28) days of a dispute being referred to it. If the Adjudicator has done so, and no notice of intention to commence arbitration has been given by either the Owner or the Contractor within fifty-six (56) days of such reference, the decision shall become final and binding upon the Owner and the Contractor. Any decision that has become final and binding shall be implemented by the Parties forthwith.
- 4.5.1.3 Should the Adjudicator resign or die, or should the Owner and the Contractor agree that the Adjudicator is not fulfilling its functions in accordance with the provisions of the Contract, another retired Judge of High Court / Supreme Court of India shall be jointly appointed by the Owner and the Contractor as Adjudicator under the Contract. Failing agreement between the two within twenty-eight (28) days, the new retired Judge of High Court / Supreme Court of India shall be appointed as Adjudicator under the Contract on the request of either party by the Appointing Authority specified in the SCC.

The Adjudicator shall be paid fee plus reasonable expenditures incurred in the execution of its duties as Adjudicator under the Contract. These costs shall be divided equally between the Owner and the Contractor.

#### 4.5.2 Arbitration

- 4.5.2.1 If either the Owner or the Contractor is dissatisfied with the Adjudicator's decision, or if the Adjudicator fails to give a decision within twenty-eight (28) days of a dispute being referred to it, then either the Owner or the Contractor may, within fifty-six (56) days of such reference, give notice to the other Party, with a copy for information to the Adjudicator, of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.
- 4.5.2.2 Any dispute in respect of which a notice of intention to commence arbitration has been given shall be finally settled by arbitration.
- 4.5.2.3 Any dispute submitted by a Party to arbitration shall be heard by an arbitration panel composed of three arbitrators, in accordance with the provisions set forth below.
- 4.5.2.4 The Owner and the Contractor shall each appoint one arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration panel. If the two arbitrators do not succeed in appointing a third arbitrator within twenty-eight (28) days after the latter of the two arbitrators has been appointed, the third

arbitrator shall, at the request of either Party, be appointed by the Appointing Authority for arbitrator as provided under the Arbitration Act.

- 4.5.2.5 If one party fails to appoint its arbitrator within forty-two (42) days after the other Party has named its arbitrator, the Party which has named an arbitrator may request the Appointing Authority to appoint the second arbitrator.
- 4.5.2.6 If for any reason an arbitrator is unable to perform its function, the mandate of the Arbitrator shall terminate in accordance with the provisions of applicable laws and a substitute shall be appointed in the same manner as the original arbitrator.
- 4.5.2.7 Arbitration proceedings shall be conducted in accordance with the procedure laid down in GCC. The language of Arbitration shall be in English.
- 4.5.2.8 The decision of a majority of the arbitrators (or of the third arbitrator chairing the arbitration panel, if there is no such majority) shall be final and binding and shall be enforceable in any court of competent jurisdiction as decree of the court. The parties thereby waive any objections to or claims of immunity from such enforcement.
- 4.5.2.9 The arbitrator(s) shall give reasoned award.
- 4.5.3 Notwithstanding any reference to the Adjudicator or arbitration herein,
  - (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree
  - (b) the Owner shall pay the Contractor any payments due to the Contractor.

## 4.6 Security

### 4.6.1 Issuance of Security

The O&M Operator shall provide the following performance securities for the due and faithful performance of its obligations under the Contract in the amount, manner and form specified below.

### 4.6.2 Contract Performance Security

- 4.6.2.1 Within 15 (fifteen) days from the date of LOI, O&M Operator, shall provide security for due and faithful performance of its obligations under the Contract for a value equivalent to **ten percent (10%)** of the first year O&M fees in the form of unconditional and irrevocable bank guarantee in the prescribed format (**“Contract Performance Security”**) with an **initial validity of 1 (one) year and a further claim period of 3 (three) months thereafter**. However, for the 1 x 65 MW (GACL) CPP the same will be provided at the appropriate time on information by GACL.

4.6.2.2 The Contract Performance Security shall be renewed every year throughout the term of the Contract, at least **90 (ninety) days prior to its expiry**.

**4.7 Copyright and Intellectual Property Right (IPR) and NDA**

The copyright of material containing data and information furnished by the Owner to the Contractor shall remain with the Owner. The bidder shall sign the Non-disclosure agreement (NDA) with the Owner to protect Copyright and Intellectual Property Right (IPR) and commercial information shared in good faith.

**4.8 Confidential Information**

4.8.1 The Contractor shall keep information confidential and shall not, without the written consent of the Owner, divulge to any third party any documents, data or other information furnished directly or indirectly.

4.8.2 The Owner shall not use such documents, data and other information received from the Contractor for any purpose other than execution of the Contract and operation and maintenance of the Facilities. Similarly, the Contractor shall not use such documents, data and other information received from the Owner for any purpose other than the operation and maintenance of the CPP as required for the performance of the Contract.

4.8.3 The obligation of a Party under GCC Sub-Clauses above, however, shall not apply to that information which

- (a) now or hereafter enters the public domain through no fault of that party.
- (b) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party hereto.
- (c) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
- (d) is required to be disclosed by Governmental or judicial order, in which case the party so required shall give the other party prompt notice, where possible and use reasonable effort to ensure that such disclosure is accorded confidential treatment and also to enable such other party to seek a protective order or other appropriate remedy at such other party's sole costs.

4.8.4 The above provisions of this GCC Clause shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Facilities or any part thereof.

4.8.5 The provisions of this GCC Clause shall survive termination, for whatever reason, of the Contract.

## 4.9 Representatives

### 4.9.1 Owner's Representative

The Owner shall appoint and notify the Contractor in writing of the name of the Owner's Representative. The Owner's Representative shall represent and act on behalf of the Owner at all times during the execution of the Contract. All notices, instructions, orders, certificates, approvals and all other communications under the Contract shall be given by the Owner's Representative.

All notices, instructions, information and other communications given by the Contractor to the Owner under the Contract shall be given to the Owner's Representative.

### 4.9.2 Contractor's Representative/s

4.9.2.1 The Contractor shall appoint the Contractor's Representative/s and shall request the Owner in writing along with CV of representative/s to approve the person so appointed. If the Owner makes no objection to the appointment within fourteen (14) days, the Contractor's Representative shall be deemed to have been approved.

4.9.2.2 If the Owner objects to the appointment within fourteen (14) days giving the reason there of, then the Contractor shall submit to the Owner the CV of a replacement, within fourteen (14) days of such objection and the procedure for approval by the Owner laid down under Clauses 4.9.2.1 and 4.9.2.2 shall apply *mutatis mutandis*.

4.9.2.3 The Contractor's Representative shall represent and act for the Contractor at all times during the execution of the Contract and shall give to the Owner's representative all the Contractor's notices, instructions, information and all other communications under the Contract.

## 4.10 Limitation of Liability

4.10.1 Notwithstanding any other provisions, except in cases of Gross Negligence, criminal negligence or Willful Misconduct, neither the Contractor nor the Owner shall be liable to the other, whether in Contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs.

4.10.2 Except as expressly specified in the Contract, the aggregate liability of the Contractor, on an annual basis, for any damages, claims, losses, demands, costs and expenses (including liquidated damages but excluding those related to violation of safety and housekeeping obligations provided under Section 6.5 and 6.8 under the Contract) shall not exceed 10% of the aggregated O&M Fee of that particular

year. Provided however that in case liability arises due to: (a) any breach of representations and warranties; (b) breach of applicable Laws; (c) death, accident or personal injury of any person; or (e) Gross Negligence or Willful Misconduct arising out of any act, omission or default of the Contractor (or the Contractor's employees, workmen, representatives or agents), the aggregate liability of the Contractor shall be unlimited.

Gross Negligence" means any act or failure to act which, in addition to constituting negligence, is in reckless disregard of or indifference to the obligations under the Contract or that constitutes a disregard of the consequences to the life, health, safety or property of another, without any necessary implication of consciousness of the high degree of risk or likely consequence on the conduct of the Party committing the act.

**4.11 Loss or Damage to Property; Accident or Injury to Workers Indemnification**

4.11.1 The Contractor shall indemnify and hold harmless the Owner and its employees and officers from and against any and or administrative proceedings, claims, demands, losses, all suits, actions damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property, arising in connection with the performance by the O&M Operator of its obligations under the Contract and by reason of the negligence of the Contractor or its Sub-Contractors, or their employees, officers or agents.

4.11.2 No indemnity or hold harmless provision of this Contract shall apply if loss or damage to any property, or injury to or death of persons, is due to Gross Negligence or Willful Misconduct of the Owner.

**4.12 Change in Laws and Regulations**

4.12.1 After the issuance of LOI, irrespective of change in Law and regulations, the O &M Fees shall remain firm throughout the duration of the contract.

**4.13 Force Majeure**

4.13.1 "Force Majeure" shall mean any event beyond the reasonable control of the Owner or of the Contractor, as the case may be, and which is unavoidable notwithstanding the reasonable care of the Party affected.

4.13.2 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within seven (7) days after the occurrence of such event.

4.13.3 The Party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such Party's performance is prevented, hindered or delayed.

#### 4.13.4 Force Majeure Events

A '**Force Majeure Event**' means any of the following, or a combination of them, occurring in India:

- (a) to the extent that it could not reasonably have been expected to occur at the place or at the time of year after taking into account meteorological data available at the Meteorological Department of India, cyclone, whirlwind, flood, tempest, storm, drought or other exceptionally adverse weather conditions (excluding normal monsoon conditions);
- (b) a natural act or epidemic, lightning, earthquake, volcanic eruption, meteorite, air crash, objects falling from aircraft, pressure waves caused by aircraft or aerial devices travelling at supersonic speed or, where it originates from a source external to the Site, a landslide, fire or explosion;
- (c) to the extent that it involves India but originates from a source external to India, act of war (whether declared or undeclared) invasion, armed conflict or action of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage, chemical, biological or radioactive contamination or ionising radiation or any natural act affecting communication and transportation links to India;
- (d) to the extent they occur in India, strikes or industrial action that interrupt supplies and services to the Facility (Power Plant) or the operation of the Facility (Power Plant) for at least seven (7) continuous days and which:
  - (i) are not India Political Events;
  - (ii) do not primarily involve the Owner, the Owner's contractors, the fuel supplier, or their respective employees, agents or representatives; or
  - (iii) are not attributable to any discriminatory policy or practice of the Owner, the Owner's contractors, the fuel supplier or their respective employees, agents or representatives; or
- (e) Any similar event or circumstance.

**4.13.4** If and when the operation of the plant is required to be completely stopped for the reason of non-supply of raw materials and/or utilities, the O & M operator will not be responsible for such stoppage and the plant shall be re-started by the O & M Operator at the earliest possible in consultation with the Owner. The O & M operator will not be liable for any consequential losses, damage or other liabilities, which may be suffered by or arise to the Owner during period of such stoppage.

**4.13.5** If the operation of the Plant has been stopped because of strike, protest or labour disturbance by the employees of the O & M operator and/ or O & M operator's authorised representative (s), then it shall be solely responsible for the same and consequences thereof.

**4.13.6 Allocation of costs arising due to Force Majeure**

During subsistence of a Force Majeure Event, the Owner and the Contractor shall bear their respective costs and neither Party shall be required to pay to the other Party any costs or O&M Fees. The Parties, however, adhere to any Orders / Laws issued by the Government during the Force Majeure Event.

**4.13.7 Termination due to Force Majeure**

If a Force Majeure Event subsists for a period of [180 (one hundred and eighty) days or more within a continuous period of 365 (three hundred and sixty five) days], either Party may in its discretion terminate the Contract by issuing a termination notice to the other Party without being liable in any manner whatsoever, and upon issue of such termination notice, the Contract shall stand terminated forthwith; provided that before issuing such termination notice, the Party intending to issue the termination notice shall inform the other Party of such intention and grant 15 (fifteen) days' time to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the termination notice.

**4.14 Termination**

The Owner shall without prejudice to any of its rights and remedies under the Contract or in law or in equity terminate the Contract or part thereof as mentioned below.

**4.14.1 Termination for Contractor's Default**

4.14.1.1 The Owner, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith by giving a notice of termination upon happening of any of the following event:

- (a) if the Contractor becomes bankrupt or insolvent, a receiver is appointed, compounds with its creditors, or, if the Contractor is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Contractor takes or suffers any other analogous action in consequence of debt.
- (b) if the Contractor assigns or transfers the Contract or any right or interest therein in violation of the provision of Contract.

- (c) if the Contractor, in the judgment of the Owner has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- (d) If the Contractor has abandoned the Contract.

4.14.1.2 The Owner, without prejudice to any other rights or remedies, it may possess, may terminate the Contract by giving a notice of termination and its reasons thereof to the Contractor after giving a reasonable notice of cure for such breach by the Contractor for 60 (sixty) days upon happening of any of the following event:

- (a) If the Contractor has without valid reason failed to commence work on the Facilities promptly or has suspended the progress of Contract performance for more than seven (7) days after receiving a written instruction from the Owner to proceed.
- (b) If the Contractor persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause.
- (c) If the Contractor refuses or is unable to provide sufficient materials, services or labor to execute the Contract.

(d) If the Contractor enters into a contract with the Owner's employee in connection with which commission has been paid or agreed to be paid by it, unless the particulars of any such commission and the terms of the payment thereof have been disclosed, in writing to the Owner and approval have been sought of the Owner prior to the execution of such contract by the Contractor.

(e) If the Contractor has failed to deliver services in part or full, then the Owner may, by notice to the Contractor and without prejudice to any other remedy under the Contract, terminate the Contract but without thereby releasing the Contractor from any of its obligations or liabilities which have accrued as at the date of termination of the Contract and without affecting the rights and powers conferred by the Contract on the Owner. Upon such termination the Owner may itself complete the supplies of may employ any other Contractor to complete the job at the risk and cost of the Contractor.

- (f) If the contractor is unable to replace/ recruit new key staff member/s within a period of four weeks in case the existing staff failed to perform to the satisfaction of the Owner, who had asked for a replacement.
- (g) If the contractor is unable to replace/ recruit new key staff member/s within a period of four weeks in case the existing staff leaves.

**4.14.2. Termination without default**

Either Party may terminate the Contract at any time without assigning any reason, by giving six months' notice to the Other. The Contractor shall stop the

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performance of the Contract from the effective date of termination of the Contract as mentioned in the notice of termination and shall hand over all drawings, documents, spares, tools and tackles, the rights to the software provided by the O&M Contractor during the term including related rights, sanctions and approvals to the Owner and shall demobilise from the Site as mentioned in the Contract. The Owner shall pay to the Contractor the O&M Fees due to the Contractor till the date of termination, duly supported by documents after adjusting payments already made till the termination. No consequential damages shall be payable by either Party to the Other in the event of such termination.

**4.14.3 Termination for Owner’s Default**

4.14.3.1 If the Owner has failed to pay the Contractor any undisputed sum due under the Contract within the period required as per the O&M Contract or has failed to approve any invoice or supporting documents without just cause, the Contractor shall give a notice of at least 60 (Sixty days) days for remedy of such failure by the Owner.

4.14.3.2 The Contractor shall issue a notice to the Owner with a further 15 (fifteen) days of cure period and terminate the Contract if the Owner fails to act as per Clause 4.14.3 above.

**4.14.4 Contractor to continue the performance**

Notwithstanding the issue of a termination notice by either Party, the Contractor shall continue to perform its obligations under the Contract with the objective of ensuring continued availability of the Facilities, failing which the Contractor shall compensate the Owner for any loss or damage occasioned or suffered on account of the underlying failure or breach.

**4.14.5 Handover of Facilities**

Upon termination of the Contract, howsoever caused, the Contractor shall cooperate with Owner and any successor O&M Contractor appointed by the Owner for the peaceful handing over of the Facilities. All rights and obligations of the Contractor under the Contract shall be ceased except under the Clauses which expressly requires survival after the termination. The Contractor shall comply with all reasonable requests of the Owner in this regard including the execution of documents and other actions.

**4.14.6 Suspension**

4.14.6.1 The Owner may suspend work in whole or in part at any time giving contractor notice in writing to such effect stating the nature, the date and the anticipated duration of such suspension. On receiving the notice of suspension, the contractor shall stop all such work, which the Owner has directed to be suspended with immediate effect after taking all due precautions and following the stoppage procedures. The contractor shall however continue to perform

other work in terms of the contract, that the Owner has not suspended. Contractor shall resume the suspended work as expeditiously as possible after receipt of the withdrawal of suspension notice.

4.14.6.2 In case the suspension continues for more than 240 days (two hundred and forty), at the end of the said period, the Contractor shall be, by a further 30 (thirty) days prior notice to the Owner be entitled to terminate the Contract. In that case the Contractor shall hand over all materials, spares, consumables, drawings, documents and all goods manufactured by him including related rights, all software installed, sanctions and approvals to the Owner. However, if the Owner permits the Contractor to resume work within 30 (thirty) days period, the Contractor will not have any rights of termination due to such suspension.

4.14.6.3 The Owner shall pay the Contractor the actual cost incurred by the Contractor from the date of suspension till the date of the termination or the date of resumption of the work as applicable duly supported by documents provided by the Contractor, after adjusting payments till such suspension. However, in case of suspension continues for more than 270 days, the Contractor shall be paid Monthly Charges for the initial period of three (3) months only and for later period, actual cost incurred by the Contractor as above shall be payable.

#### 4.15 Adjudicator:

Adjudicator under the contract shall be a retired Judge of High Court / Supreme Court of India as may be jointly appointed by MD/CEO, **THE OWNER & MD/CEO of the O&M Operator.**

#### 4.16 Settlement of Disputes

The arbitration proceedings shall be conducted in accordance with Indian Arbitration and Conciliation Act 1996.

The Place for Arbitration shall be: **Vadodara, India.**

#### 4.17 General Obligations of the O&M Operator

4.17.1 The O&M Operator shall ensure that the O&M Services are, at all times during the Term, performed:

- (i) in accordance with Prudent Industry Practice;
- (ii) in a manner which is not likely to be injurious to health or likely to cause damage to property;
- (iii) accordance with Law and Environmental Standards;
- (iv) in accordance with all Relevant Consents;
- (v) having full regard to the safety of all persons on the Site;

- (vi) so as to ensure that the Site and the Facility is kept in an orderly state, in accordance with Prudent Industry Practice; and
- (vii) in compliance with all conditions and restrictions relating to the Site as prescribed by the Owner from time to time.

**4.18 Quality Assurance**

The O&M Operator shall ensure that the operation and maintenance of the CS Plant is subject to quality management systems which shall comply with Prudent Industry Practices and Environment Standards.

The Owner may carry out audits of the O&M Operator’s quality management systems from time to time including periodic monitoring and spot checks.

The O&M Operator shall co-operate with the Owner in providing such information and documentation which the Owner may reasonably require in connection with the Owner’s rights of inspection under this clause.

**4.19 Representations and Warranties**

4.19.1 Each Party makes the following representations and warranties to the other Party.

- a. Incorporation, power and capacity

It is duly incorporated under the Laws of India and has the power and capacity to enter into the Contract and perform its obligations under the Contract.

- b. Authorization

It has taken all necessary action to authorize entry into and comply with its obligations under this Agreement.

- c. Binding obligations

It has taken all necessary action to ensure that its obligations under the Contract are legal, valid, binding and enforceable in accordance with its terms.

4.19.2 Without prejudice to the generality of the foregoing, the Contractor hereby makes the following representations and warranties to the Owner and acknowledges that the Owner has relied on such representations and warranties in entering into the Contract

- (a) Operation of the Facility

The Contractor warrants that the Facilities shall be operated in accordance with the performance guarantees stipulated under Chapter 6 for the duration of the Operating Tenure.

- (b) Status of Site

The Contractor warrants that the Site and the Facility will be kept in an orderly state, in accordance with Prudent Industry Practice and the Contractor shall observe all conditions and restrictions relating to the Site.

- (c) Information and records

All information and records disclosed by the Contractor to the Owner arising out of or in relation to the performance of the Contract, including in response to the RFP issued by the Owner, are true, accurate, complete and not misleading in any material respect.

- (d) Suits and proceedings

There is no action, suit or proceeding, at law or in equity, or official investigation by or before any governmental authority, arbitral tribunal or any other body pending or, to the knowledge of the Contractor threatened, against or affecting the Contractor or any of its properties, rights or assets, which could reasonably be expected to adversely affect, in any manner whatsoever, the Contractor's ability to perform its obligations under this Contract or the validity or enforceability of this Contract.

#### **4.20 Tax**

The Parties agree that the fees payable by the Owner to the Contractor for the services provided under the Contract shall be subject to Tax Deduction at Source (TDS) under the Income Tax Act, 1961 and/or other statutory deductions as applicable from time to time.

## Chapter 5

### 5. Special Conditions of Contract (SCC)

The following Special Conditions of Contract (SCC) shall supplement / amend the General Conditions of Contract (GCC). Wherever there is a conflict, the provisions in SCC shall prevail over those in the GCC.

#### 5.1 Work Program

##### 5.1.1 Contractor's Organization

The O&M Operator shall supply to the Owner a chart showing the proposed organization to be established by the Contractor for carrying out work for the pre-commissioning, commissioning and the operation and maintenance of Facilities. The chart shall include the identities of the key personnel together with the curriculum vitae of such key personnel to be employed within 15 (fifteen) days of the receipt of award of Contract. The Contractor shall promptly inform the Owner in writing of any revision or alteration in such an organization chart. The organization chart for the pre-commissioning, commissioning and O&M of the 1 x 65 MW CPP (GACL) will also be provided taking due care of shared manpower between GNAL and GACL units. This will also have to be considered by the bidder for the financial bid.

The employees / workmen of the contractor shall be polite, decent, and courteous to all officers /employees/ workmen of GNAL, and shall maintain a high standard of discipline, decency, and decorum. They shall be medically fit and fully competent to perform the work. The upper age limit shall be 60 years, except certain exceptional cases with unique set of qualification and experience, where specific exceptions can be made on case-to-case basis with prior written consent of GNAL. All such appointments shall be subject to review every two years.

##### 5.1.2 Subcontracting

5.1.2.1 The Contractor shall not sub-contract or sub-let the whole or part of the services or the whole of its services under this O&M Contract, whether to one or more parties without permission of the Owner in writing. Further, the Owner reserves its rights to define certain areas/functions wherein sub-contracting or sub-letting shall not be permitted.

Provided however, any sub-contracting of any of its obligations under this Contract shall not in any manner relieve the Contractor of its obligations to the Owner.

5.1.2.2 The Contractor shall ensure that all Sub-Contractors maintain insurance similar to that required to be maintained by the Contractor.

5.1.2.3 In the event the Contractor seeks to appoint a Major Sub-Contractor, the Contractor shall ensure that such Sub-Contractor proposed satisfies the following criteria for which documents shall be submitted for the approval of the Owner:

- i. The Proposed Major Sub-Contractor shall have worked in a similar capacity in IPP or CPP for at least 3 years;
- ii. The Proposed Major Sub-contractor must have a sound financial condition and should submit their financial statements/P&L statement/IT returns verified by a practicing-chartered accountant for the last three years;
- iii. The Proposed Major Sub-Contractor must submit the list of tools and tackles as well as the resume of its main manpower;
- iv. The Proposed Major Sub-Contractor must submit the copies of all statutory approvals/permissions to be able to carry out the works
- v. The Proposed Major Sub-Contractor shall submit an affidavit stating his acceptance to following all the rules and regulations prevalent at that point of time

5.1.2.4 In relation to any Major Sub-Contract:

- i. The Owner may require, as a condition to such providing its consent, that any such Major Sub-Contractor enter into a direct agreement with the Owner and/or its lenders/agents or trustees of the lenders of the Owner.
- ii. Un-priced copies of all Major sub-contracts shall be submitted to the Owner immediately after signing/ordering of such sub-contracts by the Contractor
- iii. All Major subcontracts shall expressly permit assignment of all rights and obligations of the Contractor to the Owner or its nominee on the issuance of notice in this regard by the Owner to such Major Sub-Contractor.

**5.2.1 Insurance**

5.2.1.1 The Owner shall cater to the insurances with respect to the equipment and the power plant. This includes the Third-Party Liability Insurance, IAR (Industrial All Coverage except the manpower and property of O& M operator the responsibility of which will be always with O &M operators), Machinery breakdown, Fire and the Loss of Profit and Business Interruption Insurance. In case of occurrence of any such eventuality, the O&M Operator must continue to provide performing its obligations under the Contract without waiting for the settlement of any insurance claim and on a best effort's basis, ensure that the Power Plant is restored under normal working condition in short span of time. However, the insurance claims realized pursuant to any such eventuality will be passed on to the O&M Operator by the Owner. The O&M Operator must support the Owner and provide all the necessary documents to the Insurance Company to avail such insurance claim. Time to time intimation of such is contractor's responsibility. The O&M Operator shall prepare the insurance claim along with required documentation to the Owner in turn for submitting to the insurance company. The Owner shall take the Waiver of Subrogation in favour of O&M Operator.

5.2.1.2 To the extent of any insurance recovery under any insurance policy maintained by the O&M Operator or the Owner, the O&M Operator and the Owner hereby waive any right of recovery against each other. This Clause is intended to constitute a full waiver of the insurers' rights of subrogation. Accordingly, each Party will ensure that insurance companies will not have any right of subrogation against the other Party.

5.2.1.3 The Parties agree that notwithstanding the availability, pendency or otherwise of insurance for and in respect of the Facilities, the O&M of the Facilities shall remain the sole responsibility of the O&M Operator during the Term. The Contractor shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified. The identity of the insurers and the form of the policies shall be subject to the approval of the Owner, who should not unreasonably withhold such approval.

### 5.2.2 **Automobile Liability Insurance**

Comprehensive automobile liability insurance Covering use of all vehicles/heavy equipment/ used by the Contractor or its Sub-Contractors covering vehicles owned, hired or non-owned in connection with the execution of the Contract.

### 5.2.3 **Workers' Compensation**

In accordance with the statutory requirements applicable, the insurance of the employees involved in this contract on the rolls of the Contractor shall be Contractor's responsibility. This would broadly cover the following:

- i) Workers compensation and occupational illness insurance for all the contractors and sub-contractors' staff;
- ii) Employers liability insurance with adequate limits per occurrence and in the aggregate;
- iii) Comprehensive or commercial general liability insurance with bodily injury and property damage subject to deductibles; such insurance shall include but not necessarily limited to contractual liability, property damage liability, personal injury liability, liability for pollution (sudden or accidental), watercraft protection

### 5.2.4 **Other Insurance**

Insurance covering Force Majeure, War Risk and such other insurances as may be specifically agreed upon by the parties.

5.2.5 The Contractor shall ensure that, where applicable, its Sub-Contractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Sub-Contractors are covered by the policies taken out by the Contractor.

- 5.2.6 If the Contractor fails to take out and/or maintain in effect the insurances, the Owner may take out and maintain in effect any such insurances and may from time to time deduct from any amount due to the Contractor under the Contract any premium that the Owner shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Contractor.
- 5.2.7 Unless otherwise provided in the Contract, the Contractor shall prepare and conduct all and any claims made under the policies effected by it, and the premium payable by any insurers shall be paid to the Contractor. The Owner shall give to the Contractor all such reasonable assistance as may be required by the Contractor. With respect to insurance claims in which the Owner's interest is involved, the Contractor shall not give any release or make any compromise with the insurer without the prior written consent of the Owner. With respect to insurance claims in which the Contractor's interest is involved, the Owner shall not give any release or make any compromise with the insurer without the prior written consent of the Contractor.
- 5.3 Contractor shall have to arrange and procure at their own costs required number of tools, tackles, safety Personnel Protective equipment for workmen engaged and other equipment for execution of the job work.
- 5.4 Contractor shall arrange and obtain License under the provisions of Contract Labour (Regulation & Abolition) Act, 1970 and Rules 1972 thereunder, before deploying the necessary manpower for commencing contract work and submit a copy of the same to the Owner. In absence of such License, contract shall be liable to be terminated forthwith without assigning any reasons thereof and liabilities whether legal, statutory or of financial as a result and consequence thereof shall be on the contractor. Contractor shall comply with all the requirements of all labour & industrial laws including *inter alia* Contract Labour (Regulation & Abolition) Act, 1970, Employees' Provident Fund and Miscellaneous Provisions Act, 1952, Employees' State Insurance Act, 1948, Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, Payment of Gratuity Act, 1972, Maternity Benefit Act, 1961, Rights of Persons with Disabilities Act, 2016, Code on Wages, 2019 and such other laws as may be applicable to the Contractor ("Labour Laws") in respect of all their employees employed by the contractor in connection with the job work awarded to them. The Contractor shall comply with all the relevant Labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights. The Contractor shall require the Contractor's Personnel to comply with all applicable Laws, including those concerning safety at work.
- 5.5 Contractor shall be liable and responsible without any limit notwithstanding anything contained elsewhere, for and shall make good forthwith all losses, damages and expenses incurred or suffered by the Owner and shall keep the Owner harmless and indemnified against all or any claim, injuries, losses suffered or caused to be suffered or incurred by the Owner or by any of Contractor's employees, workmen, representatives, agents or to all or any of the Owner properties, plant, machinery,

equipment's, materials or goods or personnel or to a third party, by reasons or consequence of any act, omission or negligence committed or omitted to be done during the course of their performance of this Contract and within the terms of the Contract.

5.6 The Owner shall not be liable for all or any claim, injury, loss, damages, cost of expenses which may be made against or caused to be suffered or incurred by contractor, their representatives, employees, workmen, or agents or properties, machinery, equipment, materials or goods during the course of their work under this contract.

5.7 In case of accident, injury, losses caused, suffered or incurred by all or any of Contractor's employees, workmen, representatives or agents, contractor will be wholly and solely responsible to meet with the expenses of accident, treatment and payment of compensation as per the Workmen's Compensation Act. Provided that Liability of the O&M Operator shall be unlimited.

5.8 The Owner shall be entitled to terminate the contract during the period of the contract and **without compensation and without any notice/reference** to contractor and without prejudice to their right, should the contractor fail to fulfill or carryout all or any of their obligations covered under this contract or commit default or breach of any or all the terms and conditions of this contract.  
**In case of termination of contract**, the Owner shall be entitled to allot the same job to another contractor as it deems appropriate.

5.9 Contractor shall forthwith remove or replace any of their employees who in the opinion of the Owner's Officers, is unfit on any account to be associated with the execution of jobs awarded to the contractor.

5.10 No worker, employee or agent or sub-agent or any of contractor's dependents shall smoke or light or anything prohibited within the factory premises. Carrying of match box/lighter or any other explosive and/or inflammable materials inside the plant, is strictly prohibited.

5.11 In case, canteen facilities are utilized by the Contractor's worker, employee or agent or sub-agent or any of their dependents, suitable amount will be paid to the canteen contractor directly by the Contractor.

5.12 Contractor shall maintain suitable registers/records to enter relevant particulars concerning each document handed over by the Owner to the Contractor within the scope of work awarded to the Contractor. Contractor will have to maintain all statutory registers, records and returns to be submitted under different laws. All records in electronic form should be backed-up on real time basis.

- 5.13 Contractor shall submit to the concerned Officer of the Owner daily statements, showing **pending work** and progress of work in such a format and manner as may be required.
- 5.14 The Owner reserves its right to do any or all the jobs mentioned under the scope of work departmentally or through any other agency for which contractor shall have no claim whatsoever. The owner also reserves the right to get any particular repairs, maintenance, inspections etc from OEM/ authorized vendor/ experienced and qualifies vendor if the same is not carried out by the O&M operator satisfactorily or as per norms or not as per the expectations of the owner and subsequently recover the costs involved from the bills payable to the O&M operator, such cost shall be over and above the maximum liability as per clause 4.10.2.
- 5.15 Contractor shall faithfully, honestly and with due diligence and care, execute, perform and carryout all the work as per contract.
- 5.15.1 The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.
- 5.15.2 If due to the negligence or delay attributable to Contractor or due to any failure on their part or their agent or their employee in exercise of due diligence, care, caution or economy or due to non-compliance of any of the provisions or written directions given by the Owner, the Owner suffer or are caused to suffer any loss or damage or incur any cost or expenses, Contractor shall be liable to reimburse and make good such losses and/or damages, costs and expenses immediately. The decision of the Owner in this regard shall be final and binding.
- 5.15.3 Any damage to buildings or to roads or to any other properties at site of work which may be caused by Contractor or their agent or their sub-contractor or their employees, shall have to be repaired, replaced or made good by the Contractor immediately at their own costs as required by the Owner. In case, the Contractor fails to carry out such repair/replacement job, then the Owner will get such job done and cost of such job will be recovered from dues payable to the contractor. The decision of the Owner in this regard shall be final and binding.
- 5.16 The Contractor shall ensure and deploy **sufficient manpower** and shall put such man-power into such a position so as to carry out and discharge obligations and liabilities under the contract and to carry out the jobs awarded to the contractor and to carry out the instructions given by the Officers In-charge on behalf of the Owner, in such a way that the work is carried out properly, efficiently, smoothly, steadily, expeditiously.

- 5.16.1 In case if the contractor fails to provide required number of manpower as required by the Owner, the Owner shall arrange to bring-in such manpower at contractor's costs and risks. In such case, the decision of the Owner will be final and binding to the Contractor.
- 5.16.2 Contractor will provide an effective supervision on all the jobs awarded to them. The Contractor shall engage a suitably qualified and experienced full-time supervisors for the purpose. The labour laws for skilled/semiskilled/unskilled/casual labor shall be strictly adhered to. The contractor shall preferably rotate all contract/casual workers among various sections/work places with different nature of work. The owner shall not be responsible in any manner for claims of permanent employment by any of the skilled/unskilled/contract/casual labour of the O&M operator and the O&M operator shall indemnify the owner of all such claims. The O&M operator at his risk and cost shall settle any such claims arising during or after the tenure of the O&M contractor.
- 5.16.3 **Child Labour** shall not be engaged for any of the jobs.
- 5.16.4 Certain Jobs shall have to be carried out ordinarily during daytime only. In case of **emergency**, jobs may be continued till the completion. In that case prior **written permission from the concerned authority** shall have to be obtained by the Contractor.
- 5.16.5 The decision of the requirement of number of persons, qualification of persons, tools & tackles and safety equipment's, for any jobs, will be diligently taken by the respective supervisor of the Contractor. However, such decision shall be subject to review by the Officer In charge of the Owner and his decision shall be binding to the Contractor.
- 5.16.6 **The Contractor shall issue IS approved Safety Shoes/Items of Personnel Protective Equipment (PPE) every year to their contract workers.** Contractor shall procure and issue Safety Items at his cost. It shall be the responsibility of the contractor to ensure that all the workers have been issued such safety items and they use the items while carrying out the jobs assigned to them. In case of default, pertaining to use, misuse, non-use of safety items, liquidated damages equivalent to double the price of safety item multiplied by the number of persons not using the items shall be levied by the Owner from the Contractor. In case the safety shoes / safety items have become non-usable due to any reason whatsoever, it shall be replaced against the old one at free of cost by contractor on instructions of the **Concerned Department. Head / Safety Officer of the Owner.**
- 5.16.7 The contractor shall be required to submit information and statistical data in the prescribed format/s to the concerned authority before 15th of each month in

respect of work done in the previous calendar month, failing which the payment of the bills payable shall be withheld.

5.16.8 The Contractor shall submit to the Owner, details showing the number of each class of Contractor's Personnel on the Site. Details shall be submitted each calendar month, in a form approved by the Owner during the Term.

5.17 Compliance with Applicable Labour Laws: -

5.17.1 The Contractor will not employ any person below the age of 18 years or medically unfit for any work.

5.17.2 The Contractor shall issue, at his cost, Identity Cards to all its workers, representatives in prescribed format under Industrial Employment Standing Orders Act/ Factories Act. The updated details of all such cards and the changes made from time to time shall be provided to the Owner.

5.17.3 The Contractor shall at their own expense comply with all Labour Laws and keep the Owner indemnified in respect of any claims, costs, expenses, demands, proceedings or losses arising out of or attributable to the Contractor's non-compliance with applicable Labour Laws. Some of the major liabilities under various Labour & Industrial Laws which the contractor shall comply with are as under, but not limited to: -

- (a) Payment of deposit in respect of each contract labour at the rate prescribed with the Office of Commissioner of Labour, as per the Contract Labour (Regulation & Abolition) Act, 1970.
- (b) License fee as prescribed under the Contract Labour (Regulation & Abolition) Act, 1970 and the rules framed thereunder, depending upon the number of workmen employed by the contractor.
- (c) Payment of retrenchment compensation, one-month notice-pay and other liabilities as per the Industrial Disputes Act. Any payment of employee/s arising out of claim or dispute under the Industrial Dispute Act, 1947 or any other Labour Laws.
- (d) The above is some of the Contractor's major liabilities in addition to other liabilities prescribed under the various Labour Laws in force from time to time and as made applicable by the Statutory Authorities which the contractor shall have to comply with.
- (e) The Contractor shall employ adequate numbers of experienced staff at site for daily supervision and maintenance of various registers and records required

under the Law and the Contract. No payment for supervision shall be admissible.

5.18 Provident Fund And Pension Scheme: -

5.18.1 The Contractor shall submit along with their monthly bills, a Statement regarding deduction against Employees Provident Fund (PF) in respect of each concerned employee. **PF @ 12%** or at the rates made applicable by the Government from time to time of the basic wage rate/amount shall be deducted by the contractor from the payment made to the workers who are eligible for PF deductions.

5.18.2 Contractor's contribution and workers' contribution towards PF and Pension Fund (PS) shall be paid by the contractor every month before 15th instant to Regional Provident Fund Commissioner's Office and the contractor will be required to show proof of the same to the HR Department of the Owner for verification. Contractor contribution towards PS shall be deposited by the Contractor with RPFC, Baroda. The Owner in no way will be responsible for any non-compliance by the Contractor.

5.18.3 Contractor's contribution to the professional fund shall be done as per rules and regulations valid from time to time

5.19 Deposit Linked Insurance Scheme: -

The contractor shall have to deposit 0.5% (Half Percent) of the aggregate of wages in respect of employees who are members of the Provident Fund as the contribution to the Deposit Linked Insurance Fund with Regional Provident Fund Commissioner (RPFC), BARODA or such contribution per worker as decided by the Owner to the Owner.

5.20 Administrative Charges: -

Administrative charges for maintaining PF, PS, EDLI Account shall be deposited by the contractor at RPFC, Baroda, at the rates applicable or such contribution as may be decided by the Owner to the Owner.

5.21 Paid Leave Facility and Retrenchment Compensation:

5.21.1 Paid Leave Facility at the rate **one day for every twenty days** worked by the contractor's labour shall be provided by the contractor to their workers. The contractor shall maintain leave record/leave cards for individual labour which shall be duly verified and approved by the Owner's Authorized Officer.

5.21.2 On termination of the contract, contractor shall serve one-month advance termination notice to his contract workers or shall pay wages in lieu of it. The contractor shall also serve general notice of termination of contract by

displaying it on notice board. The contractor shall pay retrenchment compensation @ 15 days' wages for every completed year of service and gratuity @ 15 days for every completed year of service to his eligible contract workers, on completion of contract. The contractor shall submit copy of written acknowledgement/declaration of his all contract workers for having received all his legal dues, on completion of contract. Unless such declaration of all workers engaged by the contractor is not submitted to the Owner the full and final payment shall not be made on completion of contract.

5.21.3 All payments like wages, bonus, leave wages, payment at the time of termination of services etc shall be disbursed in presence of the Owner HR representative and obtain signature of the HR representative indicating that payment is made in his presence. Any payment which is not disbursed in presence of HR representative of the Owner shall not be considered as a proof of payment to workers by the Owner.

5.22 Workmen's Compensation and Employee's Liability Insurance: -

5.22.1 The contractor shall be liable to pay compensation under the provisions of the Workmen Compensation Act, 1973. Insurance shall be affected for all Contractor's employees engaged in the performance of this contract. If any of the work is sub-let with or without the Owner knowledge, the contractor shall require the sub-contractor to provide Workmen's Compensation and Employer's Liability Insurance for the latter's employees, unless such employees are covered under the contractor's insurance.

5.22.2 The contractor shall raise no claims against the Owner on account of payments to be made by them as indicated above. the Owner shall not be called upon to bear any liability whether financial or otherwise on these matters and the contractor shall satisfy the Government/the Owner authorities that all obligations in this respect have been duly fulfilled by them. Statements made in the inquiry documents or any other documents, if any, which are not in conformity with the above stipulation, should be deemed to have been withdrawn ab initio.

5.22.3 The contractor shall indemnify the Owner and its every member, Officer, Employee and Engineer against any claims, demands, costs and expenses whatsoever arising out of or in connection with the matters referred to in these Articles and elsewhere and against all actions, proceedings, claim, demand, costs and expenses which may be made against the Owner or by Govt. for or in respect of or arising out of any failure by the contractor in the performance of their obligations under the documents. The Owner shall not be liable for or in respect of any demands or compensations payable under any law or in consequence of any accident or injury to any of their workmen or other person in their employment or their sub-contractor and the contractor shall indemnify and keep indemnified the Owner against all such damages and compensation

and against claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

- 5.22.4 The Owner shall be entitled to deduct directly from the bills to be paid to the contractor, any sum or sums payable by the contractor and which sum/sums, the Owner is required to pay on account of their default in respect of all liabilities referred to in above clauses.
- 5.22.5 The Contractor shall be responsible for all matters arising out of the performance of the Contract and shall comply and adhere to, at their expense with all laws. The Contractor shall indemnify and keep indemnified and save the Owner harmless against all liabilities in this respect. The Contractor shall be fully responsible for the work, conduct, supervision and control of all their own personnel and the Owner shall in no way be held liable and responsible for supervision, control, etc. of these personnel. Since the contractor shall have full and exclusive supervision and control over contract awarded to them and the persons engaged for the purpose under this contract, the contractor shall be responsible and liable under the provisions of civil and criminal laws, labour laws etc for their work, behavior and Industrial Relation problems and the Owner shall have no responsibility whatsoever on this account.
- 5.22.6 The contractor shall ensure that all the employees engaged by him are medically fit and are free from all communicable contagious infections and other diseases and every year, the contractor shall submit **Medical Fitness Report / Medical Examination Report** from qualified medical practitioner for all contract workers deployed by him and the Owner shall have the right under Clause No. 2.3.17 to ask the Contractor to remove any of his employee/s.
- 5.22.7 The contractor shall be liable and responsible for their employees observing rules and regulation of the the Owner including the security and safety regulations provided under the laws and instructions that may be issued by the Owner from time to time. In case the owner suffer any loss etc. of whatever nature on account of contractor's employees not following the security and safety regulations / instructions, the contractor shall be liable to make good all such losses as may be determined by the Owner at his sole discretion. the Owner shall have the right to recover all such losses etc. from the dues payable to the contractor and from the Contract Performance Security, as the case may be and by other remedies available under the law.
- 5.22.8 The laborer's permitted inside the Power Plant should be engaged for the specified work only and their movement inside the Power Plant shall be restricted by the Contractor to the area of the specified work only under the Contractor and should not be employed in other jobs inside the Power Plant.
- 5.22.9 Contractor's workers/supervisors will have to observe the Power Plant shift hours and will not be permitted to enter or go out any time as they like. For any

odd hours entry or exit, the contractor has to make a request and only after considering it proper adequate passes would be issued to the contractor.

- 5.22.10 If in the Owner's opinion any of Contractor's Personnel are found to be suffering from any disease or if any employee is found to commit any misconduct or misbehavior on in the Owner's opinion undesirable, the Owner at its sole discretion, may require the contractor to remove such employee/s or prevent them from entering the Power Plant. It is clarified that the Owner reserves its right to cancel token/entry/exit passes of all or any of contractor's workers, supervisors, agents, etc. without giving any reasons whatsoever for the same.
- 5.22.11 The Contractor shall do the job with utmost care, speed, precision and follow all the instructions / directions / formalities for execution of this work. If the Owner suffer any loss towards demurrage, wharf age, detention and other charges, loss of materials, loss of energy, loss of any property, etc. due to delay and/or negligence on the part of contractor and/or their employees, the same will be recovered from the Contractor's invoices or from the Initial Performance Security or the Contract Performance Security, as the case may be. the Owner's decision in this regard will be final and binding to the Contractor.
- 5.22.12 All contractor's workmen/employees/agent and their tiffin's/bags, etc. will be liable to security check at any time and at the time of entry/exit.
- 5.22.13 The contractor hereby accepts his obligation to ensure that workmen shall observe discipline, work peacefully and shall not cause or create nuisance or disturbance in or around the the Owner's premises.
- 5.22.14 The contractor also accepts and acknowledge that he will be responsible for and will ensure that none of his workmen carries any intoxicating material or weapon or any dangerous thing in the the Owner or enters the Owner under influence of any Drugs or Alcohol/ Liquor or other intoxication substance.
- 5.22.15 The contractor undertakes to ensure that no illegal activity or theft or undisciplined behavior is done by his workmen and if any such illegal activity, theft or undisciplined behavior is done by any of his workmen, the contractor will take strictest legal action against such workmen including lodging of complaint with police and handing over the concerned workmen to police authorities.
- 5.22.16 The contractor undertakes to ensure that no political activity is done by his/her representative and/or his/her workmen.
- 5.22.17 The Contractor will be solely responsible for ensuring compliance of the terms and conditions of the Contract and Laws, by the Contractor's Personnel. The Contractor acknowledges that the Contractor's Personnel will be under the complete control and supervision of the Contractor. For the avoidance of doubt, it is expressly clarified that no relationship, including employer – employee or

master – servant will come into existence between the Contractor’s Personnel and the Owner. The Contractor shall indemnify the Owner against all the claims raised against the Owner with regard to the services being rendered by the Contractor / Contractor’s Personnel.

5.23 Rates and Remuneration: -

5.23.1 The Parties acknowledge that the Contract is a fixed price contract quoted by the Contractor as part of the ‘Price Bid’ and agreed by GNAL. (“**Contract Price**”).

For the avoidance of doubt, it is clarified that the Contract Price shall be inclusive of all costs of material, labour (including any payments or contributions that may be required to be made in relation to the Contractor’s Personnel under Labour Laws).

5.23.2 The Owner will have the right to recover the damages/losses at its discretion, terminate the contract in part or full and get it executed through some other agency, at contractor’s sole risks and costs, in the event of non-performance, non-fulfillment of contractual terms or breach of contract, namely but not limited to :

- i. If the contractor fails or neglects to execute the work and/or,
- ii. If the progress of the work is not satisfactory and/or
- iii. Non-fulfillment of any of the terms and conditions of the contract
- iv. If the contractor does not deploy adequate manpower/ tools & tackles for the services stipulated under the contract, the Owner will have the right to employ people from any alternate source and recover the extra cost incurred from any of contractor’s Bill/s or Bank Guarantee. the Owner reserves the right to terminate the contract without assigning any reasons or without payment of compensation. The decision of the Owner in this regard, shall be final and binding to the contractor.

5.23.3 The contractor is not appointed as an exclusive party for this job and the Owner reserves the right to appoint one or more agencies.

5.24 Not used

5.25 Payment to the Employees, Labour Employed by the Contractor:

5.25.1 The wages of all employees employed by the contractor under this contract, shall be paid by the contractor before expiry of 7th day after last date of the month in respect of which wages are payable ( i.e. wages of a month have to be paid by the contractor in the first week of the following month). The minimum

basic wage rates as notified by the Government or any such other Authorities will have to be paid by the contractor to all their workers. The payment of overtime shall be as per the provisions under Factories Act. The payment of wages, advances, bonus, settlement of employee's legal dues, etc. shall be substantiated by documents of bank transfer or any other mode of payment and shall be a part of the invoice submitted by the Contractor and documentary evidence of workmen staff as specified in the statutory rules needs to be submitted to the Owner every month for compliance of the same.

- 5.25.2 This Clause will apply even to differential payments and such differential payments made subsequently as arrear payment.
- 5.25.3 The value of job done at the rate agreed herein shall constitute the sole and inclusive consideration for the contractor under contract and no further or other payment whatsoever shall be or become due payable to the contractor under the contract.
- 5.25.4 Contractor will prepare their bill/s in duplicate with duly signed at the end of each month for the work done and will submit the bills to the Owner.
- 5.25.5 The Owner will examine the Bill, including for the certification that the contractor has adhered to and complied with all statutory conditions in respect of Payment of Minimum Wages, Bonus, PF, Workmen Compensation and Earned Leave to his workers and other laws to be observed by them under various applicable Labour Laws. The Bill will be then processed by the Owner for payment.
- 5.25.6 Contractor will submit copy of Paid Challans of PF, Professional Tax, Labour Welfare Fund etc. with Attendance Register, Attendance Card, Shift Schedule, Salary Register etc. to the Owner every month for verification.
- 5.25.7 The contractor will be paid his bill amount after certification by the Owner within 30 (thirty) days of submission of bills to the Owner, after deduction towards Income-Tax, etc.
- 5.26 Area of Work:
- 5.26.1 The contractor shall be responsible for deploying all categories of labors as per the pre-assessed manpower requirement agreed with the Owner for execution of job awarded to him in all the Plants/Units/Departments/ Area as allotted to him from time to time.
- 5.26.2 The contractor shall engage **Competent Supervisors** to supervise the work of his workmen in compliance with the contract and the names of Supervisors shall be given to the Owner and the Concerned Department In-charge.

- 5.26.3 The contractor and / or authorized supervisor shall be available at work site and shall handle all the issues arising out of his contract workers, contractual obligations etc. In case of any damage of physical or financial nature caused by contractor's worker shall be recovered from the contractor.
- 5.26.4 The contractor will be required to maintain requisite registers, records, etc. as required to be maintained under applicable statutes and would be required to show the same to representative of the Owner on demand.
- 5.26.5 The contractor shall not deploy a greater number of laborers than mentioned in the Contract Labour License as per Section 12.1 of Contract Labour (Regulation & Abolition) Act.
- 5.26.6 The said License shall have to be renewed from time to time by the contractor without any default.
- 5.26.7 The contractor shall have to maintain record of details of workers employed in Form No.13, giving the details of their date of entry, full address and their specimen signatures or left-hand thumb impression. All forms shall be maintained in electronic format, using SAP compatible software, for which Owner will provide all assistance.
- 5.26.8 The contractor shall issue Electronic / Biometric attendance card in Form No.14 to all the labour deployed by him, for hassle free and accurate attendance record.
- 5.26.9 The contractor shall maintain Electronic / Biometric attendance register in Form No.16 and salary register in Form No.17. The contractor shall also issue salary slips to all the labour deployed by them in Form No.19 before the disbursement of salary is made.
- 5.26.10 The contractor shall maintain the register of advance in Form No.23 and any advance disbursed to any labour should be in presence of the representative of HR Deptt. of the Owner.
- 5.26.11 The contractor shall maintain overtime register in Form No.23.
- 5.26.12 The contractor shall prepare shift schedule in respect of labour required to be deployed in shift A, B & C respectively and shall arrange to submit to the HR & respective Department of the Owner on or before 25th instant of the previous month.
- 5.26.13 The contractor shall display on their Notice Board giving the details of wage period, place of disbursement of wages and time. The copy of this notice should be sent to the HR Deptt. of the Owner at least 24 hours before the disbursement of wages is to be made.

- 5.26.14 The contractor shall maintain wage deduction register in Form No.20 and fine register in Form No.21.
- 5.26.15 The contractor shall prepare half yearly return in Form No.24 on 30th June and 31st December respectively and shall submit the same on the next working day to the Owner without fail. The contractor shall forward the Half Yearly Return to the Labour Commissioner, Government of Gujarat, Ahmedabad.
- 5.26.16 The contractor shall maintain the leave register required under the Factories Act.
- 5.26.17 The contractor shall issue Identity Card with Photograph to all the labour deployed by them within 3 (Three) days of their date of entry.
- 5.26.18 The contractor shall immediately inform to Departmental Head, shift in charge and the HR Deptt. of the Owner any accident occurred in the premises of the Owner and shall fill-up the accident form in Form No.21 and submit immediately to the Owner.
- 5.26.19 The summary of the Contract Labour Regulation Act in Gujarati would be displayed by the contractor on their Notice Board. The contractor would also exhibit the notice on their Notice Board at the place of work regarding hours of work, wage period, place of wage disbursement and its time and send the copies of these Notices to the Local Officer of the Factory Inspector and to the Owner.
- 5.26.20 The contractor shall keep and maintain all records, registers, returns, etc. in the Owner premises and should be update from time to time and should be shown to the representatives of HR Deptt. of the Owner on demand.
- 5.26.21 The contractor shall send a copy of all the notices, shift schedules, etc. to the concerned Government Labour Officer or Factory Inspector as the case may be, with a copy to the Owner.
- 5.26.22 The contractor shall maintain Provident Fund eligibility register and Provident Fund Deduction register, etc. and shall submit to the Owner every month for inspection.
- 5.26.23 The contractor shall maintain register A, B & C under payment of Bonus Act, 1965 and shall submit to the Owner on demand.
- 5.26.24 The contractor shall within 10(Ten) days after last date of the month, submit to the Owner a certificate/declaration duly signed, stating that they have complied with all requirements of the Labour Laws and PF Act and has not committed any default or breach of any law applicable to them.

- 5.26.25 The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- 5.26.26 The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Contract, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.
- 5.26.27 The Contractor shall send, to the Owner, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require

**5.27 General**

- 5.27.1 The Special Conditions of the Contract shall be read in conjunction with the General Conditions of Contract (GCC), other sections of bid documents and any other documents forming part of this Contract wherever the context so requires.
- 5.27.2 Where any portion of the Special Conditions of Contract is repugnant to or at variance with any provisions of the GCC then unless a different intention appears, the provision of the Special Conditions of Contract (SCC) shall be deemed to override the provisions of the GCC only to the extent that such repugnancy or variations in the SCC are not possible of being reconciled with the provisions of GCC.
- 5.27.3 Wherever it is stated anywhere in this bidding document that such work has to be carried out, it shall be understood that the same shall be effected / carried out by the O&M Operator at their own cost, unless a different intention is specifically stated herein or otherwise explicit from the context.
- 5.27.4 In the case of any discrepancy, defective description, errors, omissions or ambiguity between or in any of the contract documents, the O&M Operator shall promptly submit the matter in writing to the Owner's Representative who shall within a reasonable time address the same in writing. In all such cases the O&M Operator shall promptly proceed in accordance with the instructions given by the Owner's Representative.
- 5.27.5 The workmanship shall satisfy the relevant Indian and International Standards and prudent industry practices.

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5.27.6 In case of contradiction between Indian or other applicable Standards, General Conditions of Contract, Special Conditions of Contract, Specification, Schedule of Prices, the following shall prevail in order of precedence

- (i) Letter of Acceptance along with Statement of Agreed Variations, if any
- (ii) Price Schedule
- (iii) Instruction to Bidders
- (iv) Special Conditions of Contract
- (v) Specifications
- (vi) General Conditions of Contract

5.28 The Contractor shall, unless specifically excluded in the Contract, perform all such work and/or procure all such items and materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining fulfillment of the service level agreement for O&M services at the facilities.

**5.29 Spares and Consumables Management:**

As a general principle all spares and consumable shall be made available by the Owner through its centralized store management system operated on SAP platform. The O & M Operator shall get required material issued following the procedure set by the Owner, which it may get acquainted with. For ease of operation the Owner would allow O & M operator to source the spares/ consumable not exceeding the value of Rs. 25000/- on reimbursable basis (with documentary evidence of purchase and use) for which the prior approval of the Owner is to be taken. The O & M operator shall ensure that the items thus procured are only for maintaining the smooth operation of the plant and not available in the Owner's store.

5.29.1. Spare issuance.

The O & M operator shall review the available inventory of the spares that the Owner has procured together with the equipment. These spares shall be issued to O & M operator as and when requisitioned through set procedures. The O&M operator shall return the used spares/ scrap back to the Owner stores/ at designated place.

5.29.2 Procurement of new spares.

The O & M Operator shall monitor the spares inventory in the owner's store. The lead-time for procurement shall be kept into consideration while planning the spares requirement. The minimum inventory principle should also be followed in close coordination with the Owner.

5.29.3 Consumables.

All Consumables required for O & M services shall supplied by the owner as free issue material except for those in the scope of the O & M operator for running of the

units / equipment for example diesel, oil etc. for movable equipment which are brought by O & M operator or supplied by the owner

### 5.30 Pre-commissioning and Commissioning Support

Since the Power Plant is heading towards the pre-commissioning and commissioning stage, the O&M Operator shall bring in their pre-commissioning and commissioning team for successful commissioning of the Power Plant as per the milestones set by the Owner/ the Owner's engineering consultant. The Pre-commissioning and Commissioning support would start at the onset of the pre-commissioning of the first unit of the Power Plant. It will continue till the completion of commissioning of all the units and integrated start-up of the entire plant. Thereafter the O&M phase will be started for the takeover of the unit. PG Tests of the respective units will be conducted under the complete supervision of the O&M contractor. Complete pre-commissioning and commissioning process is expected to be carried out smoothly, so that gradually equipment's are handed over from the EPC contractor to the Owner and in turn to the O&M Operator. This would also include daily, weekly and monthly reporting of the commissioning progress and tracking of the important milestones. The O&M operator will also mobilize its staff for enabling the pre-commissioning and commissioning and trials of the units with all related system like CHP, AHP, DM water, Raw water system, Fire water system, cooling towers etc etc. Preparation of punch points during the pre-commissioning stage and the commissioning stage will be done by the O&M team and followed up with the Owner. Punch points not requiring major material or services of the OEM/Vendor will be closed by the O&M operator with intimation to the Owner. The O&M Contractor will have to provide sufficient staff which would include operation, maintenance & commissioning staff along with the technicians of the respective discipline. The O&M operator will witness and supervise all testing, pre-commissioning and commissioning and will have to sign the necessary protocols accepting the same.

The selected O&M Operator would be paid the commissioning support fees as quoted in their price schedule.

The pre-commissioning and commissioning stage for the 1 x 65 MW GACL's CPP will be informed to the O&M operator well in time to enable mobilization and other preparations.

### 5.31 O&M Services

The O&M Operator shall mobilize its O&M services team to the plant as advised by the Owner so that the agency can participate in all pre-commissioning & commissioning activities and take over the O&M of the plant immediately after commissioning. The O&M Operator shall acquaint themselves with all aspects of power plant before the handover. The O&M Operator shall also carry out overall planning and scheduling required for O&M during this period without affecting the pre-commissioning and commissioning activities.

The O&M operator shall mobilize his team for the O&M of GACL's CPP in line with the Pre-commissioning and commissioning schedules.

### **5.32 Care of Facilities**

The Contractor shall be responsible for the care and custody of the supporting facilities handed over to/used by the Contractor, which may include Time Office, Canteen etc or any part thereof during the complete tenure of the O&M contract.

### **5.33 Power Plant Takeover**

On successful completion of Commercial Operation on COD, the O&M Operator shall take over the plant from the Owner and start operating and maintaining it on their own and would be bound by the guaranteed performance parameters. Contract fees shall be applicable from the date of takeover of respective unit for the operating period. However, liquidated damages & incentive mechanism would start after six months of the takeover of the unit. Contingency arrangements if required to be made to enable running of the unit shall be financed by the Owner and executed/supervised by the O&M contractor. No charges will be applicable for the above to the O&M operator

In case of design issues during the takeover/O&M THE Owner will take up the issue with the EPC vendor. However, if required, the availability of material will be financed by THE Owner but the completion expedited /executed by the O&M vendor. No extra charges will be applicable for the above to the O&M vendor.

### **5.34 Annual budget exercise/ Capital Expenditure**

5.34.1 The complete budget for the raw materials, auxiliary materials, packing materials, consumables and spares for the following year shall be prepared and submitted by the O&M contractor on the 15<sup>th</sup> of every November for consideration in the yearly budget.

5.34.2 The major capital expenditure shall also be planned in advance for considering in the annual budget.

5.35 Capital expenditure as may be required for improvement in the plant performance shall be jointly assessed by both the O&M Operator as well as the Owner. The work/major modification capital expenditure to increase plant efficiency/reliability of the system/safety of the plant and personnel (other than operational expenditure) during the period of agreement shall be approved and financed by the Owner and supervised and carried out by the O&M Operator. No additional fees shall be paid by the Owner for such work.

### **5.36 Terms of Payment**

The Contract Price shall be paid as per Terms and Procedures of Payment.

**A) Initial 10% interest free advance of total Pre-commissioning & commissioning fee and O&M contract price for first year will be paid subject to fulfilment of following conditions**

1. Acceptance of letter of Intent (LOI)
2. Signing of the agreement in prescribed format for O&M services including spares & consumable.
3. Submission of unconditional Contract cum Performance Guarantee (CPBG) of 10 % of Pre-commissioning & commissioning fee and O&M contract price for first year, in the form of Bank guarantee from a Nationalized/ GNAL approved Bank valid till completion of 1<sup>st</sup> one year O&M contract with a claim period of three months from the date of expiry of the BG. (BG as per prescribed format)
4. Submission of an unconditional Advance Bank Guarantee from a Nationalized / GNAL approved private Bank covering advance amount valid up to end of 1<sup>st</sup> year of contract with a claim period of three months from the date of expiry of the BG. (BG as per prescribed format in annexure)
5. Advance shall be paid only in the first year as mobilization advance.
6. Advance payment shall be recovered from the monthly bill on prorata basis until end of 1<sup>st</sup> year of O&M contract.

**B) Pre commissioning and commissioning charges**

1. 80 % (90 % less 10 % advance) of Pre-commissioning and commissioning charges will be paid on monthly basis (limited to six invoices only) in proportion to manpower deployed as explained in the price schedule (Attachement 11) until the synchronization of the plant on submission of invoice.
2. 10 % of Pre-commissioning and commissioning charges will be released on completion of the commissioning certified by the owner or on submission of PBG of an equivalent amount valid for six months with a claim period of three months.
3. All Payments shall be made 30 days after receipt of Invoice except for initial advance which can be paid within 7 days on fulfilling of required documents.

Pre-commissioning and commissioning charges for the 1 x 65 MW CPP (GACL) will begin after the mobilization of the O&M contractor after receiving the Notice to Proceed from GACL.

**C) Operation and Maintenance fees for 1<sup>st</sup> year:**

1. 80 % (90 % less 10 % advance) of annual O&M fees would be paid in 12 (twelve) equal monthly installments.
2. 10 % of monthly O&M fees will be released quarterly at the end of the respective quarter after resolution of all performance guarantee incentive and penalty for previous quarter. The final reconciliation of the Incentives and Penalty will be done at the end of the year and necessary adjustments will be made on the payment of the O&M bill for the last quarter of the year.

**Operation and Maintenance fees for 2<sup>nd</sup> year onwards:**

3. 90 % of annual O&M fees would be paid in 12 (twelve) equal monthly installments.

4. 1<sup>st</sup> month pay will be released on submission of unconditional Contract cum Performance Guarantee (CPBG) of 10 % of O&M contract price for the year, in the form of Bank guarantee from a Nationalized/ GNAL approved Bank valid till completion of 1<sup>st</sup> one year O&M contract with a claim period of three months from the date of expiry of the BG. (BG as per prescribed format)
5. 10 % of monthly O&M fees will be released quarterly at the end of the respective quarter after resolution of all performance guarantee incentive and penalty for previous quarter. The final reconciliation of the Incentives and Penalty will be done at the end of the year and necessary adjustments will be made on the payment of the O&M bill for the last quarter of the year.
6. All payments will be made with the 30 days credit period after submission of technically clear bills with all documentation as required.

O&M charges for the 1 x 65 MW CPP (GACL) will begin after takeover of the unit from GACL by the O&M operator

### 5.37 Submissions

The O&M operator shall submit a daily report to the Owner's representative in an agreed format.

The Operator shall also enter, through qualified personnel, relevant Operation and maintenance data in SAP. The O&M operator shall submit the plant performance report to the Owner at the end of each month along with the copies of invoices. The plant performance report shall contain, but not limited to, the following:

#### 5.37.1 Submissions during pre-commissioning and Commissioning Support (Not limited to)

1. pre-commissioning and Commissioning Plan and Schedules
2. Documentation of Design decisions, assumptions and tradeoffs.
3. Pre-commissioning and commissioning checklists for all the systems.
4. Change request forms for changes in designs and P&ID Diagrams.
5. Monitored data logs during pre-commissioning and Commissioning
6. Minutes of the meetings held.
7. Pre-commissioning and Commissioning Reports.
8. Project Delivery Reports
9. Handing over procedures
10. Deferred Functional Test logs
11. PG Test reports and recommendations
12. Compilation of the punch points experienced during the commissioning stage and monitoring of the same.

### 5.37.2 Submissions during O&M Support (Including but not limited to)

1. Summary of major O&M activities and safety related issues
2. Trip Analysis Report with root cause analysis and corrective action to be taken
3. Summary of all Scheduled / Unscheduled maintenance outages
4. Summary of any untoward incidents such as accident, etc. (in the agreed format)
5. Details of plant manpower deployed,
6. Details of the stock, consumption, planning for procurement and ordering details of the spares, consumables & lubricants
7. Plant performance parameters as per the requirement of the Owner
8. Monitoring and reporting Consumptions of various utilities to CSP and supplied to CLM to enable billing of the same by the Owner to the respective users
9. Any services received from other agencies, including GACL
10. Planning for the procurement of spares and consumables.

### 5.38 Sale of Power

The Owner may sell surplus power to DGVCL and/or to the power exchanges and/or to its sister concerns at terms and condition finalized by the Owner. The Owner has signed an agreement with DGVCL for power usage up to a Maximum demand of 6000 kVA usable for start-up or during any emergencies. The CPP may run in parallel with the state grid or in the islanding mode. However, the O&M operators will follow the grid code and other requirements of the SLDC/RLDC and other statutory bodies when running parallel to the state grid.

### 5.39 Coal, Lignite & LDO

The Owner intends to supply the required quantity and quality of Raw materials and Auxiliary materials to maintain the Production at the designed capacity of Captive Power Plant. The plant performance and parameters need to be maintained at design conditions. In case of deviations in quality of the raw materials like coal, lignite, limestone etc. the plant parameters shall be suitably adjusted by the Contractor. It may also be noted that during monsoons etc., there may be a requirement to cover the materials stored in open area with tarpaulins etc., especially coal, Lignite and Limestone which will be in the scope of the O&M Contractor

#### 5.39.1 INDICATIVE ANALYSIS OF COAL

The Table below gives Indicative analysis of Coal, the actual may differ as per the prescribed tolerances from the Vendor / Supplier. For this the O&M operator will assist the Owner and liaison with the vendor to ensure the prescribed quality of all raw materials are received.

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Sl. No.	Particulars	Units	Imported			Domestic	
			Indonesian		South African	Washed Coal	Lignite
			(A)	(B)	(C)	(D)	(E)
<b>1.0</b>	<b><u>PROXIMATE ANALYSIS</u></b> (As received basis)	<b>By Weight</b>					
1.1	Moisture (Total)	%	35	11	8	12	35
1.2	Ash	%	8	15	12	34	23
1.3	Fixed Carbon	%	30	43	49.5	31.8	19.8
1.4	Volatile Matter	%	27	31	30.5	22.2	22.2
<b>1.5</b>	<b>Total</b>	<b>%</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>1.6</b>	<b>Gross Calorific Value</b>	<b>kcal/kg</b>	<b>4200</b>	<b>5600</b>	<b>6500</b>	<b>4000</b>	<b>2978</b>
<b>2.0</b>	<b><u>ULTIMATE ANALYSIS</u></b> (As received basis)						
2.1	Carbon	%	44.9	61.19	65.65	43.42	29
2.2	Hydrogen	%	2.7	3.99	4.26	2.3	2.3
2.3	Sulphur	%	0.3	0.5	0.62	0.42	3.5
2.4	Nitrogen	%	0.7	1.18	1.31	0.7	1.72
2.5	Moisture	%	35	11	8	12	35
2.6	Ash	%	8	15	12	34	23
2.7	Oxygen (by difference)	%	8.4	7.14	8.16	7.16	5.48
<b>2.8</b>	<b>Total</b>	<b>%</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

The Owner intends to supply the required quantity and quality of fuel to maintain the generation at the Owner Power Plant at Dahej, Bharuch. The plant performance and parameters need to be maintained at design conditions in case of deviations in quality of the coal by suitably adjusting the plant parameters. However in case of major deviations, any deviation in the quantity or quality will be accounted as 'Deemed Generation' subject to a maximum cap of PAF at 95% for the three years It may also be noted that during monsoons etc. there may be a requirement to cover the fuel with tarpaulins etc. which will be in the scope of the O&M vendor.

### **5.39.2 INDICATIVE ANALYSIS OF LIGHT DIESEL OIL (LDO)**

The Table below gives Indicative analysis of LDO, the actual may differ as per the prescribed tolerances from the Vendor / Supplier. For this the O&M operator will assist the Owner and liaison with the vendor to ensure the prescribed quality of all raw materials are received.

<b>Sl. No.</b>	<b>Particulars</b>	<b>Value as per IS 15770-2008</b>
1.	Pour Point (max)	21°C & 12°C for Summer and Winter respectively
2.	Kinematic viscosity in centistokes at 40°C	2.5 to 15.0
3.	Sediment percent by mass (max.)	0.10
4.	Total sulphur percent by mass (max)	1.5
5.	Ash percentage by mass (max.)	0.02
6.	Carbon residue percent by mass (max.)	1.50
7.	Acidity inorganic	Nil
8.	Flash point (Min.)	66°C
9.	Copper strip corrosion for 3 hours at 100°C	Not worse than No. 2
10.	Water content, % by volume (max.)	0.25
11.	GCV (kCal/kg)	10,000

These are indicative analysis. However, the actual quantity may differ from the above values within acceptable limits

### **5.39.3 Lime stone**

The Owner shall arrange the Limestone from mines/ other suppliers till the delivery point of the limestone that is at the main gate of the plant. Thereafter Internal material handling shall be in the scope of the O&M Operator.

The Table below gives Indicative analysis of Limestone, the actual may differ as per the prescribed tolerances from the Vendor / Supplier. For this the O&M operator will assist the Owner and liaison with the vendor to ensure the prescribed quality of all raw materials are received.

:

Sl. No.	Constituent	Unit	Values
1)	CaCO <sub>3</sub>	%	92.3
2)	MgCO <sub>3</sub>	%	1.55
3)	SiO <sub>2</sub>	%	3.20
4)	Fe <sub>2</sub> O <sub>3</sub>	%	1.90
5)	Moisture	%	0.65
6)	Al <sub>2</sub> O <sub>3</sub>	%	0.25
7)	Na <sub>2</sub> O	%	0.03
8)	K <sub>2</sub> O	%	0.06
9)	Others	%	0.06
10)	Total	%	100

However, it may be noted that due to inherent qualities of Lime stone, the O&M operator, if require, may arrange for special covers / tarpaulins etc to protect the same during monsoons at his cost. The above indicative parameters may differ from the ones of the as received material subject to acceptable deviations. The plant performance and parameters need to be maintained at design conditions in case of deviations in quality of the coal by suitably adjusting the plant parameters. However in case of major deviations, any deviation in the quantity or quality will be accounted as 'Deemed Generation' subject to a maximum cap of PAF at 95% for the three years

#### 5.39.4 Quality Control for Raw Materials / Auxiliary Materials

The sampling shall happen with every consignment at all modes of delivery of Raw materials and chemicals so as to meet the acceptability of the product as per the design parameters which will be shared with the O&M operator before receipt if available. The O&M Contractor may verify the quality as per required specifications when the material is to be used. The O&M Operator shall manage the collection and analysis of the samples, which the Owner may decide to witness at its discretion.

#### 5.40 Performance Targets for the Operator

The operator needs to achieve the performance target parameters as defined in this Contract, and as changed from time to time. Failure to achieve these indicated performance parameters would attract a levy of liquidated damages. Incentive would

be paid in case of improvement of these parameters. The Commissioning of the two units of the plant is scheduled to differ by a few months, i.e. Unit 2 is scheduled to be commissioned after a couple of months from the commissioning date of Unit 1. Thus, unit wise plans of commissioning are as follows:

**5.40.1 GNAL Unit 1:**

The unit is currently under erection stage. Pre-commissioning activities are expected to start in November 2020 and Commissioning of this unit is expected to start by February/March 2021. The milestones to follow would include Boiler light up, Chemical cleaning, Steam Blowing, TG baring gear, TG Rolling, Synchronization etc. The Synchronization of Unit 1 is expected by February 2021 and full load operation by March 2021 (also depending on the availability of load from process Plant). PG Tests would follow in the three months' period after Synchronization.

**5.40.2 GNAL Unit 2:**

The unit is currently under erection stage. Pre-commissioning activities will start in November 2020 and Commissioning of this unit is expected to start by around February 2021. The synchronization is expected by April 2021 and full load operation by May 2021. The milestones to follow would include Boiler light up, Steam Blowing, TG baring gear, TG Rolling, Synchronization etc. PG Tests would follow in the two months after synchronization.

**5.40.3 GACL's Unit 3**

Tenders for installation of the unit on EPC basis from reputed vendors have been received and are being evaluated. The order for the same is expected to be finalized in October 2020. The pre-commissioning activities are expected to start by March 2022 and the synchronization by April 2022 and full load operation by May 2022.

**5.41 Billing and Payment - Submission of Invoices**

5.41.1 The proforma of the monthly invoice and the documents and details to accompany invoices shall be mutually discussed and agreed to by the two Parties.

5.41.2 The O&M Operator on completion of every month shall submit the invoice for that month on the first day of the next month with requisite details of performance parameters. The payment shall be affected after 30 (thirty) days of the submission of the technically clear invoices.

5.41.3 During the pre-commissioning and commissioning stage, when one of the two units of the plant is under pre-commissioning and commissioning support or under O&M, while the other unit is still under the previous phase, the billing shall be for the pre-commissioning and commissioning charges for U#1 as per the bid. When the pre-commissioning and commissioning stage for U#1 ends then the fees for the pre-

commissioning and commissioning stage will start. Pre-commissioning and commissioning charges for U#1 and 2 will not be paid simultaneously.

For Example, If Unit 1 starts its commissioning stage while Unit 2 is still in erection stage, the payment to the O&M Operator shall be for pre-commissioning and commissioning support in the price bid for U#1. When Unit 1 achieves synchronization and the handover take place, the bidder shall be paid the fees for the pre-commissioning and commissioning of U#2. Pre-commissioning and commissioning fees for U#1 and U#2 will not be paid simultaneously. Whenever pre-commissioning and commissioning support for Unit 1 ends, fees charged for pre-commissioning and commissioning support for Unit 1 shall be discontinued. All the charges for Pre-commissioning and Commissioning activities shall be based in proportion to the manpower requested and deployed as mentioned in the Price Schedule.

#### **5.42 Escalation / Price Variation**

5.42.1 The selected O&M Operator would be paid fees for each year as per the prices quoted by him in his bid.

The base prices (prices quoted for five years) shall be kept FIRM till the completion of the Term. No price variation on the final prices as per contract for each respective year will be allowed until the end of the term of five years

#### **5.43 Statutory Approvals**

5.43.1 During the contract period, it shall be the O&M Operator's responsibility to obtain all statutory approvals and also provide the inputs to the Owner including relevant information, intimations of expiry as required by the Owner. The Owner will provide all documentation required for the statutory clearances and will also pay the statutory payments for the statutory clearances. Timely compliance of all required statutory clearances and requirements for the Power Plant will be the responsibility of the O&M Operator.

5.43.2 It is the responsibility of the O&M Operator to ensure that the parameters of operations governed by the statutory norms given by various statutory boards/GPCB/CPCB etc. are maintained so that any corresponding inspection does not affect certification or operation of the Power Plant in any way. O&M Operator shall also provide full cooperation to the personnel from such statutory bodies who may visit the site for inspections. O&M Contractor shall also be responsible for any consequential financial impact to the Owner on account of his failure to comply with statutory norms during the operation. The Owner from the monthly O&M bills of the O&M operator will recover any liquidated damages and , costs incurred due to the above.

5.43.3 Any changes / additions to the work required as stipulated by the statutory authorities shall be carried out by the O&M Operator at no additional cost to Owner. The inspection of the works by the statutory authorities shall in no way absolve the O&M

Operator of their responsibilities. All documentation necessary shall be submitted by the O&M Operator to the Owner/authorities in this regard.

#### **5.44 Tools & Tackles and Software**

The O&M Operator shall be solely responsible for making available and using the tools and tackles required for executing the complete O&M at GNAL's Captive power plant at Dahej, Bharuch, in addition to the tools and tackles handed over to the O&M Operator by the Owner. The O&M Operator shall install the necessary software compatible to SAP, if required, for monitoring Plant maintenance, Captive power Plant Performance, Optimization and Diagnostics in consultation with the Owner. The price of such a software will be included as a separate line item in the bid process. However, it may be noted that all equipment's other than being supplied by GNAL initially and needed for the maintenance and conduction of the works covered in the scope of this contract including condition monitoring equipment's, welding and similar machines, consumables for the same will be in the scope of supply of the O&M contractor.

#### **5.45 Pre-bid visit to the Owner Thermal Power Plant, Dahej, Bharuch**

On submission of the bid, it shall be assumed that the bidder has considered all the specifications, situations and scenarios mentioned explicitly, implicitly or not mentioned in the bid document or in any interaction with the Owner including and not limited to the visit to CPP at, Dahej, Bharuch and the queries raised by the bidder. The visit to the facility shall provide an opportunity to the bidder to take a stock of the plant assets to get a better idea of O&M requirements.

The Owner holds no responsibility whatsoever towards any lack of information that the bidder may feel necessary for bidding.

#### **5.46 Quality System**

The O&M Operator shall submit the organization structure planned for execution of the contract which includes the names of team members that would be involved from their side for the execution of the project for commissioning support as well as for O&M.

The O&M Operator shall follow all such quality initiatives as per the global standards to ensure that O&M meets such standards.

O&M Operator shall maintain quality records of all overhauls, tests and inspections pertaining to the systems / equipment under scope of contract.

#### **5.47 Safety**

The O&M Operator shall maintain and carry out practices for Environment, Health & Safety (EHS) as per the prudent Industry practices.

#### 5.48 Disposal of Wastes & Scrap

The O&M Operator shall ensure the disposal of wastes like waste oil and lubricants, sludge from the ETP and STP, used cleaning rags, office waste, used and (except ash) generated during the O&M of the Power Plant. The items are to be disposed off properly and responsibly as required by the environmental agencies and statutory bodies. Any waste produced in the process of operation and maintenance of the Power Plant including offices will fall in this category. The OHC waste will be disposed off by the Owner. Waste oil, chemicals, etc. will be disposed through GPCB registered vendors and all such records will be copied to the Owner.

Any scrap generated inside the plant premises shall be collected, stored properly and handed over to the Owner for disposal on a quarterly basis or as mutually agreed periodicity. the Owner shall be the sole Owner of any such scrap.

All hazardous material storage and disposal will be in accordance with the GPCB/CPCB rules of 2016 especially rule 9 of the above among other applicable rules

#### 5.49 Facilities for O&M Operator inside Plant Premises

O&M Operator shall be handed over the facilities available at the plant for the entire duration of the contract.

- i. Transportation: O&M operator will arrange for transportation of his staff/workers/labour at his cost.
- ii. Medical Facilities: An Occupational Health Center (OHC) shall be maintained by the Owner, where preliminary health care services shall be provided by the Owner to the O&M Contractor for its employees/workers on chargeable basis (the charges to be mutually agreed). In addition, O&M Contractor to maintain its own supplies of first-aid items within the plant at designated places at its own cost.
- iii. Canteen Facilities: The Owner intends to maintain a centralized canteen facility from where food items etc. may be collected by the O&M Contractor on chargeable basis for distribution amongst its employees/workers. In addition, O&M contractor may consider keeping vending machines for snacks / drinks etc. within the plant premises at its own cost. Prior written permission of the Owner for any such installations shall be taken. A shared dining facility shall be provided by the Owner, which would be used in a staggered manner with other users at the site.
- iv. Potable water – The potable water shall be available at the plant, However, The O&M operator, if they want, may either install his own suitable RO plant etc. for providing portable water for the consumption by its employees/representatives. The O&M Contractor may also consider installing water coolers at appropriate locations, at his own cost, with prior permission of the Owner.

The O&M Operator would arrange for the movable furniture, computers, printers, scanners, copy machines etc., as required, at site to carry out the O&M activities other than those directly related with the plant Operation & Maintenance Office and maintenance area space will be allotted as available. However, due to compact design of the Power Plant, the O&M contractor may have to deploy temporary offices/store/site maintenance rooms as per their requirement for which the Owner shall provide space if available.

### 5.50 Execution of Work

The O&M Operator shall be entirely responsible for executing the work covered under this bidding document in a professional manner.

Besides the above, the following may be noted regarding execution of the works:

- i. In case of emergency repairs required in the water line of GIDC, the O&M Operator may be required at his cost to provide necessary manpower and minor spares to attend to the fault to avoid downtime to the CPP.
- ii. Any additional material handling equipment required for operating/maintaining the Power Plant apart from the ones being handed over by the Owner will have to be provided by the O&M Contractor.
- iii. Any temporary civil work / other works required for the upkeep of the plant will be carried out by the O&M Contractor.
- iv. Monsoon preparations work will be planned and carried out by the O&M contractor before the onset of the monsoons every year. The Owner may review with the Operator who will take all measures as jointly discussed.
- v. Chemical treatment of the water in all the reservoirs other than the treatment provided by the Owner. Necessary chemicals required after system installation will be in the scope of the Owner.
- vi. The O&M operator shall provide suitable experienced personnel like BOE qualified Boiler operators, IBR approved welders, Switchyard operation licensed engineers to ensure all statutory compliances
- vii. The O&M agency shall deploy experienced operators for the workshop which shall cater to the requirement of the complete complex.
- viii. Experienced administrative, HR & IR, store personnel, maintenance and operation planners, efficiency calculation personnel shall be deployed by the O&M contractor at the site.
- ix. SOP for all works including but not limited to Operations, maintenance, fuel and ash handling and other works in the Power Plant etc. shall be prepared and executed by the O&M contractor after due approvals from the Owner.
- x. Immediately after taking over the CP plant for O&M, the O&M operator will initiate actions to get certification under various Quality Management systems, Environment management system, OSHA, Energy Management Systems etc. The Operator shall recruit suitably qualified

personnel and / or provide necessary training to his personnel for obtaining and maintaining the certifications.

- xi. O&M operator shall arrange for necessary technical training of their personnel at the OEM works etc. at their cost.

## 5.51 Manpower

5.51.1 2 x 65 MW CPP (GNAL) Estimated manpower – For Pre-commissioning mobilization of a minimum 45 personnel and for commissioning a minimum of 100 personnel are envisaged in different areas and grades including experienced engineers, skilled and unskilled Labor who subsequently would be deployed for the O&M after gathering valuable experience. In case of requirement the O&M operator will mobilize additional manpower for the pre-commissioning and commissioning activities. The manpower may be required to work extra time within the ambit of the prevailing labour laws and without any extra cost to the Owner. The tentative manpower requirement for the complete O&M services the scope of which has been indicated would be around 239 Numbers (tentative list given below) which would include all staff of the O&M contractor as well as its Subcontractors and all other categories of the labour on the technical front etc. Manpower required for other administrative jobs like accounts, HR, general housekeeping and other non-technical works etc. will be in addition to the above figure and would depend on the plan of the O&M operator. However, O&M Operator to finally indicate his plan of manpower requirement and submit the proposed Organogram with number of personnel deployed taking into consideration the scope of work mentioned. The O&M operator to plan for sufficient number as well as adequately qualified, skilled and unskilled manpower to cater to all the requirements to meet the scope of work as mentioned.

5.51.2 The pre-commissioning and commissioning stage will also be used by the O&M operator to acquaint his personnel to the complete equipment/process/design in the CPP, the operations of the same as well as for the preparation of necessary SOPs, etc. for the smooth running of the units. The operator will also deploy experienced manpower for Health Safety & Environment (HSE), planning, coordination, Information Technology (IT) as per the requirement. However, if the O&M operator is able to perform the work as per the contract with reduced manpower, it could do so after due approval from GNAL. The O&M fees shall be adjusted based on the manpower deployed using the unit rates provided in the Price Schedule.

Sr.No	Department	Tentative Manpower Requirement
1	Head	1
2	BTG, CHP O&M	76
3	Civil	1
4	WTP, ETP and STP	12
5	Operations	60
6	E&I	45

7	Health Safety and Environment	3
8	Planning and Efficiency	3
9	Firefighting	15
10	Housekeeping (technical)	15
11	Store	3
12	IT	1
13	Weigh Bridge operation	4
	Total	239

5.51.3 1 x 65 MW CPP (GACL) Estimated manpower – For Pre-commissioning mobilization of a minimum 20 personnel and for commissioning a minimum of 40 personnel are envisaged in different areas and grades including experienced engineers, skilled and unskilled Labor who subsequently would be deployed for the O&M after gathering valuable experience from GNAL site. In case of requirement the O&M operator may have to mobilize additional manpower for the pre-commissioning and commissioning activities. The manpower may be required to work extra time, within the ambit of the prevailing labour laws and without any extra cost to the owner. The indicative manpower requirement for the complete O&M services the scope of which has been indicated would be around 60 Numbers which would include all staff of the O&M contractor as well as its Subcontractors and all other categories of the labour on the technical front etc. Manpower required for other administrative jobs like accounts, HR, general housekeeping and other non-technical works etc. will be in addition to the above figure and would depend on the plan of the O&M operator. However, O&M Operator to finally indicate his plan of manpower requirement and submit the proposed Organogram with number of personnel deployed taking into consideration the scope of work mentioned. The above requirement is also considering that since the units are in a common area there would be sharing of resources and hence less mobilization. However, as per the experience of GNAL & O&M operator or if the O&M operator is able to justify the work as per the contract could reduce manpower with reference to the approved organogram, after due approval from the owner.

#### 5.51.4 Skill Matrix of O&M contractors deployed Personnel

S No	Description	Experience requirements	Special requirement
1	Plant Head (Mech/Elect)	Graduate Engineer with relevant experience of not less than 15 years	Similar power plant experience and head for at least 2 years
2	HOD of operation/ Maintenance (Mech, Elect)	Graduate Engineer with experience not less than 12 years or Diploma Engineer	Similar power plant experience and head for at

		with experience not less than 15 years	least 2 years. BOE preferred for Head Operations
3	In charge Operations CHP/AHP/BOP/BTG (Mech/Elect)	Graduate Engineer with experience not less than 10 years or Diploma Engineer with experience not less than 12 years	Operations BTG should be BOE certified
4	In charges Maintenance (Boiler/ turbine/ CHP/ AHP/ BOP/Elect/C&I) (Mech/Elect/C&I)	Graduate Engineer with experience not less than 10 years or Diploma Engineer with experience not less than 12 years	Similar power plant experience. Electrical I/C preferred with Electrical License
5	In charge HSE (Health Safety and Environment)	Health, Safety and environment qualifications and 10+ years in HSE in similar power plants	
6	Desk Engineers	Graduate engineers with BOE/NPTI preferably with experience not less than 3 years	experience especially in ABB & Siemens DCS preferred
7	Control room in charge	Graduate Engineer with BOE/NPTI preferably with not less than 8 years' experience	experience in power plant operations preferably as shift In Charge
8	Officer Fire and safety	Degree in Fire and Safety with experience not less than 8 years	Relevant experience in power and chemical plants
9	Supervisor (fire and saafety)	Diploma Fire and Safety with experience not less than 5 years	experience in Power and Chemical Industries in similar grade
10	Fire man	Diploma Fireman trade, Diploma course in Fire and safety with experience not less than 4 years	industrial experience in Power plants/chemical plant

It may be noted that the appointment of HOD / In-charge and senior personnel above the post of senior Engineer proposed to be deployed by the O&M Operator will need approval of the Owner after review of the relevant CV's and Interviews if necessary, by GNAL/GACL. CV of other manpower will have to be submitted to the Owner for necessary comments/approvals.

the Owner shall provide broad guidelines on the required generation levels and shall monitor the operation & maintenance carried out by the O & M Contractor with the help of a limited number of Executives and Managers. An Organogram of the Owner personnel overseeing the Operation & Maintenance of the Plant is provided in Attachment 13

#### **5.51.4 Site working guidelines**

Plant operations shall be covered on 24 hrs., three shift basis with emergency coverage as necessary. Day shift working shall be on 6 days a week basis with agreed skeleton maintenance staffs present during all holidays. The public holidays to be observed by the O&M Operator shall be the same as those observed by GNAL. A list of Public Holidays for the next calendar year shall be communicated in the month of December of the previous year. The working guidelines shall be in accordance with the Factories Act and rules framed thereunder. Regarding any leave for more than seven days (other than SL) to be taken by HOD / In-charge and above level technical personnel, the O&M Operator shall inform the Owner at least two days prior to availing such leaves by those personnel. The Contractor shall also make back-up arrangement, as acceptable to the Owner, during such period to ensure that the O&M activities are not hampered or weakened in any way.

#### **5.52 Co-ordination Responsibilities of O&M Operator towards Other Agencies**

The O&M Operator's responsibility covers the coordination of all the works involved and the expenses of site mobilization and demobilization including clearing activities. This includes the coordination during the commissioning stages with the EPC personnel for smooth commissioning of the plant. The quoted prices are deemed to have appropriately catered for these and no separate claim whatsoever shall be entertained. During the O&M period the O& M contractor representatives will coordinate with CSP & CLM representatives for a smooth supply of utilities as per required quality and quantity. The O&M contractor shall follow all protocols as designed.

#### **5.53 Other Conditions**

The site In-charge of O&M Operator shall ensure the following:

- i. The plant is operated efficiently and at desired capacity as agreed with the Owner
- ii. Tools and Tackles are in good condition
- iii. All equipment is in healthy condition

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- iv. All the safety, environment, security and regulatory norms are strictly complied with.
- v. The plant availability on regular basis
- vi. Production & dispatches of the products as per agreed planning on daily basis.
- vii. Coordination with other units/plants and outside agencies including statutory authorities

**5.54 Contract Revision**

The revisions in the contract can be made by mutual agreement amongst the owner and the O&M contractor if found necessary at a later date.

**5.55 Right of inspection**

The Owner and the Owner’s Representatives shall, at all times, have full access to all parts of the Site and the Power Plant to carry out an inspection of the Facilities to assess whether the O&M services are being performed in accordance with the terms of the Contract.

**5.56 Set-off**

Owner may set off any sums due and payable by it to the O&M Contractor under this Contract against any sums payable to the Owner by the O&M Contractor.

**5.57 Assignment**

The O&M Contractor shall not be entitled to assign its rights or obligations under the Contract to any person, save and except with the prior consent in writing of the Owner, which consent the Owner shall be entitled to decline without assigning any reason.

5.57 The O & M Operator shall employ the land looser as per the policy of local government and Government institution. In order to utilise such manpower gainfully the O & M Operator shall provide necessary/ suitable training to those people who would be employed.

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## Chapter 6

### 6.0 Performance guarantees

**6.1.1 The liquidated damages and incentive mechanism would be applicable after six months from the Takeover date of the respective unit.** The O&M Operator needs to achieve the below given target performance parameters within 180 days from date of takeover of respective unit.

The O&M operator shall guarantee broadly the parameters detailed in the following paragraphs. The guaranteed figures shall be finalized at appropriate time of conducting the PG test. In case the PG test is delayed then the best figures for the past six months will be taken as the guaranteed parameters until conduction of the PG test.

6.1.2 The plant or any unit thereof shall be considered not available owing to the following reasons:

- i. Reasons attributable to the owner, reasons attributable to the CPP / GACL plant, and dispatches
- ii. Non availability of Raw materials like Coal, Lignite, Limestone, Chemicals for various uses, etc. which could hamper generation or power/ production of utilities for GNAL or CSP / CPP
- iii. Force Majeure conditions
- iv. The written instruction/directives by the owner or any competent authority
- v. Non availability of spares etc. for the reasons attributable to the owner
- vi. Incomplete systems in the CPP/CSP/GACL
- vii. Major Breakdown of machineries involving loss of capacity, only if such an event is not attributable to the fault of O&M Operator.
- viii. Blackout or electrical line tripping causing power supply loss, not attributable to the fault of O&M Operator.
- ix. Planned scheduled Outage
- x. Action taken by O&M Operator to protect the plant as per prudent practices in specific situations arising due to the reasons not attributable the O&M Operator
- xi. Improvement period for repairs/modifications not attributable to O&M Operator.

### 6.2 Assets Availability factor:

6.2.1 The O&M operator shall guarantee an Availability factor for the plant's major assets i.e. CFBC & Steam Turbine as set out in the document. Assets availability shall be calculated based on average availability of both CFBC boiler & Steam turbine. In addition, the O&M operator shall guarantee 100% availability (including deemed availability) of the emergency diesel generator set during the plant operating period. The availability factor shall be calculated as follows:

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Availability factor = (Plant actual hours + Plant deemed hours)/(2 x period hours)

Where:

- (a) Plant Actual hours is the sum of the actual hours of unit 1 and unit 2 running at rated capacity in a month
- (b) Plant Deemed Hours is the sum of the deemed hours for unit 1 and 2 where deemed hours is the number of hours and fraction of hours and defined below in 6.2.2
- (c) PH or Period hours means the number of hours in the relevant month i.e. 24 multiplied by the number of days in the relevant month. For 30 days month it will mean 720 and so on.

The asset availability factor shall be greater than or equal to 92% for the first year of O&M operations. The first year will start from the takeover of the unit from GNAL and the vendor. Thereafter the asset availability factor shall be maintained greater than 95%

Notwithstanding anything stated above, if a unit or the plant runs at lower load due to fault of the O&M operator, the availability factor shall be calculated based on actual load on prorated basis. Other than the O&M operators' fault, deemed hours shall be included in calculation of the availability factor.

6.2.2 The plant or any unit thereof shall be deemed available owing to the following reasons:

- a) Reasons attributable to the owner, reasons attributable to the CSP / CLM plant, DGVCL which also includes and dispatch
- b) Non availability of Raw materials like coal, water, etc. which could hamper production
- c) Force Majeure condition
- d) The written instruction/directives by the owner or any competent authority
- e) Non availability of spares etc. due to reasons attributable to the owner
- f) Incomplete systems in the CPP/CSP/CLM
- g) Major Breakdown of machineries involving generation loss, only if such an event is not attributable to fault of O&M Co.
- h) Blackout or electrical evacuation line tripping causing generation loss due to part load operation is not attributable to fault of O&M Co.
- i) Planned scheduled Outage
- j) Action taken by O&M Operator to protect the plant as per prudent utilities practices to safeguard the plant for reasons attributable to the owner
- k) MOC/Reliability improvement period for repair/modifications not attributable to O&M Operator.

6.2.3 Liquidated Damages:

The O&M operator shall pay liquidated damages of the following amounts for failure to achieve Guaranteed Availability Factor in respect of any CFBCs & Steam Turbine. Individual CFBC's Boiler & Steam Turbine availability shall be monitored on monthly basis and their average value shall be taken as Plant availability

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For every 1.0% (one percent) reduction in the Annual Plant Availability, 1.0% (One percent) of Yearly Operating Fee for the relevant Operating Year shall be paid as liquidated damages by the O&M Operator to the Owner on a pro rata basis.

#### 6.2.4 Bonus:

For every 1.0% (one) increase in the Annual Plant Availability, 0.5 % (two percent) of the Yearly Operating Fee shall be paid as Bonus to the O&M Operator on pro rata basis. However, liquidated damages and bonus shall be provisionally reconciled at the end of each quarter and finally at the end of that year the year and necessary adjustments made in the payments made.

### **6.3 Outage impacting Process Plant Power or steam DM water, raw water compressed air, cooling water etc.**

The O&M Operator should ensure reliable operation and avoid outage of the Steam Turbine, CFBC Boilers, CLP, CSP due to disturbance in utilities like steam, compressed air, raw and DM water, cooling water.

#### 6.3.1 Liquidated Damages:

Should there be any tripping/shut down of Major equipment due to forced outage within the battery limit leading to disturbance in Power, steam supply and other utilities supply to Process plant (CLM & CSP), the O&M Operator will pay as 0.5 % (point five%) of Annual operator fee per such outage as liquidated damages to the Owner. Should such an outage cause a Black-out Condition the liquidated damages shall be @ 2% (Two%) of Annual fees per occurrence.

#### 6.3.2 Bonus:

In case of achieving Zero disturbance to Process Plant, Incentive of 0.25% (point two five%) shall be applicable.

### **6.4 Fuel consumption for Design capacity of steam production**

An acceptance test/ PG tests shall be carried out jointly by the Owner and the O&M Operator after take-over of the CFBC to decide the benchmark steam capacity & consumption of fuel or the best of the last six months' consumption in case the PG test is delayed. O&M Operator shall maintain the CFBC performance and shall be responsible for proper operation & maintenance of the CFBC. The specific fuel consumption will be considered for all permutations of coal, lignite consumption as the boiler is designed for.

#### 6.4.1 Liquidated Damages:

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For increase in specific fuel consumption on monthly basis which, according to the OWNER, is due to reasons solely attributable to the OPERATOR, liquidated damages shall be payable @ 0.75(point seven five)% of the annual value of contract for every 1.0(one)% and or part thereof of the increase in specific fuel consumption.

**6.4.2 Bonus:**

For decrease in specific fuel consumption on monthly basis which, according to the OWNER, is due to reasons solely attributable to the OPERATOR, the bonus shall be payable @ 0.4 (point 4) % of the annual value of contract for every 1.0 (One) % and or part thereof of the decrease in specific fuel consumption.

**6.5 Housekeeping**

Housekeeping and upkeep of Plant equipment is important for safety and reliable operation. O&M operator to ensure that the equipment are maintained as per their basic condition and the operating areas are free from obstacles /unwanted consumables/spares/tools. Critical areas are Turbine /Drive Turbines, CFBCs, Lube Oil skids, CHP. Lime system, fuel and oil storage and handling areas, buildings, control rooms, switchyard, compressor house, DM plant, cooling towers, roads and drains, and other areas of CPP. Materials handling should be maintained well with systematic schedule. The liquidated damages and Bonus will be over and above the ceiling limit of the liability as provided under Clause 4.10.2.

**6.5.1 Liquidated Damages:**

Monthly audit of housekeeping condition of Plant & equipment will be done, INR 100,000- shall be payable as liquidated damages for non-compliance. Liquidated damages under this clause will be applicable on the basis of severity of Noncompliance. The decision of Head CPP, OWNER shall be final in this regard.

**6.5.2 Bonus:**

In case of Good Housekeeping in the view of the Owner similar Incentive of 50,000/- shall be applicable.

**6.6 Maintenance**

- Violation of procedures like SOP, SMP.
- Any critical equipment trip/damage due to poor workmanship, negligence or non-compliance with respect to the Predictive and preventive maintenance & Condition Monitoring plan/schedule
- Delay in closure of defects more than 15 days considering spares are available & negligence in PM, LLF
- Improper Notifications closure & improper update of history in SAP/software installed

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- CM (Condition Monitoring) Plan executed less than 98%.

#### 6.6.1 Liquidated Damages:

In view of above liquidated damages amounting to INR 150,000/- shall be applicable on non-compliance of any of the above aspects and recovered from the payable monthly invoice.

#### 6.6.2 Bonus:

In case of full compliance, Incentive of 50,000/- shall be applicable and paid in the payable monthly invoice

#### 6.7 Zero Power Import

6.7.1 The O&M operator guarantees and undertakes to the owner that the power requirement of the CSP, CLM, CPP shall be met at all times from the CPP and there will not be any power import from the State Grid except in the following conditions: -

- 6.7.2 a) Instructions of the owner or directives issued to the owner by any competent authority and  
b) Due to non fulfilment of the owner's obligation under this O&M agreement

#### 6.7.3 Liquidated Damages (LD):

- a) The O&M operator shall be liable to pay as LD 1% of the monthly O&M fee for import of power for startup of units or for any use in equal to or more than two instances per month up to three instances per month  
b) The O&M operator shall be liable to pay as LD 1.5% of the monthly O&M fee for import of power for startup of units or for any use in equal to or more than three instances up to four instances per month  
c) The O&M operator shall be liable to pay as LD 2% of the monthly O&M fee for import of power for startup of units or for any use in equal to or more than five instances per month

#### 6.7.4 Bonus for zero power import in the month

For Zero power import from the grid in the month the Owner, due to reasons solely attributable to the OPERATOR, the bonus shall be payable @ 0.5% of the Monthly value of contract

#### 6.8 SAFETY LEVELS

6.8.1 The O&M operator guarantees and undertakes with respect to the Plant O&M staff, there shall be no time lost due to injury (LTI) reportable under prevailing labour and factory laws and regulations, caused due to accidents at the plant. For every accident at the plant resulting in the death of any O&M staff, the O&M operator shall pay to the owner as liquidated damages on account of LTI for every accident at the plant resulting in:

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- a) The death of any O&M plant staff Rs 5,00,000 (Rs Five lakhs) and
- b) Non-fatal injury to any O&M plant staff Rs 1,00,000/- (Rs one Lakh)

Notwithstanding any liquidated damages paid by the O&M operator, the O&M operator shall be solely responsible to compensate all workmen and other victims (or their closest surviving relative as the case may be) for any accident at the plant during the term as per provisions of applicable law. Furthermore, the O&M operator shall indemnify, defend and hold harmless the owner from any liability in this regard.

Personal protective equipment use is mandatory by each and every employee of the O&M contractor. Non usage of PPE by any employee will reflect into strict action and necessary fines.

6.8.2 The OWNER may impose liquidated damages as stated below for failure/ default by contractor during performance during the period of the contract.

<b>Sr. No.</b>	<b>Nature of Default/ Failure</b>	<b>Amount of liquidated damages to be imposed</b>
<b>1</b>	Any contract worker employed by contractor not wearing <b>Helmet</b>	<b>Rs. 100.00</b> Per Person Per Occasion
<b>2</b>	Any contract worker employed by contractor not using <b>Safety Gadget</b> issued	<b>Rs. 100.00</b> Per Person Per Occasion
<b>3</b>	Any contract worker employed by contractor not wearing <b>Safety Shoes</b>	<b>Rs. 100.00</b> Per Person Per Occasion
<b>4</b>	Not depositing <b>PF, GST, Professional tax</b> Tax (at the place of work) and other statutory payments on due date	<b>0.5%</b> Per Week to maximum 5% of invoice value of labour cost
<b>5</b>	Not disbursing <b>Wages, Bonus</b> to workers on due date	<b>Rs. 1,000.00</b> Per Day of delay
<b>6</b>	Deploying contract workers <b>without License/Insurance</b> or more than <b>Licensed/ Insurance</b> strength	<b>Rs. 2,000.00</b> Per Day
<b>7</b>	Making payment of wages less than minimum wages	<b>Rs. 1,000.00</b> Per instance

In case of repetitive occurrence by the same worker the fines will be doubled on each instance. In case of frequent default by the worker, The O&M contractor will terminate his services. The fines levied due to the above safety violations will not be inclusive in the 10% maximum leviable liquidated damages. This will be over and above the overall 10% ceiling as mentioned in the contract as and when in case the other penalties have been applied and has reached the ceiling of 10%.

### 6.8.3 SAFETY LEVEL BONUS

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For each month of the term that the guaranteed safety level is achieved, O&M operator shall be entitled to a bonus of Rs 75000/- per month. This will be over and above the overall ceiling as mentioned in the contract. The safety levels for bonus shall be Zero accident, Zero near miss and maximum 2 incidents of safety rules violation in a particular month.

### **6.9 Secondary Fuel Consumption (SFC) – Oil LDO Consumption**

The O&M operator shall guarantee that the SFC for the plant (due to reasons solely attributable to O&M contractor) shall be as established in the PG tests (Guaranteed SFC) or best figures of the consumption for the past 6 months until performing the PG test.

#### **6.9.1 Liquidated Damages:**

The O&M operator shall be liable to pay as 50% of the cost of the extra oil consumed as liquidated damages in the event that the SFC is higher than the guaranteed SFC in any given month due to default of the O&M contractor.

#### **6.9.2 Bonus**

The O&M operator shall be paid a bonus @25 % of the cost of the oil saved in the event the SFC is lower than the guaranteed SFC in any given month

### **6.10 COAL/Lime stone/ LDO/other material UNLOADING RATE:**

Subject to successful demonstration jointly in this regard with the owner, The O&M contractor shall guarantee unloading of trucks with time as permitted. Any demurrages/additional charges levied due to delays of unloading coal/limestone/LDO and other such material being supplied by the Owner for reasons attributed to the O&M contractor will be borne by the O&M contractor. No bonus/incentive is applicable for maintaining the time limits.

#### **6.11 Emission and environmental parameters:**

O&M Operator is also required to ensure that the following systems and parameters are maintained as per statutory requirements

- a) Emission norms with reference to SPM, SOX, NOX and Mercury in compliance with the GPCB/mutually agreed norms.
- b) Water chemistry (Including raw, portable, CW, DM, boiler, ETP, STP and others) as per the GPCB Norms/mutually agreed norms
- c) Specific water consumption
- d) Fugitive coal/dust emissions from Plant

Deviations from the design norms will have to be corrected within reasonable time by the O&M operator at no cost to the owner. Any sort of fine on the owner due to deviation will be

borne by the O&M contractor if attributable to the O&M contractor. Any local issues caused due to non-adherence of the above will be resolved by the O&M contractors at his cost and risk.

No Bonus/incentive will be payable on achievement of the above.

#### 6.12 Auxiliary power consumption:

6.12.1 Bidders are also required to ensure that the APC parameters shall be maintained. The O&M operator shall be liable to get Bonus if the annual APC of the plant is lower than the Guaranteed APC, for APC calculated after conduction of the PG test or the best figures of the last six months consumption until conduction of the PG test.

#### 6.12.2 Bonus

For every 1.5% (two percent) decrease in the Auxiliary Power Consumption, 0.25% (zero point five) of the monthly Operating Fee for the relevant Operating month shall be paid as Bonus to the O&M Operator on pro rata basis. This will however be calculated on normal running of the units.

#### 6.12.3 Penalty

If the APC for the given plant is higher than the guaranteed APC, for every 1.5% increase in the auxiliary power consumption and penalty of 0.5% of the monthly operating costs shall be recovered from the O&M operator

#### 6.12.4 Liquidated Damages:

If the O&M Operator fails to bring required manpower as per the mutually agreed schedule, Liquidated damages @ 1% for per week delay for bringing the required manpower strength will be payable by O&M Contractor to the Owner. The overall liability of the O&M Operator will be 10% of yearly operating fees.

6.13 The total amount of liquidated damages payable by the O&M Operator on account of non-fulfillment of all the Performance Guarantees (excluding Safety and Housekeeping violations) shall be limited to 10 % (Ten percent) of the Yearly Operating Fee for the relevant Operating Year. However, the liquidated damages due to safety and housekeeping violations will be in addition to the above-mentioned percentage in case the sum of the penalties exceeds the ceiling limit.

6.14 The total amount of Bonus payable by the Owner on account of improvement of all the above-mentioned Performance Guarantees shall be limited to 5% (five percent) of the Yearly Operating Fee for the relevant Operating Year. However, the Bonus due to safety and housekeeping will be in addition to the above-mentioned percentage in case the sum of the bonus exceeds the ceiling limit.

6.15 Owner may recover the liquidated damages payable by the O&M Operator from the monthly Operating Fee payable by the Owner for the relevant Operating Month. The same will be reconciled provisionally every quarter and final reconciliations will be done on yearly basis

6.16 All parameters on which the liquidated damages/incentives will be based will be as per the results available after the conduction of the PG test. In case the PG tests are delayed then the parameters will be mutually decided based on the best result of the previous six months of operation of the units until the PG test results are made available. The PG test will be conducted by the OEM/Vendor in the presence of GNAL/GACL, The O&M operator and, if required by the owner, by any Third Party appointed by the Owner. In case of any dispute, the decision of the owner will be final and binding to all concerned parties.

## Chapter 7

### 7. Technical Specifications

7.1 Following are salient features of the 2X65 MW Power plant

- a) This is a green field plant
- b) The plant has a chemical lab with apparatus / testing instruments for water, coal, lignite, lime, ash, steam, oil, etc.
- c) The plant has an electrical lab, C&I lab and workshop with required minimum Tools. Tackles and apparatus / instruments to cater to the CPP as well as the CSP and CLM.
- d) The plant has a sweet water intake system which meets complete plant water requirement as well as that of the CSP and CLM
- e) The raw water requirement is met by supply from GIDC
- f) The plant shall have round the clock security arrangement.
- g) Units 1 & 2 shall be controlled from central control room
- h) There are two stacks for both the units
- i) Cooling Towers are of Induced draft type
- j) Power is evacuated to the CSP and CLM at 33/6.6 kV and surplus Power generated from the station is evacuated at 220kV level using following outgoing transmission lines:

7.2 The major areas in the plant boundary are as follows:

- a) Boiler-Turbine-Generator (BTG) Area & Control Room
- b) Switchgear Room
- c) 220kV Sub-Station
- d) Fuel & Lime Unloading & Handling System
- e) Ash Handling System
- f) SNCR
- g) 2 no's Raw water reservoir and pump house
- h) Fire water reservoir and pump house, Fire tenders
- i) Water Treatment System, ETP, STP
- j) Cooling Towers, Pump house and channel and forebay
- k) Workshop (list of equipment's given elsewhere in document)
- l) Stores
- m) 1 shed for lignite, 2 for uncrushed coal and 1 for lime stone
- n) Dozer, graders, and grab crane of material handling
- o) Chemical lab and other laboratories
- p) OHC
- q) System control rooms
- r) Store

### 7.3 Equipment/System Broad Specifications:

The specification of the 2 x 65 MW CPP (GNAL) are attached herewith. The same for the 1 x 65 MW CPP will be given at a later date.

#### 7.3.1 Steam Generators (Boiler)

(parameters for each Boiler)

Sr. No	Description	Description/ Value
1	Make/Type	Thermax/ Internal recycle Circulating fluidized bed boiler (IR-CFB)
2	Circulation	Natural circulation with single drum
3	Boiler MCR	2 X 260 TPH
4	Performance Fuel	85% Washed coal (D) + 15% Lignite (E)
5	Other fuel that can be fired	➤ 100% Imported coal (A)
		➤ 100% Imported coal (B)
		➤ 100% South African coal (C)
		➤ 100% Washed coal (D)
		➤ 85% Imported coal (A) + 15% Lignite (E)
		➤ 85% Imported coal (B) + 15% Lignite (E)
		➤ 85% South African coal (C) + 15% Lignite (E)
		➤ Any combination of A, B, C or D
6	Boiler Location	Semi-outdoor
7	Boiler support	Top supported on structural steel
8	Fuel feeding system	Over bed fuel feeding system
9	Steam Press. at MSSV Outlet	109 kg/cm <sup>2</sup> (g)
10	Steam Temp. at MSSV Outlet	540 ± 5°C
11	Steam Temp. Control Range	60 to 100%
12	Feed water temperature at economizer inlet with HP heater in service.	235°C
13	Feed water temperature at economizer inlet @ 60% BMCR	216.1°C

14	Start up fuel	LDO
15	No Of soot blowers	12
16	Type of soot blower	Rotary soot blower

### 7.3.2 Steam Turbines

Steam Turbine (parameters for each steam turbine)

Sr. No	Description	Description/ Value
1	Make/Type	Siemens/Multistage, single flow bleed cum condensing turbine
2	Rated power	<b>65 MW (TMCR)</b>
3	Steam Pressure at inlet	<b>105 Ata</b>
4	Steam Temperature at inlet	<b>535 Deg c</b>
5	Number of Bleeds	<b>4</b>
6	Number of controlled extractions	<b>1</b>
7	Process Steam flow	<b>44 tph at TMCR (Guarantee Point)</b>
8	Generator Voltage	<b>11 kV</b>
9	Generator Frequency	<b>50 Hz</b>
10	Synchronous Speed of Generator	<b>3000 rpm</b>
11	Synchronous Speed of Turbine	<b>3000 rpm</b>

### 7.3.3 Condenser:

Sr. No	Description	Description/ Value
1	Make/Type	Siemens/Single Pressure, Two pass, under slung, Circular surface condenser
2	Condensing Surface area	4952 m <sup>2</sup>
3	Cleaning factor	85%
4	No. Of Passes	2 nos
5	Plugging Margene	10 %
6	Cooling water velocity	1.93 m/s
7	Pressure drop	<0.6 bar
8	No. Of tubes	7400 nos
9	Tubes OD & Th	22.22 mm & 0.711 mm

10	Hot well retention time	180 Sec
11	Hot well volume	~8.95 m3

#### 7.3.4 BFP

Sr. No	Description	Description/ Value
1	Make	KSB STD
2	Pump Type & Quantity	Vertical, Cannister Type, (2W+1S) for Both Unit
3	Design Flow per pump	<b>365 m3/hr</b>
4	Differential Head at Design Flow	<b>1546 MLC</b>
5	Motor KW / Speed	1880 / 2950 KW / RPM

#### 7.3.5 Gland Steam Condenser

Description		Detail
Total steam from gland	TPH	0.09
Total air from gland	TPH	0.1116
Mixture Temperature from gland	°C	238.7
<b>Shell side</b>		
Design pressure	Ata	Full Vacuum/2.5
Design temperature	°C	265
<b>Tube side</b>		
Design pressure	Ata	9.0
Design temperature	°C	60

#### 7.3.6 Steam Jet Ejector

Description		Detail
<b>Hogging Ejector</b>		1 x 100%
Volume to be evacuated	SCF M	200
Evacuation time	Min	30
Vacuum to be obtained	%	70
Suction pressure	Ata	0.33
<b>Main Holding Ejector</b>		2 x 100%
Suction flow – air	kg/h	20.41
Suction flow – water vapour	kg/h	44.91
Suction pressure	Ata	0.033

<b>Motive steam Parameter</b>		
Pressure	Ata	10.0
Temperature	°C	390.0

### 7.3.7 Lime stone Crusher mill

Sr. No	Description	UOM	Value
1	Type		RPM 1513 /Make: - BHS Germany.
2	Equipment Capacity	TPH	Throughput – 30 TPH
3	Qty	Nos.	1
4	Feed size	Mm	(-) 6 -100%
5	Product size	Mm	0 to (-) 1mm (Up to 80%) (-) 2 mm (100%)
6	Drive Details		V belt drive with 12 grooves
7	Motor rating Motor Speed	kW/rp m	160 KW/1485 RPM
8	Rotor Speed	m/s	70 /s

### 7.3.8 CEP(2X100%)

Sr. No	Description	Description/ Value
1	<b>Make</b>	<b>KSB Pumps</b>
2	Pump Type & Quantity	Vertical, Cannister Type, 2x100% each unit
3	Design Flow per pump	<b>200.00 m3/hr</b>
4	Differential Head at Design Flow	<b>75.00 MLC</b>
5	Motor KW / Speed	75 / 1485 KW / RPM

### 7.3.9 Generators

Sr. No	Description	Unit	Detail
1	Make		BHEL
2	Apparent power	kVA	81250
3	Active power	kW	65000
4	Rated current	A	4264.64
5	Rated voltage	kV	11
6	Permissible voltage variation	%	± 10
7	Rated frequency	Hz	50
8	Permissible Frequency variation	%	± 5

<b>9</b>	Combined voltage and frequency variation	%	10
<b>11</b>	Synchronous speed	rpm	3000
<b>12</b>	Direction of rotation (Looking from drive end)	--	CCW as viewed from DE
<b>13</b>	Poles	No.	2
<b>14</b>	Duty	--	Continuous
<b>15</b>	Type of rotor	--	Cylindrical
<b>16</b>	Type of driving machinery	--	Steam turbine

### 7.3.10 FUEL HANDLING SYSTEM

The Fuel Handling System consists of unloading of material (coal or Lignite) from designated storage sheds, the material to be feed by Pay loader / Front end loader to Reclaim hoppers and conveyed to Boiler Bunker by Belt Conveyor System

**Main equipment:**

Belt conveyor Capacity -300 TPH for fuel

Belt conveyor Capacity -60 TPH for Lime

Crusher-02 no's for coal -300 TPH

Crusher -01 No for lignite -300TPH

Crusher for 02 Nos for Lime stone – 60 TPH

Screen-01 no's for Coal

Screen -01 no's for Lignite

The complete plant operation can be split into three sub-operations / processes for understanding & deciding material flow paths as per operational requirement –

<b>Path A</b>	<b>Lignite - Loading from Shed-1 and Discharge to Boiler Bunker</b>
<b>Path B</b>	<b>Coal - Loading from Shed-2 or Truck Tippler and Discharge to Shed-3</b>
<b>Path C</b>	<b>Coal - Loading from Shed-2 or Truck Tippler and Discharge to Boiler Bunker</b>
<b>Path D</b>	<b>Coal - Loading from Shed-3 and Discharge to boiler Bunker</b>
<b>Path E</b>	<b>Limestone - Loading from Shed-4 and Discharge to Proposed Day Bin</b>

### 7.3.11 Ash Handling Plant

**The ash handling system shall comprise of:**

- ❖ Dense phase pneumatic bed ash handling system.

❖ Dense phase pneumatic fly ash handling system.

**System capacity:**

Designed Capacity of Bed ash removal system- 10 TPH

Designed Capacity of Fly ash removal system -20 TPH

**Silo unloading rates:**

Designed output capacity of bed ash from bed ash silo- 60TPH

Designed output capacity of fly ash from fly ash silo -100 TPH

**Conveying Air Compressor**

Sr. No	Description	Parameter
1	Type of compressor	<ul style="list-style-type: none"> <li>Screw</li> <li>Water cooled</li> </ul>
2	Free Air Delivery	32 m3/min
3	No. of compressors	5 (4W+1S)
4	Delivery pressure	4.5 kg/cm <sup>2</sup> (g)
5	Design Ambient temperature	°C

**7.3.12 Cooling tower**

Sr. No	Description	Unit	Value
1.	Cooling Tower Type		RCC IDCT-Counter Flow
2.	No. of cells		14 Cells (12W+2S)
3.	Cooling tower capacity per cell	Cu.m/hr	3500
4.	Rated circulated water Flow	Cu.m/hr	42000
5.	Hot water temperature	Deg.C	43
6.	Cold water temperature	Deg.C	33
7.	Design Cooling Range	Deg.C	10
8.	Design ambient Wet bulb temperature	Deg.C	28.5
9.	Design relative humidity	%	89%
10	Wet bulb temperature at the tower inlet	Deg.C.	28.0
11	Relative humidity at the tower inlet	%	89%
12	Relative humidity at the stack outlet	%	100%
13	Evaporation loss	%	1.64

14	Drift Loss	%	0.05
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### 7.3.13 DM Plant

DM plant Capacity: 4x100 M<sup>3</sup>/hr(3W+1S)

#### 7.3.14 Raw water

**Reservoir Capacity:**2x 36000 m<sup>3</sup>

**Pump :** 4 (3W+1S)

S.No	Item No	Detail
1	Application	Raw cum Cooling Tower makeup water Transfer Pumps
2	QTY. (nos.)	4 (3W+1S)
3	Capacity (M <sup>3</sup> /hr.)	625
4	Bowl Head ( MWC)	40
5	Pump Type	Vertical Turbine Pump
6	No. of Stage (nos.)	2
7	Speed (rpm)	1460
	<b>Motor Data</b>	
8	Motor Rating, kw	110 K.W
9	Supply Voltage	415 V
10	Frequency	50 HZ

#### 7.3.15 Air compressor:

##### Instrument air Compressor

Sr. No	Description	Parameter
1	Type of compressor	<ul style="list-style-type: none"> <li>• Screw</li> <li>• Oil free</li> <li>• Water cooled</li> </ul>
2	Free Air Delivery	<b>565 CFM</b>
3	No. of compressors	<b>5 (4W+1S)</b> (Stand-by unit common for Instrument & service Air)
4	Delivery pressure	8.8 kg/cm <sup>2</sup> (g)
5	Design Ambient temperature	45 °C

##### Service air Compressor

Sr. No	Description	Parameter
1	Type of compressor	Screw Oil free Water cooled

2	Free Air Delivery	585 CFM
3	No. of compressors	2 (Both W)
4	Delivery pressure	7 kg/cm <sup>2</sup> (g)
5	Design Ambient temperature	45 °C

### 7.3.16 Air Drier

Sr. No	Description	Parameter
1	Type of drier	Refrigerant Type
2	Capacity of drier	<b>900 CFM</b>
3	No. of drier	5 (4W+1S)
4	Delivery pressure	7-8 kg/cm <sup>2</sup> (g)
5	Pressure Dew point temperature	2-3 °C
6	Atmosphere Dew point temperature	-17 °C

### 7.3.17 Pumps:

#### 7,3,17,1 Auxiliary Cooling Water

Sr. No	Item No	Detail
1.	Application	Auxiliary Cooling Water
2.	QTY. (nos.)	3 (2W + 1S)
3.	Capacity (M <sup>3</sup> /hr.)	1100
4.	Bowl Head (MWC)	55
5.	Pump Type	Vertical Turbine Pump
6.		
7.	No. of Stage (nos.)	1
8.	Speed (rpm)	1489
9.	<b>Motor Data</b>	
10.	Motor Rating, kw	250 KW
11.	Supply Voltage	6.6 KV
12.	Frequency	50 HZ

#### 7.3.17.2 CPP MCW Pump

Sr. No.	Item No	Details
1.	Application	CPP MCW Pumps
2.	QTY. (nos.)	3 (2W + 1S)
3.	Capacity (M <sup>3</sup> /hr.)	9450
4.	Bowl Head (MWC)	28

5.	Pump Type	Vertical Turbine Pump
6.	No. of Stage (nos.)	1
7.	Speed (rpm)	743
8.	<b>Motor Data</b>	
9.	Motor Rating, kw	1350 K.W
10.	Supply Voltage	6.6 KV
11.	Frequency	50 HZ

### 7.3.17.3 Caustic Soda MCW Pump

Sr. No.	Item No	
1.	Application	Caustic soda MCW Pumps
2.	Liquid	Cooling Water
3.	QTY. (nos.)	3 (2W + 1S)
4.	Capacity (M3 /hr.)	6825
5.	Bowl Head (MWC)	52
6.	Pump Type	Vertical Turbine Pump
7.	Pump Model	1150A
8.	No. of Stage (nos.)	2
9.	Speed (rpm)	743
10.	Motor Data	
11.	Motor Rating, kw	1350 KW
12.	Supply Voltage	6.6 KV
13.	Frequency	50 HZ

### 7.3.17.4 Chloromethane MCW Pump

Sr. No.	Item No	
1.	Application	Chloromethane MCW Pumps
2.	Liquid	Cooling Water
3.	QTY. (nos.)	3 (2W + 1S)
4.	Capacity (M3 /hr.)	4200
5.	Bowl Head (MWC)	60
6.	Pump Type	Vertical Turbine Pump
	No. of Stage (nos.)	1
7.	Speed (rpm)	743
8.	<b>Motor Data</b>	
9.	Motor Rating, kw	1350 KW
10.	Supply Voltage	6.6 KV
11.	Frequency	50 HZ

### 7.3.17.5 Service Water Pump

S.No.	Item No	Detail
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1	Application	Service Water Pump
2	QTY. (nos.)	2 (1W+1S)
3	Capacity (M <sup>3</sup> /hr.)	50
4	Bowl Head (MWC)	40
5	Pump Type	Vertical Turbine Pump
6	No. of Stage (nos.)	3
7	Speed (rpm)	2900
	<b>Motor Data</b>	
8	Motor Rating, kw	15 KW
9	Supply Voltage	415 V
10	Frequency	50 HZ

### 7.3.18 DCS

	Make	Siemens for TG/ ABB for Boiler
	Type/Model	
	No. of Inputs/Outputs	

### 7.3.19 3kV MV Switchgear

The switchgear shall be single busbar, three phases suitable for accommodation within a building

and capable of continuous operation under the climatic conditions.

Following feeders will be provided: -

- i. Two (2) Nos. 2500 A Outgoing feeder from 220KV/33KV Power Transformers
- ii. Two (2) Nos. 2500A Incomer feeder from 11KV/33KV Generator Transformers
- iii. Two (2) Nos. 2000A Outgoing feeder to Caustic Soda Plant
- iv. Two (2) Nos. 630A Outgoing feeder to 33KV/6.6KV Auxiliary Power Transformers
- v. One (1) No. 2500A Bus-coupler
- vi. Two (2) Nos. Bus PT panels
- vii. Two (2) nos. 1250A Outgoing feeders for Chlorate Plant & Chlorine Park bidders
- viii. Two (2) nos. 2000A Spare feeders (one each side of bus section)

### 7.3.20 6.6kV MV Switchgear

### 7.3.21 LT Switchgear

LT Switchgear comprising of PCC, PMCC and MCC

PCCs / PMCCs shall be used to supply power to motor of ratings 75 to 160 KW through

ACBs. Whereas MCCs shall be used to supply power to contactor-controlled motors rated below

75 kW, local panels, local starter panels etc.

Incomers of MCCs of rating 630A and above shall be through Air Circuit Breakers while incomers of lower rating can be through motorized MCCBs. All Outgoing feeders (non motor feeders) of PCC/PMCC rated 630A and above shall be Air Circuit Breakers while rated below 630A shall be MCCB. Motors below 75kW shall be provided with MCCB/ MPCB. Motors rated 75 KW and above shall have comprehensive motor protection relays. They shall be numerical type and shall communicate with DCS through Open protocol.

### 7.3.22 Auxiliary Transformers

Sr. No	Major Parameters	Description/ Value
1.	Make	Voltamp Transformers Ltd
2.	No load voltage ratio	33 / 6.9KV Bi-directional. (a)
3.	Type of Cooling	ONAN / ONAF
4.	Qty	02 Nos
5.	Rated output	18 / 22.5 MVA
6.	Vector group	Dyn11

### 7.3.23 Service Transformers:

#### 3.15 MVA SERVICE TRANSFORMER

Sr. No	Major Parameters	Description/ Value
1.	Type and make	Outdoor Type (ONAN) & Voltamp Transformers Limited
2.	Normal continuous rating	KVA 3150
3.	Winding material	Copper
4.	Frequency	Hertz 50
5.	Quantity	04 Nos
6.	No Load voltage ratio	6.6/0.433 7 KV
7.	Vector Group	Dyn11

#### 2.5 MVA SERVICE TRANSFORMER

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Sr. No	Major Parameters	Description/ Value
	Type and make of transformer	Outdoor Type (ONAN) & Voltamp Transformers Limited
	Normal continuous rating	KVA 2500
	Winding material	Copper
	Frequency	Hertz 50
	Quantity	02 Nos
	No Load voltage ratio	6.6/0.433 7 KV
	Vector Group	Dyn11

## 2 MVA SERVICE TRANSFORMER

Sr. No	Major Parameters	Description/ Value
1.	Type and make of transformer	Outdoor Type (ONAN) & Voltamp Transformers Limited
2.	Normal continuous rating	KVA 2000
3.	Winding material	Copper
4.	Frequency	Hertz 50
5.	Quantity	04 Nos
6.	No Load voltage ratio	6.6/0.433 7 KV
7.	Vector Group	Dyn11

## 1 MVA SERVICE TRANSFORMER

Sr. No	Major Parameters	Description/ Value
1	Type and make of transformer	Outdoor Type (ONAN) & Voltamp Transformers Limited
2	Normal continuous rating	KVA 1000
3	Winding material	Copper
4	Frequency	Hertz 50
5	Quantity	02 Nos
6	No Load voltage ratio	6.6/0.433 7 KV
7	Vector Group	Dyn11

### 7.3.24 Generator Transformers

Sr. No	Major Parameters	Description/ Value
1	Make	Voltamp Transformers Ltd.

2	Rating, Transformation Ratio	2 Winding.
3	Type of Cooling	ONAN / ONAF
4	Rated Output	<b>70/85 MVA</b>
5	Rated Voltage	HV 33KV/ LV11KV
6	Rated Current	HV 1224.68 A @ 70 MVA 1487.11 A @ 85 MVA LV 3674.05 A @70 MVA 4461.34 @ 85 MVA

### 7.3.25 220V DC SYSTEM

220V DC power supply is the most reliable source of power supply for control, protection, interlock and annunciation requirements of the power station during the normal running of the plant as well as for a safe shut down at the time of the total power supply failure. For arranging the DC supply for the above, the following shall be provided. Each system comprises battery, float-cum-Boost-charger and one D.C. distribution board.

The following shall be provided:

- 2 X 100% set of 220V Ni-Cd battery with associated SMPS based modular float cum boost charger and DCDB for main plant.
- 2 X 100% set of 220V Ni-Cd battery with associated SMPS based modular float cum boost charger and DCDB for Switchyard

### 7.3.26 Switchyard / Sub-Station

The 220kV switchyard shall have Six (6) bays comprising the following:

Sr. No	Description	Detail
1	Power Transformer Bays	Two (2)
2	Line feeders	Two (2)
3	Bus coupler Bay	One (1)
4	Spare Bay	(Space Only) - One (1)

### 7.3.27 Power Transformer - Two (2) Nos.

Sr. No	Major Parameters	Description/ Value
1.	make	Voltamp Transformers Ltd
2.	Rated output	a) With ONAN cooling 36 MVA b) With ONAF cooling 45 MVA
3.	Frequency	Hertz 50
4.	Quantity	02 Nos
5.	No Load voltage ratio	220/33KV. Bidirectional. (a)
6.	Vector Group	YNyn0
7.	Type of cooling	ONAN / ONAF

### 7.3.28 Emergency Diesel Generator Set - 01 Nos

DG set rating 1000 kVA, 415 V, 0.8 p.f., 3 phase, 3 wire, Emergency Diesel generator set in acoustic enclosure provide emergency power to units 1 & 2 in case of grid power failure for safe shutdown.

### 7.3.29 Fire Fighting System

Following fire water pumps are considered in the fire water pump house:

1. Electric motor driven main fire water pump Qty- 2 Nos.
2. Diesel engine driven stand by pump Qty - 1 No.
3. Electric motor driven fire water jockey pumps Qty - 2 Nos.

### 7.3.30 SA Fan

Sr. No	Description	Description/ Value
1	Make/Type	TLT engi
2	Volume	<b>25.64 m3/sec</b>
3	Temperature	<b>45 Deg C</b>
4	Static Pressure	<b>12753 Pa</b>
5	Fan speed	<b>1480 RPM</b>
6	Motor Power	<b>470 Kw</b>
7	Motor speed	<b>1480 RPM</b>

### 7.3.31 PA Fan

Sr. No	Description	Description/ Value
1	Make/Type	TLT engi

2	Volume	<b>23.91 m3/sec</b>
3	Temperature	<b>45 Deg C</b>
4	Static Pressure	<b>16923 Pa</b>
5	Fan speed	<b>1480 RPM</b>

### 7.3.32 ID fan

<b>Sr. No</b>	<b>Description</b>	<b>Description/ Value</b>
<b>Sr. No</b>	<b>Description</b>	<b>Description/ Value</b>
1	Make/Type	TLT engi
2	Volume	<b>78.71 m3/sec</b>
3	Temperature	<b>155 Deg C</b>
4	Static Pressure	<b>3777 Pa</b>
5	Fan speed	<b>990 RPM</b>
6	Motor Power	<b>450 Kw</b>
7	Motor speed	<b>990 RPM</b>

### 7.3.33 ESP

<b>Sr. No</b>	<b>Description</b>	<b>Description/ Value</b>
1)	Field, Chamber per ESP	6Fields
2)	Collecting Area per Field per Chamber	= 3787.5m <sup>2</sup>
3)	Spacing (CE-DE)	20cm
4)	Operation Mode	IE Mode (Semi Pulse Mode)
5)	Selected Voltage Rating	111 kV
06)	Selected Current Rating	1100 mA

### 7.3.34 Effluent treatment plant

1.	RO capacity of 2 x 82 m <sup>3</sup> /hr with 75% recovery.		
a.	Total Permeate flow from 2 nos. of RO skids	m <sup>3</sup> /hr	164.0
b.	Recovery in RO system	%	75
c.	Total Feed flow to RO system	m <sup>3</sup> /hr	218.67

d.	Recovery in UF system	%	97.17
e.	Total feed flow to UF system	m <sup>3</sup> /hr	225
f.	Back wash waste from DMF	m <sup>3</sup> /day	96.0
g.	DMF inlet flow	m <sup>3</sup> /hr	229.0
h.	Sludge loss in clarifier	m <sup>3</sup> /hr	12.1
i.	Clarifier feed flow	m <sup>3</sup> /hr	241.1
	Effluent treatment plant inlet flow	m <sup>3</sup> /hr	<b>241.1</b>

### 7.3.35 STP

The STP of capacity 0.67 m<sup>3</sup>/hr is under establishment

### 7.3.36 Workshop

Equipment being installed in Workshop:

S. No.	Equipment	Units	Qty
1.	Precision high speed lathe.	Nos.	1
2.	Shaping machine	Nos.	1
3.	Power saw machine	Nos.	1
4.	Pedestal grinding machine	Nos.	2
5.	Universal Tool and cutter grinding machine	Nos.	1
6.	Pedestal drilling machine	Nos.	1
7.	Bench Drilling M/c	Nos.	1
8.	Portable Drilling M/c	Nos.	2
9.	Buffing machine.	Nos.	2

10.	Hydraulic press	Nos.	1
11.	Belt Vulcanizing machine	Nos	1

#### **7.4 1 x 65 MW CPP (GACL)**

The same is under finalization. The broad list of equipment's for the above is proposed to be as follows (subject to change during finalization) :

- 7.4.1 Boiler and accessories
- 7.4.2 Turbine and accessories
- 7.4.3 220 kV switchyard with incoming/outgoing gantry and accessories
- 7.4.4 33 kV and 6.6 kV power system
- 7.4.5 Emergency DG set
- 7.4.6 DM Plant
- 7.4.7 Firefighting hydrants and firefighting equipment
- 7.4.8 Chimney
- 7.4.9 Plant air compressor system
- 7.4.10 Ash handling system and silos
- 7.4.11 Ash conveying compressors
- 7.4.12 Ash silos with blowers and other accessories
- 7.4.13 ETP and STP
- 7.4.14 Emission monitoring systems
- 7.4.15 Cooling towers and pumps
- 7.4.16 CW and ACW system
- 7.4.17 Coal/Lignite from BC% conveyor of 2 x 65 MW CPP (GNAL)
- 7.4.18 Lime stone through Plow system from conveyor after primary crusher of 2 x 65 MW CPP (GNAL)
- 7.4.19 Lime stone secondary crusher and accessories
- 7.4.20 Air conditioning and ventilation system
- 7.4.21 SWAS system
- 7.4.22 DM water tank
- 7.4.23 CST
- 7.4.24 Laboratories
- 7.4.25 Applicable Roads and drains
- 7.4.26 Other applicable systems for 1 x 65 MW CPP.
- 7.4.27 Mandatory spares
- 7.4.28 Special tools and tackles
- 7.4.29 Office space (as available)
- 7.4.30 Stores

#### **7.5 Details about Tools & Tackles, Guarantees & Warrantees and Outsourcing Contracts**

THE OWNER: COAL BASED CAPTIVE COGENERATION POWER PLANT AT Dahej, Dist. Bharuch	RFP for Long Term Complete O&M of THE OWNER CPP at Dahej	Page 128 of 154
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7.5.1 List of Tools and Tackles (including Special Tools if any) procured by OWNER/ provided by EPC Contractors / OEMs which would be handed over to the O&M Operator. The list of the tools and tackles for the GACL 1 x 65 MW CPP will be given at a later date.

**LIST OF MAINTENANCE TOOLS AND TACKLES**  
(CFBC STEAM GENERATOR)

Sl. No	Particulars	Numbers
1.0	<b>FANS / BLOWERS</b>	
1.1	Bearing pulleys for each type of fan	2
1.2	Torque wrenches of following capacity for each type of fan	
	1 to 5 kg. m	2
	5 to 35 kg. m	2
	20 to 50 kg. m	2
1.3	Lifting eye for each type of fan	5
1.4	Bearing face out checking dial gauge for each type of fan	2
1.5	Hydraulic mounting for each type of fan	2
2.0	<b>SOOT BLOWERS (if applicable)</b>	
2.1	Soot blower valve hand lapping tool	1
2.2	Manual retraction handle	4
3.0	<b>LIGHT DIESEL OIL BURNERS</b>	
3.1	Oil burner cleaning bench with necessary dismantling tools	1 set
4.0	<b>BOILER MOUNTING AND FITTINGS</b>	
4.1	Hand lapping tool set for safety valves	2 set
4.2	Hand lapping tool set for valves	2 sets
4.3	Hand hole plate seal weld removal tool	1 no.
5.0	<b>SAFETY VALVES</b>	
5.1	On-line testing / setting device for safety valves	1 no. for each type
6.0	<b>ELECTROSTATIC PRECIPITATOR</b>	
6.1	Stretching device for mounting emitting electrode	2
6.2	Alignment jig for support insulator replacement	1
6.3	Lifting tool for support insulator replacement	2
6.4	Form tool for collecting electrode profile	2
6.5	Shaft insulator removal tool	1
7.0	<b>OTHER ITEMS</b>	
7.1	Inclined manometer	1
7.2	Introscope	1
7.3	Boroscope	1

**LIST OF TOOLS AND TACKLES – BOP MECHANICAL**

**COAL HANDLING SYSTEM**

<b>S. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1	Rough cut Files (Flat, Round, half-round and Triangular) – Size 250mm	3 nos. of each type
2	Fine cut Files (Flat, Round, half-round and Triangular) – Size 250mm	3 nos. of each type
3	Extendable Aluminum Ladder (Self-supporting with 6m reach)	4 nos.
4	Spanners	
a)	Open end, (Sizes 10-11,12-13,14-15,16-17,18-19,20-22,22-24 24-26,27-32,30-32,36-41,46-50,50-55,55-60)	4 nos. each
b)	Adjustable, 10"	4 nos.
d)	Ring Spanners, Sizes 24-26,27-32,30-32,36-41,46-50,50-55,55-60	4 nos. each
e)	Socket Head with universal drive, Size ( $\frac{3}{4}$ " ,)	4 Sets
5	Vernier Calipers (0-150mm)	2 nos.
6	Vernier Calipers (0-300mm)	2 nos.
7	Digital Vernier caliper (300/600mm)	2 nos.
8	Hammers 2,4,5,8 & 10Kg	4 nos. each
9	Nylon faced hammer	4 nos. each
10	Pliers	
a)	Cutting Pliers (4 sizes)	4 sets each
b)	Nose Pliers (4 sizes)	4 sets each
c)	Internal circlip pliers ( 4 sizes)	4 sets each
d)	External circlip pliers (4 sizes)	4 sets each
11	Marking punches( $\frac{1}{4}$ " & $\frac{1}{8}$ " letter punch & number punch)	4 sets
12	a) Vice grips 6" , 8" & 10"	4 nos. each
	b) Vice Holding Steel Table (3 m x 2m x 1.2Ht)	3 nos.
13	Screw Drivers (6", 8", 12" and 18")	4 nos. each.
14	Plumb Bobs	2 nos.
15	Spirit level (12")	4 nos.
16	Micrometers	
a)	Adjustable outside micrometer (0-150mm)	2 nos.
b)	Inside micrometer (50-150mm)	2 nos.
17	Feeler Gauge	5 Sets

<b>S. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
18	Torque wrench with socket (4 different ranges upto 200 Kg-m (7-35, 14-56, 49-109 & 75-200)) each	2 Sets
19	Dial Gauge 0 to 10mm with magnetic stand (Least Count 0.01mm)	3 Sets
20	Steel Tapes	
a)	3m Size	4 nos.
b)	5m Size	4 nos.
c)	15m Size	4 nos.
21	Steel Scales	
a)	300mm Size	2 nos.
b)	500mm Size	2 nos.
22	Bore Dial Gauge (0-300mm)	2 Sets
23	Screw Gauge (150 to 600 mm)	2 nos.
24	Try Squares (6"x12")	2 nos.
25	Straight Edges	2 nos.
26	Slings (4 m long) ( 1/2", 3/4" & 1" )	6 nos. of each size
27	D-shackles( 1T, 2T, 3T & 5T)	6 nos in each size
28	Portable hand operated electric hack saw with 5 spare blades	1 Set
29	Portable hand operated flexible shaft electric grinding machines with 10 spare grinding wheels of 2" size	2 Sets
30	Angle Grinder 7"	2 nos.
31	Surface grinder 4"	2 nos.
32	Electrical hand Drill 3/4" with spare drill bits of various sizes	2 Sets
33	Grease Gun with hose and adapter	6 nos.
34	Bucket grease pump with hose and adapter	6 nos.
35	Hydraulic Bearing Puller of reputed make to suit maximum size of bearing (i.e. upto 200ø)	4 Sets
36	Belt pullers of 1.5T, 5T	2 sets of each size
37	Grip Clamps for Belt	15 nos.
38	Splice Knife suitable for N-N belt	12 nos.
39	Digital tachometer (0 to 3000 RPM)	2 nos.
40	Portable emergency light with dry cells	6 nos.
41	Roughing tools with spare flexible shafts	4 sets
42	Ultrasonic thickness meter	2 nos.

<b>S. No.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
43	Suitable hexagonal adopter sets consisting of one no. of each size 12, 14, 17,19 & 22	2 sets
44	Screw jacks 5T and 10T	4 nos. each
45	Lifting eye bolts including D-shackles of Capacity 2,3,5,10T,	1 sets each
46	Wire rope sling each of sizes ½", ¾", 1" – 2m long	6 nos.
47	Pipe wrenches 6" & 12"	2 nos. each
48	Wheel barrows	6 nos.
49	Platform trolley 1.5T	4 nos.

### **ASH HANDLING SYSTEM**

<b>S. No.</b>	<b>Description</b>	<b>QUANTITY</b>
1.	Pipe wrench suitable for pipe size upto 50 NB	1 No.
2.	Slide wrenches, size 8", 12" and 14"	1 No. each size
3.	Double ended spanner set M6 to M32 size	1 set
4.	Ring spanner set M6 to M32 size	1 set
5.	Ratchet and sockets set for hexagonal head screws and bolts size M-6 to M-32	1 set
6.	Allen key sets size M-6 to M-24	1 set
7.	Flaring tools with dies	1 set
8.	Oil gun	2 Nos.
9.	Screw pitch gauge	1 set
10.	Soldering iron (100 watts capacity)	1 No.
11.	Soldering lead with flux	1 kg
12.	Taps M-6 to M-24 sizes	1 set
13.	Dies 1/2" to 14"	1 set
14.	Adjustable wrench 2" to 8"	1 No.
15.	Spur geared chain pulley block 2 tonne capacity	1 No.
16.	Tool box for above tools	2 Nos.
17.	Hydraulic bearing puller	1 No.
18.	Hydraulic ram with complete accessories	1 No.
19.	Gear box withdrawal pullers	2 nos. for each type
20.	Coupling withdrawal device	2 nos.
21.	Coupling mounting devices	2 nos.
22.	Manually operated Hydraulic Jack i) 25T X 150 mm stroke	2 nos.

<b>S. No.</b>	<b>Description</b>	<b>QUANTITY</b>
23.	Bastard (Rough Cut) Files 250 mm size	.
i)	Flat	1 No.
ii)	Round	1 No.
iii)	Half Round	1 No.
iv)	Triangular	1 No.
24.	Fine Cut Files 250 mm size	
i)	Flat	1 No.
ii)	Round	1 No.
iii)	Half Round	1 No.
iv)	Triangular	1 No.
25.	Adjustable Outside Micrometer Interchangeable Anvil Type	
i)	0-150 mm	1 No.
ii)	150 – 600 mm	1 No.
26.	Inside Micrometer	
i)	50 – 150 mm	1 No.
27.	Vernier Calipers	
i)	0-150 mm size	1 No.
ii)	0 – 300 mm size	1 No.
28.	Feeler Gauge	
i)	10 mm thk. 6 inch	1 No.
ii)	10 mm thk. 12 inch	1 No.
29.	Sprit Level 150 mm	2 Nos.
30.	Torque Wrench with socket 75 – 150 kg.m	1 set
31.	Adjustable spanners (Up to 50 mm each set of 3 Nos.)	1 set
32.	Sledge Hammers	
	i) 5 kg.	2 Nos.
	ii) 10 kg	2 Nos.
33.	Nylon Faced Hammers (4 Sizes)	1 set
34.	4" dia portable motor operated grinding m/c	2 Nos.
35.	Ball Pein Hammers in different sizes	6 Nos.
36.	Dial Gauge 0-10 mm LC-0.01 mm with magnetic stand	2 Nos.
37.	Steel Tapes	
i)	3 m Size	1 No.
ii)	6 m Size	1 No.

<b>S. No.</b>	<b>Description</b>	<b>QUANTITY</b>
38.	Steel Scales	
i)	0.3 m Size	1 No.
ii)	0.5 m Size	1 No.
39.	Internal Calipers	
i)	150 mm Size	1 No.
ii)	300 mm Size	1 No.
40.	External Calipers	
i)	150 mm Size	1 No.
ii)	300 mm Size	1 No.
41.	Hand operated Hacksaw Frame with 1 Doz. Blades (12")	1 set
42.	Tri-square (6" x 12")	2 Nos.
43.	Screw Operated Coupling and Bearing Puller – 300 mm Size	2 Nos.
44.	Grease Gun with hose & adopter (Manual)	2 Nos.
45.	Bucket Grease Gun (Manual)	1 No.
46.	Self supporting, extendable aluminum ladder with maximum height of 6m	2 Nos.
47.	Hydraulic flange puller of reputed make	2 sets
48.	Pipe Wrenches – 6" & 12"	4 Nos. of each type
49.	Digital Tachometer (0-3000 rpm)	2 Nos.
50.	Screw Drivers	
i)	150 mm Size	2 Nos.
ii)	300 mm Size	2 Nos.
51.	Sling with Eye Bolt and D-Shackle of 2,3,5 &10 tonnes	2 sets
52.	Plum Bobs.	2 Nos.
53.	All types of Pliers of different size of reputed make to suit the eqpt.	
i)	Cutting pliers	2 Nos.
ii)	Internal Circlip	2 Nos.
iii)	External Circlip	2 Nos.
54.	Adjustable Pliers.	2 Nos.
55.	Marking Punches	2 sets
56.	Scribers	a. Nos.

### **RAW WATER MAKE UP SYSTEM**

S. No.	Description	Unit	QUANTITY
<b>A</b>	<b>Raw water pump</b>		
1.	Eye bolt	Nos.	2
2.	Eye bolt (line / pump shaft)	No.(each)	1
3.	Wrench (impeller nose cap)	No.	1
4.	Wrench impeller adjusting nut	No.	1
5.	Alignment tools for motor/pump coupling	set	1
6.	Puller/pusher arrangement for Impeller/ shaft	no.	1
7.	Bearing puller for removal of bearings of CW make up water pumps	set.	1
8.	Torque wrench of suitable capacity for the assembly of the pump	set.	1

#### **CIRCULATING WATER SYSTEM & ACW SYSTEM**

Sl. No.	ITEM	Unit
<b>A</b>	<b>CW pump</b>	
1	Alignment tool for motor/pump coupling.	1 no.
2	Puller/pusher arrangement for Impeller/ shaft	1 no.
3	Hydraulic jack with motorized pump and accessories of suitable capacity for pump dismantling.	1 set.
4	Line shaft alignment tool	1 no.
5	Bearing puller for removal of bearings of CW pump	1 no.
6	Torque wrenches suitable for fasteners of pump dismantling with sockets	1 set.
<b>B</b>	<b>ACW pump</b>	
1	Alignment tool for motor/pump coupling.	1 no.
2	Puller/pusher arrangement for Impeller/ shaft	1 no.
3	Hydraulic jack with motorized pump and accessories of suitable capacity for pump dismantling.	1 set.
4	Line shaft alignment tool	1 no.
5	Bearing puller for removal of bearings of CW pump	1 no.
6	Torque wrenches suitable for fasteners of pump dismantling with sockets	1 set
<b>C</b>	<b>EOT crane</b>	
1	Torque wrenches suitable for fasteners of size M16 and above in the crane with sockets	1 set
2	Portable hydraulic jacks with hand pump of suitable capacity for maintenance of crane.	2 Nos
3	Hand grease gun 1Kg capacity with flexible hose joint.	2 nos
<b>D</b>	<b>Semi gantry crane</b>	
1	Hand grease gun 1Kg capacity with flexible hose joint.	1 no.
2	Hydraulic jack with pump and accessories of suitable capacity for crane wheel replacement.	1 set
	<b>Electrical Hoist</b>	

1	Hand grease gun 1Kg capacity	1 set
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### WATER TREATMENT SYSTEM AND EFFLUENT TREATMENT PLANT

S. No.	Technical Specification	Unit	QUANTITY
<b>A</b>	<b>MECHANICAL</b>		
I	<b>Special Tools &amp; Tackles</b>		
II	<b>General tool kit</b>	<b>Set/No</b>	
1.	Double open end spanner 6 x 7 to 36 x 41	set	1
2.	Bi-hexagon ring spanner set 6 x 7 to 36 x 41 mm	Set	1
3.	Single open End spanners 8 -36 (set of 19 nos.)	Set	2
4.	Adjustable wrench 8" and 15"	Nos.	2
5.	Torque wrench 50 ft lbs	Nos.	2
6.	Heavy duty F clamps , size 5" x 12", 5" x 18", 5" x 24" & 5" x 30"	Set	1
7.	Screw driver 5 x 75 , 8 x 150 and 10 x 300	Sets	3
8.	Vice grip plier	No	1
9.	Hammer 500gms, 2kg, 4kg, 5kg	No	1
10.	Cold chisel 150 mm	No	1
11.	Flat file 250, 150 mm	No	2
12.	Measuring tape 2m ( steel )	No	1
13.	Wire brush	No	1
14.	Tool box 21" x 5 Compartment, Powder coated, Heavy duty	No	1
15.	Combination plier	No	1
16.	Nose plier	No	1
17.	Circlip plier internal	No	1
18.	Circlip plier external	No	1
19.	Pipe wrench 250, 300 mm	Nos.	2
20.	Hand operated oil pump with hose	Nos.	2
21.	Spirit Level 12"	No	2
22.	Spirit Level 24 "	No	1
23.	Master Level 300mm long	No	1
24.	Hacksaw Frame with blade	Nos.	3
25.	Hydraulic jack 5t, 10t, 20 t	Set	1
26.	Chain pulley blocks of 1.5t and 3 t capacity with 12 m lift	Set	1
27.	Bearing puller 4", 10"	Set	1
28.	Hand grease gun of 1 kg. capacity (for electric crane and hoist)	Nos.	2
29.	Pump clamp	Set	1

<b>S. No.</b>	<b>Technical Specification</b>	<b>Unit</b>	<b>QUANTITY</b>
30.	Coupling alignment tool	Nos.	2
31.	Alignment tools	Set	1
32.	Puller/Pusher arrangement for impeller shaft	No.	1
33.	Adjustable outside micrometer(0-150 mm)	No.	1
34.	Inside micrometer (0 - 150 mm)	No.	1
35.	Feeler gauge	Set	3
36.	Dial gauge 0 to 10 mm with magnetic stand (least count 0.01 mm)	Set	2

#### **FIRE PROTECTION & DETECTION SYSTEM**

<b>S. No.</b>	<b>ITEM</b>	<b>UNIT</b>	<b>QUANTITY</b>
1.	Spanners		
1.1	Open end 6-32, 32-56	Sets	4
1.2	Tubular box 6-32, 32-56	Sets	4
1.3	Ring spanners 6-32, 32-56	Sets	4
2.	Adjustable spanners 8" and 12"	Nos.	2
3.	Hammers 2, 4, 8 Kgs.	Nos.	4
4	All types of pliers		
4.1	Cutting pliers	Nos.	4
4.2	Nose pliers	Nos.	4
4.3	Internal circlip pliers	Nos	4
4.4	External circlip pliers	Nos	4
5.	Screw drivers 6,8,12,18"	Nos.	4 each
6.	Sprit level 12"	Nos.	2
7.	Pneumatic nut driver	No.	1
8.	Grease gun suitable for all equipments	Nos.	4
9	Plumb bos	Nos.	2
10.	Potable motor operated grinding machine with flexible grinder	Nos.	2

#### **LIST OF TOOLS AND TACKLES – ELECTRICAL**

<b>S.No</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>
1	Insulation tester 500V (Megger)	No.	2
2	Insulation tester 5000V (Megger)	No.	2
3	Earth tester	No	2
4	Digital Tong tester	No.	2

5	Digital Multi-meter with Graphic display	No	3
6	Tool box	No	2
7	Crimping tool (2.5 to 240sq mm)	Set	2
8	Insulation stripper	Set	4
9	Analog multi meter	No	2
10	Analog tong tester (AC/DC)	No	2
11	Electronic Relay testing Kit	No.	1
12	Torque Wrench	Nos.	2
13	Panel keys of each type	Nos.	5
14	PCC/MCC tray racking handle	Nos.	5
15	Breaker lifting / handling truck of each type	No.	1
17	Spring charging handle of each type	No	1
18	Fuse pullers of each type	No.	5
19	Set of spanners / tools :		
20	a) Box spanners (6-32)	Set	1
21	b) Ring spanners (6-32)	Set	1
22	Lux. meter	No	1
23	100 W halogen Hand Lamp with 50 M Flexible Wire	Nos.	5
24	Electrical hand Drill ¾" with spare drill bits of various sizes	Sets	2
25	Contact resistance Measurement set suitable for Micro ohms	No	2
26	EPBAX supplier shall provide, its fault analyzer kit	No	1

**LIST OF TOOLS & TACKLES - BOP  
CONTROL & INSTRUMENTATION**

<b>S. No.</b>	<b>Item</b>	<b>Quantity / Unit</b>
a)	Crimping Tool for RJ45 connector	1 No.
b)	Crimping Tool for cables 0.5 to 4 Sq.mm	2 Nos.
c)	Continuity Tester with Battery	3 Nos.
d)	Ring spanners set	2 sets

e)	Combination spanner set	2 sets
f)	Adjustable spanner set	2 sets
g)	Cable stripper	2 set
h)	Allen key set (General and special purpose)	2 sets
i)	Insulated screw gripping screw driver set	2 sets
j)	Adjustable Position Hacksaw	1 set
k)	Cable splicer and cutter set	1 set
<b>Field Instruments (Refer C&amp;I Vol-IV for Specification)</b>		
a)	Handheld Hart Communicator	2 No.
b)	Handheld Multifunction calibrator	2 No.
c)	Handheld Digital multi meter 4 ½ digit	2 Nos.
d)	Instrument Technician Standard Tool kit with tool box	2 sets.
e)	Handheld precision tool kit with metal box consisting of various sizes (2 mm to 10 mm minimum) of socket spanner pieces, allen key pieces, screw driver tips (Flat & star) with handle, extension rod etc.	2 sets.

**8. Attachment 1 : List of bid documents**  
(The list of all Bid documents to be submitted in this attachment)

**9. Attachment 2: Bid Security**  
(Bid security to be submitted in a separate sealed envelope)

**10. Attachment 3: Tools & Tackles and Software**

**\*FORMAT FOR LISTING OF TOOLS & TACKLES AND SOFTWARE FOR O&M**

<b>Sr. No.</b>	<b>Description of Tools &amp; Tackles and Software for O&amp;M</b>	<b>Quantity</b>	<b>Comments</b>
1.			
2.			
3.			

\*The above tools and tackles would be brought to the site in addition to the existing tools and tackles available at GNAL/GACL's Power Plant at Dahej, Bharuch.

**11. Attachment 4: Major Sub-Contractors Proposed by the Bidder**

**FORMAT FOR LISTING OF MAJOR SUB-CONTRACTORS PROPOSED BY THE BIDDER (Separate for GNAL and GACL)**

<b>Sr. No.</b>	<b>Name and Address of Sub-Contractor</b>	<b>Brief Scope of Work</b>	<b>Comments</b>
1.			
2.			

**12. Attachment 5: Takeover Plan**

(The bidder shall furnish a pre-commissioning, commissioning and Takeover Plan. The plan shall also cover the proposed organization structure and important milestones in the process of takeover). To be submitted separately for GNAL and GACL

**13. Attachments 6: Deviations**

**FORMAT FOR LISTING OF DEVIATIONS**

<b>Sr. No.</b>	<b>Section No. of Bid Document</b>	<b>Clause No. of Bid Document</b>	<b>Deviation</b>	<b>Rationale for Deviation</b>
1.				
2.				
3.				

**Note: It is expected that bidder shall not take any deviations to the RFP. The bids with deviations having commercial implications will be rejected.**

**14. Attachment 7: Certificate regarding Acceptance of All Conditions (to be given separately for 2 x 65 GNAL and 1 x 65 MW GACL CPP)**

**FORMAT FOR CERTIFICATE REGARDING ACCEPTANCE OF ALL CONDITIONS**

We hereby confirm our compliance to provisions relating to the following clauses of RFP:

- a) The Contract shall be governed by and interpreted in accordance with laws in force in India. The Courts of Vadodara (India) shall have exclusive jurisdiction in all matters arising under the Contract.
- b) We shall, within fifteen (15) days of the Acceptance of Letter of Intent (LOI) , provide securities for due performance of the Contracts for twenty percent (20%) of the Annual Contract Price, with initial validity up to ninety (90) days.
- c) We guarantee that the Power Plant shall attain the Guarantees as specified in Attachment (Guarantees) six months from the date of handover of the respective unit
- d) Notwithstanding any other provisions, except in cases of criminal / gross negligence or willful misconduct, neither We nor the Owner shall be liable to the other, whether in Contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Contractor to pay liquidated damages to the Owner.
- e) We shall provide Pre commissioning and Commissioning support which is estimated of around 6 months and 5 years' Operating period for O&M.

15. Attachment 8: Guarantees

**FORMAT FOR SPECIFYING GUARANTEES (Separate for GNAL and GACL)**

Sr. No.	Parameter	Guaranteed Value*	Unit	Comment
1	Assets availability factor			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

**\*The Contractor guarantees that the Power Plant shall attain the Guaranteed Values for specified Parameters. The guaranteed values must be equal to or better than the performance targets specified**

16. Attachment 9: Bid Undertaking (separate undertaking for GNAL and GACL)

**Subject:** Complete O&M – 2 X 65 MW and 1 x 65 MW CAPTIVETHERMAL POWER PLANT AT Dahej BHARUCH

**Reference:** Tender enquiry No: GNAL/GACL/O&M/2020/RFP \_\_\_\_\_

**Due on date:**

**In connection with the above subject and reference I/ We confirm the following:**

- 1. I / We, the under signed have read and examined the Tender Specifications in tender mentioned under reference along with the Commercial terms and conditions.**
- 2. I / We, declare that our Technical Bid is strictly in line with the Tender Specifications (except the deviations shown in Attachment of Technical Deviations to this tender document).**
- 3. Further, I / We also agree that additional conditions / deviations, if any, found in the terms & conditions (except deviation as per attachment of deviation), our offer shall be out rightly rejected without assigning any reason thereof.**

**Seal of the Firm Signature of the Authorized**

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## Representatives of the firm

Date:

### 17, Attachment 10 : INTEGRITY PACT

Date:

Our endeavour is to create an environment where Business Confidence is built through Best Business Practices and is fostered in an atmosphere of trust and respect between providers of goods and services and their users for the ultimate benefit of society and the nation.

#### OWNERS COMMITMENT

- To maintain the highest ethical standards in business and professions
- Ensure maximum transparency to the satisfaction of stakeholders.
- To ensure to fulfillment of the terms of agreement / contract and to consider objectively the viewpoint of parties.
- To ensure regular and timely release of payments on due dates for work accomplished
- To ensure that no improper demand is made by employees or by anyone on the behalf of the owner.
- To give maximum possible assistance to all the Vendors / Suppliers / Service Providers and others to enable them to Achieve the objectives in timely manner.
- To provide all information to suppliers / contractors relating to contract / job which facilitate him to complete the contract / job successfully in time.
- To ensure minimum hurdles to vendors / suppliers / contractors in accomplishing of agreement / contract / work order.

#### BIDDER'S AND/OR SELECTED O&M CONTRACTOR'S COMMITMENT

- Not to bring pressure recommendations from outside OWNER to influence its decision.
- Not to use intimidation, threat, inducement or pressure of any kind on OWNER or any of its employees under any circumstances.
- To be prompt and reasonable in fulfilling the contract, agreement, legal obligations in letter and spirit.
- To provide goods and/or services timely as per agreed quality and specifications at minimum cost to OWNER
- To abide by the general discipline to be maintained in the dealings.
- To be true and honest in furnishing information.
- Not to divulge any information, business details available during the course of business relationship to others without the written consent of OWNER.
- Not to enter into cartel / syndicate / understanding whether formal / non-formal so as to influence the price

Seal & Signature

(Authorized Person of Owner)

(Authorized Person of Bidder)

Name:

Designation:

Date

**18. Attachment 11 Price Schedule (to be given separately for 2 x 65 GNAL and 1 x 65 MW GACL CPP)**

O&M Service charges for CPP for First year

O & M Service Charges/Month (after synchronization of respective unit)			
Description	Unit	U#1+BOP	U#2
Monthly Charges for O&M services of the Captive Power Plant	Rs. / Month		

(All other taxes, etc. except GST will be inclusive in the above prices)

**Indicative break-up of Monthly Minimum Fees (for the first year)**

SN	Particulars	Amount Rs/Month	Remarks
1.	Cost of Managerial manpower	XXXXXXXX	XX numbers of employees with an average rate of Rs.XXXXXXX/employee/Month
2	Cost of skilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/workman/month
3	Cost of semi-skilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/workman/month
4	Cost of unskilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/workman/month
5	Cost of supporting staff	XXXXXXXXXXXX	XX numbers of employees with an average cost of

			Rs.XXXXXXX/employee/month
6	Administrative expenses	XXXXXXXXXX	
7.	Other Overhead expenditures, Contingency fund and profit margin		
	Total		

**Schedule of daily/monthly rates for the manpower for the first year**

Sr. No.	Description	INR per month
1	Daily rate for manpower (Engineers)having experience of 15 years and above of relevant field like BTG, BOP (Operation/Mech/Elect/C&I/others)	
2.	Daily rate for manpower (Engineers) having experience of 8-15 years in BTG / BOP (Operation/Mech/Elect/C&I/others)	
3	Daily rate for manpower (Engineers) having experience of 3-7 years in BTG/BOP (Operation/Mech/Elect/C&I/others)	
4	Condition monitoring experts and other relevant subject consultants	
5	IBR welders	
6	Skilled manpower (welders/fitters, heavy equipment drivers/millwright fitter/electrician/chemist/etc)	
7	Unskilled manpower	
8	Refractory application experts	
9	Firefighting personal	
10	Horticulture officers	

Note; 1) The monthly rates for each category of work force as mentioned above shall be applied while enhancing or reducing the supervisory/non-supervisory manpower as an adjustment after annual review as necessary

2) The Charges for supporting Pre-commissioning and commissioning activities till synchronization will be paid on pro-rata on monthly basis in proportion to the man power deployed considering 100% as full manpower deployment for normal O&M( for example if manpower for O&M is considered as 270 i.e. 8100 man0days for a month , and manpower deployed for the given month is "A: man-days, then the amount payable for that particular month shall be calculated as under;

(A x Minimum monthly charges for the first year)/8100

It is expected that the partial manpower deployed during the pre-commissioning would have a mix of managerial/skilled/unskilled manpower more or less in the same propotion as for the full fledged operations)

(All other taxes , duties etc except GST will be inclusive of the above price)

**O&M Service charges for CPP for Second year**

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O & M Service Charges/Month (As per scope)		
Monthly Charges for O&M services of the Captive Power plant	Rs./Month	

(All other taxes, etc. except GST will be inclusive in the above prices)

### Indicative break-up of Monthly Minimum Fees (for the Second year)

SN	Particulars	Amount Rs/Month	Remarks
2.	Cost of Managerial manpower	XXXXXXXX	XX numbers of employees with an average rate of Rs.XXXXXXX/employee/Month
2	Cost of skilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/workman/month
3	Cost of semi-skilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/workman/month
4	Cost of unskilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/workman/month
5	Cost of supporting staff	XXXXXXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/employee/month
6	Administrative expenses	XXXXXXXXXX	
7.	Other Overhead expenditures, Contingency fund and profit margin		
	Total		

### Schedule of daily/monthly rates for the manpower for the second year

Sr. No.	Description	INR per month
1	<b>Daily rate for manpower (Engineers)having experience of 15 years and above of relevant field like BTG, BOP (Operation/Mech/Elect/C&amp;I/others)</b>	
2.	<b>Daily rate for manpower (Engineers) having experience of 8-15 years in BTG / BOP (Operation/Mech/Elect/C&amp;I/others)</b>	
3	<b>Daily rate for manpower (Engineers) having experience of 3-7 years in BTG/BOP (Operation/Mech/Elect/C&amp;I/others)</b>	

Sr. No.	Description	INR per month
4	<b>Condition monitoring experts and other relevant subject consultants</b>	
5	<b>IBR welders</b>	
6	<b>Skilled manpower (welders/fitters, heavy equipment drivers/mill wright fitter/electrician/chemist/etc)</b>	
7	<b>Unskilled manpower</b>	
8	<b>Refractory application experts</b>	
9	<b>Firefighting personal</b>	
10	<b>Horticulture officers</b>	

Note; 1) The monthly rates for each category of work force as mentioned above shall be applied while enhancing or reducing the supervisory/non-supervisory manpower as an adjustment after annual review as necessary

#### **O&M Service charges for CPP for Third year**

O& M Service Charges/Month (As per scope)		
Monthly Charges for O&M services the Captive Power	Rs./Month	

(All other taxes, etc. except GST will be inclusive in the above prices)

#### **Indicative break-up of Monthly Minimum Fees (for the Third year)**

SN	Particulars	Amount Rs/Month	Remarks
3.	Cost of Managerial manpower	XXXXXXXX	XX numbers of employees with an average rate of Rs.XXXXXXX/employee/Month
2	Cost of skilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/workman/month
3	Cost of semi-skilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/workman/month
4	Cost of unskilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/workman/month
5	Cost of supporting staff	XXXXXXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXXX/employee/month
6	Administrative expenses	XXXXXXXXXX	

7.	Other Overhead expenditures, Contingency fund and profit margin		
	Total		

**Schedule of daily/monthly rates for the manpower for the Third year**

Sr. No.	Description	INR per month
1	Daily rate for manpower (Engineers)having experience of 15 years and above of relevant field like BTG, BOP (Operation/Mech/Elect/C&I/others)	
2.	Daily rate for manpower (Engineers) having experience of 8-15 years in BTG / BOP (Operation/Mech/Elect/C&I/others)	
3	Daily rate for manpower (Engineers) having experience of 3-7 years in BTG/BOP (Operation/Mech/Elect/C&I/others)	
4	Condition monitoring experts and other relevant subject consultants	
5	IBR welders	
6	Skilled manpower (welders/fitters, heavy equipment drivers/mill wright fitter/electrician/chemist/etc)	
7	Unskilled manpower	
8	Refractory application experts	
9	Firefighting personal	
10	Horticulture officers	

Note; 1) The monthly rates for each category of work force as mentioned above shall be applied while enhancing or reducing the supervisory/non-supervisory manpower as an adjustment after annual review as necessary

**O&M Service charges for CPP for Fourth year**

O& M Service Charges/Month (As per scope)		
Monthly Charges for O&M services the Captive Power	Rs./Month	

(All other taxes, etc. except GST will be inclusive in the above prices)

**Indicative break-up of Monthly Minimum Fees (for the fourth year)**

SN	Particulars	Amount Rs/Month	Remarks
1.	Cost of Managerial manpower	XXXXXXX	XX numbers of employees with an average rate of Rs.XXXXXX/employee/Month

2	Cost of skilled manpower	XXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXX/workman/month
3	Cost of semi-skilled manpower	XXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXX/workman/month
4	Cost of unskilled manpower	XXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXX/workman/month
5	Cost of supporting staff	XXXXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXX/employee/month
6	Administrative expenses	XXXXXXXXXX	
7.	Other Overhead expenditures, Contingency fund and profit margin		
	Total		

Note; 1) The monthly rates for each category of work force as mentioned above shall be applied while enhancing or reducing the supervisory/non-supervisory manpower as an adjustment after annual review as necessary

#### Schedule of daily/monthly rates for the manpower for the fourth year

Sr. No.	Description	INR per month
1	<b>Daily rate for manpower (Engineers)having experience of 15 years and above of relevant field like BTG, BOP (Operation/Mech/Elect/C&amp;I/others)</b>	
2.	<b>Daily rate for manpower (Engineers) having experience of 8-15 years in BTG / BOP (Operation/Mech/Elect/C&amp;I/others)</b>	
3	<b>Daily rate for manpower (Engineers) having experience of 3-7 years in BTG/BOP (Operation/Mech/Elect/C&amp;I/others)</b>	
4	<b>Condition monitoring experts and other relevant subject consultants</b>	
5	<b>IBR welders</b>	
6	<b>Skilled manpower (welders/fitters, heavy equipment drivers/mill wright fitter/electrician/chemist/etc)</b>	
7	<b>Unskilled manpower</b>	
8	<b>Refractory application experts</b>	
9	<b>Firefighting personal</b>	
10	<b>Horticulture officers</b>	

#### O&M Service charges for CPP for Fifth year

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O & M Service Charges/Month (As Per Scope)		
Monthly Charges for O&M services the Captive Power	Rs./Month	

(All other taxes, etc. except GST will be inclusive in the above prices)

**Indicative break-up of Monthly Minimum Fees (for the fifth year)**

SN	Particulars	Amount Rs/Month	Remarks
1.	Cost of Managerial manpower	XXXXXXXX	XX numbers of employees with an average rate of Rs.XXXXXX/employee/Month
2	Cost of skilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXX/workman/month
3	Cost of semi-skilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXX/workman/month
4	Cost of unskilled manpower	XXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXX/workman/month
5	Cost of supporting staff	XXXXXXXXXXXX	XX numbers of employees with an average cost of Rs.XXXXXX/employee/month
6	Administrative expenses	XXXXXXXXXX	
7.	Other Overhead expenditures, Contingency fund and profit margin		
	Total		

**Schedule of daily/monthly rates for the manpower for the fifth year**

Sr. No.	Description	INR per month
1	<b>Daily rate for manpower (Engineers)having experience of 15 years and above of relevant field like BTG, BOP (Operation/Mech/Elect/C&amp;I/others)</b>	
2.	<b>Daily rate for manpower (Engineers) having experience of 8-15 years in BTG / BOP (Operation/Mech/Elect/C&amp;I/others)</b>	
3	<b>Daily rate for manpower (Engineers) having experience of 3-7 years in BTG/BOP (Operation/Mech/Elect/C&amp;I/others)</b>	
4	<b>Condition monitoring experts and other relevant subject consultants</b>	
5	<b>IBR welders</b>	

Sr. No.	Description	INR per month
6	<b>Skilled manpower (welders/fitters, heavy equipment drivers/mill wright fitter/electrician/chemist/etc)</b>	
7	<b>Unskilled manpower</b>	
8	<b>Refractory application experts</b>	
9	<b>Firefighting personal</b>	
10	<b>Horticulture officers</b>	

Note; 1) The monthly rates for each category of work force as mentioned above shall be applied while enhancing or reducing the supervisory/non-supervisory manpower as an adjustment after annual review as necessary

Seal & Signature

(Authorized Person of Bidder)

Name:

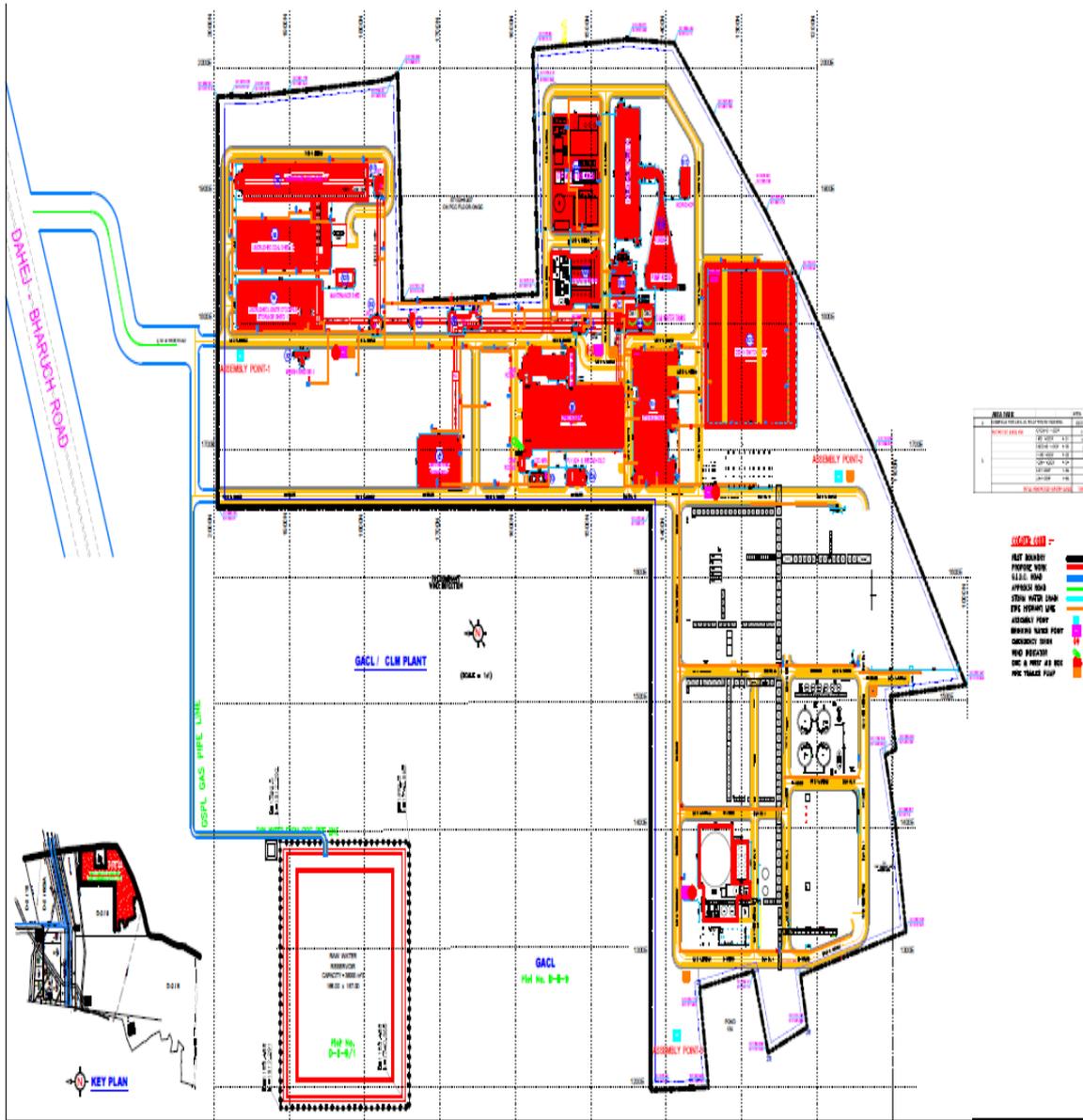
Designation:

Date:

19. Attachment 12

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## GNAL/GACL DAHEJ PLOT PLAN



20. Attachment 13 OWNERORGANOGRAM

