



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

HINDUSTAN URVARAK & RASAYAN LIMITED



Technical Specifications ***(VOLUME-II)***

CONSULTANCY SERVICES FOR 2200 MTPD AMMONIA & 3850 MTPD UREA PLANTS AND ASSOCIATED OFFSITES & UTILITIES AT BARAUNI

BIDDING DOCUMENT NO : HURL/HQ/04/101/1

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Subject : Consultancy Services for the proposed 2200 MTPD Ammonia & 3850 MTPD Urea Plants and associated Offsites & Utilities at Barauni.

1.0 Introduction

M/s Hindustan Urvarak & Rasayan Ltd. (HURL) is a Joint Venture of M/s Indian Oil Corporation Limited (IOCL), Coal India Limited (CIL), National Thermal Power Corporation (NTPC) and Fertilizer Corporation of India (FCI) / Hindustan Fertilizer Corporation (HFC); incorporated for setting up of gas based 2200 MTPD Ammonia and 3850 MTPD Urea Fertilizer Plants at Sindri (Jharkhand), Barauni (Uttar Pradesh) & Barauni (Bihar). The said projects shall be executed on LSTK Basis. However, certain off sites & utilities shall be kept outside the scope of LSTK Contractor and are to be designed & implemented on conventional EPCM mode.

HURL has already pre-qualified LSTK Bidders for these Projects and has invited LSTK Bids for the same. Now, HURL intends to appoint Project Management Consultant (hereinafter referred to as 'CONSULTANT') for the Barauni project, to provide Consultancy Services for Post-Award Project Management Consultancy (PMC) Services for LSTK Scope, Pre & post Award PMC Services for Non-LSTK Packages and EPCM services for the balance Off sites & Utilities.

Accordingly, HURL is interested to line-up a Consultant for Barauni Fertilizer Project, who has experience in rendering entire gamut of Engineering–Consultancy services as required for execution of a number of grass root / expansion / revamp Ammonia – Urea Fertilizer Projects along with Off sites & Utilities. Consultant is to provide details of credentials for such services of Ammonia-Urea Fertilizer Projects as required under the pre-qualification criteria.

2.0 Scope of the Project

The entire Project Facilities of the Barauni Ammonia-Urea Project shall be executed as follows:

2.1 LSTK Package

The following plants and facilities of this Project shall be executed on Lump-Sum Turnkey (LSTK) basis and shall be under the scope of the LSTK Contractor:

- a) Ammonia Plant along with Flare system
- b) Urea Plant with neem oil storage, handling & coating facilities
- c) Cooling Towers related to Ammonia & Urea plants.
- d) Central Control room for Ammonia / Urea complex.



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- e) Electrical Sub-station for Ammonia, Urea plants, GTG - HRSG, Ammonia Storage and cooling towers.
- f) Chemical laboratory building.
- g) ETP within Ammonia/Urea plants.
- h) First fill of all catalyst & chemicals.
- i) Firefighting & safety system for LSTK scope of work as per requirement of NFPA.
- j) Ammonia storage system.
- k) GTG and HRSG.
- l) Emergency DG set including bulk oil storage tank with pumping facility.

2.2 Offsites & Utilities

2.2.1 Non-LSTK Packages: In addition, following Off sites & Utilities will be procured on Package basis:

- a) Raw Water Storage & Pumping arrangement
 - Storage and Pumping arrangement including laying of pipeline from source (as per requirement)
 - Guard Pond
 - Holding Pond
 - Storm Water Drains
- b) Fire Fighting Facility (Off sites)
 - Fire Fighting System - fire water network up to LSTK Battery Limit
 - Fire Water Pump House including fire water storage tanks
 - Fire Station (2 storey) and fire tender, foam storage facility
- c) Instrument Air / Plant Air System
- d) Inert Gas Generation Unit (N₂)
- e) Water Pre-Treatment Plant
- f) DM Plant & Condensate Polishing Unit
- g) Effluent Treatment Plant with Zero Liquid Discharge facility
- h) Sewage Treatment Plant

2.2.2 Non-Packages: Following facilities will be executed on Engineering, Procurement & Construction Management (EPCM) basis:

- a) Urea Storage and Handling
 - Urea Silo and HVAC
 - Urea Product Handling
 - ✓ Urea Bagging Plant
 - ✓ Wagon and Truck Loading platform
 - ✓ Weigh Bridge(s)
 - ✓ Railway Siding
 - EOT Crane, Locomotives
- b) Non Plant Buildings, Roads and Miscellaneous jobs
 - Admin Building



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- Technical Services Building
- Maintenance Building
- Canteen Building
- First Aid
- Security Room (4 Nos.)
- Workshop (Mechanical, Electrical & Instrument) including equipment
- Central Store and Warehouse
- Car Parking
- Truck Parking
- Substations
 - O&U Substation
 - Silo & Bagging Substation
 - Non Plant Building Substation
 - ETP Substation
 - Township Substations
- All Peripheral Roads
- Misc. (Boundary wall, culvert, walkway, roads within the plant (but outside the battery limit of the LSTK Contractor) paving, gate, etc.)
- c) Township (of around 450 units)
- d) Yard Piping & Interconnection
- e) Electrical System Study for the entire Project (to be covered under the scope of the LSTK Contractor)
- f) Cathodic Protection
- g) Gas metering Station (NG)
- h) Assistance in Environmental Clearance and Statutory Approvals

3.0 Consultant Scope of Work

CONSULTANT Scope of Work, shall be to implement the proposed 2200 MTPD Ammonia & 3850 MTPD Urea Plants and associated Off sites & Utilities at Barauni which shall inter-alia include but not limited to the following services:

- 3.1 Post-Award PMC Services for LSTK Package mentioned at Clause 2.11 above.
- 3.2 Pre and post Award PMC Services for Non-LSTK Packages mentioned at Clause 2.2.1 above
- 3.3 EPCM services for balance Offsites & Utilities mentioned at Clause 2.2.2 above.
- 3.4 Arranging MIS for Top Management.
- 3.5 Interface Management including Management of Archives (Proper Documentation, listing, indexing and updation of all documents / drawings under the Project).

CONSULTANT shall be responsible for overall coordination, integration of LSTK Package, Non-LSTK Packages and remaining facilities (in EPCM mode), so as to monitor and perform all requisite services for timely completion of the project including project closure.



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Detailed Scope of Work shall cover the following activities:

4.1 Post-Award PMC Services for LSTK Package mentioned at Clause 2.11 above

These services shall be related to Post-Award PMC services in respect of LSTK Package as indicated at Clause 2.11 above, which shall inter-alia include but not limited to the followings:

4.1.1. Project Management including Scheduling & Monitoring

The following Project Management activities are envisaged to be carried out by CONSULTANT during various stages of implementation of Ammonia-Urea Plants and other facilities covered under LSTK Contract:

- (i) To review Project implementation procedure & activity schedule for installation of Ammonia & Urea Plants.
- (ii) To review the documents prepared by LSTK Contractor including:
 - Work Breakdown Structure incorporating:
 - Engineering (Basic Engineering & Detail Engineering)
 - Procurement related documents
 - Quality Assurance Schedule (Inspection & Expediting)
 - Delivery Schedules
 - Construction & Erection Philosophy and Procedures
 - Pre-Commissioning, Commissioning and Guarantee Test Run Procedures
 - Project Network Diagrams
 - Project Activity List, Milestones incorporating the Early Start, Early Finish, Late Start & Late Finish Dates, Total Float, Free Float against each activity
 - Project Overall Progress Schedule: Monthly Breakups, and Cumulative Breakups
 - Project Financial Schedule in accordance with the envisaged / actual dates of delivery / construction
 - Organogram of LSTK for Project Office & Construction Site Office for adequacy
 - Manpower Deployment Schedule (Month wise) of LSTK Contractor for adequacy
 - Project Communication / Coordination Plan
 - Inspection Schedule and Plan
 - Fortnightly / Monthly Reports of LSTK Contractor
- (iii) To participate in association with HURL's representative in daily / weekly / fortnightly / monthly meetings with LSTK Contractor.
- (iv) To monitor progress of the project and submit periodic status reports to HURL, highlighting slippages, if any, caused by the LSTK Contractor or any agency of LSTK Contractor hindering efficient execution of the project.



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(v) Certification of all construction related invoices of LSTK Contractor.

(vi) Monitoring progress of various statutory approvals to be taken by LSTK Contractor / HURL and indicating the slippages, if any, highlighting impact on the overall progress of the Project.

4.1.2. **Engineering Management**

CONSULTANT will be the lead coordinator between LSTK Contractor, HURL and Consultant. The detailed scope of engineering management shall be in line with standard project management techniques which shall broadly include the following:

Design Engineering activities of the Project, will be structured into following two phases:

- Basic Design & Engineering Phase
- Detailed Engineering Phase

The LSTK Contractor's (including Process Licensors') engineering efforts will be monitored by CONSULTANT. Process and other discipline engineers may visit the respective Process Licensors' / LSTK Contractor's offices periodically during review / approval of the relevant documents / drawings and monitor the activities (However, all such visits shall be undertaken only with prior approval of HURL as mentioned below:

(A) Review of Basic Engineering Documents

The work that will be performed by the project team at Home Office during this phase, shall broadly include:

- Review of Design basis (prior to the Basic Engineering by Process Licensor(s).
- Review of Basic engineering documents prepared by Process Licensor(s) with the objective to assure adequacy / completeness of the basic engineering documents (Basic Engineering Documents shall be reviewed by CONSULTANT at its Home Office).
- Review of following Basic Engineering documents may be undertaken:
 - Process Flow Diagrams (PFDs) with mass & energy balance, Steam & Cooling Water Balance,
 - Raw material & Utility balance diagram,
 - Plot Plans,
 - Piping and Instrumentation Diagrams,
 - Brief equipment data sheets and drawings of critical equipment,
 - Process data sheets for critical equipment,
 - Single Line Diagram and Electrical load list,



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- Process control philosophy,
- Alarm, ESD, Interlock Logic Diagram/ cause & effect Diagram,
- Fire Protection system, UPS and emergency power requirement,
- Spare Philosophy,
- Requirement of Catalysts, Chemicals & Refractories.

(B) Review of Detailed Engineering Documents

CONSULTANT shall review the Detailed Engineering Documents furnished by the LSTK Contractor (These documents shall be reviewed at CONSULTANT Home Office). It is envisaged that Detail Engineering shall be reviewed in a phased manner based on the progress of detail engineering by the LSTK Contractor.

- Review of Detail Engineering Documents prepared / furnished by LSTK Contractor shall be undertaken with a view to assure compliance to approved specifications, specified codes and standards and good engineering practices. The detailed engineering documents / drawings will be reviewed based on the codes and standards specified in the LSTK Contract with HURL. It is the general intent that the specifications / drawings of equipment which are of critical nature will not only be reviewed but also be specifically approved by CONSULTANT.
- The detail engineering document(s) / drawing(s) to be reviewed shall include Process, Mechanical (Machinery, Piping, Pressure vessels etc.), Electrical, Instrumentation & Civil related documents broadly covering the following:
 - Detailed P&ID,
 - Technical Specifications, data sheets of equipment and machinery,
 - Equipment Layout drawings,
 - Piping Layout drawings,
 - Quality control procedure and plan for piping system,
 - Piping Material Specification / Valve Material Specification,
 - 3-D Model Review,
 - GA Drawings,
 - Flexibility Analysis of critical piping,
 - Equipment mechanical design - Load data, platforms, ladders, davits and hoists, internals, nozzle orientations, welding details, etc.
 - Thermal design of equipment such as heaters, exchangers, boiler and reformers,
 - Rotating Equipment and auxiliaries – Relevant drawings like Characteristic curves,
 - Extent of Fireproofing and Firefighting system,
 - Insulation and painting specifications and schedule,
 - Vendor documents and drawings,
 - Single Line Diagrams,



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- Final Electrical Load List,
- Final data sheets for transformers, switch-gears, MCCs, important HV motors, Battery, Battery Charger, UPS, DG Set.
- Layout drawings for cable rack, trench, lighting, earthing, lightning protection, switchgear, substation cable.
- Cathodic protection system,
- Cable schedules,
- Alarm and interlock system details,
- Plant Communications system & CCTV,
- Layout of Process Control Room / DCS Configurations,
- Detail design drawings for structural items,
- Foundation design criteria,
- Specifications and drawings of buildings,
- Site preparation drawings & site report,
- Roads, paving, area drainage, etc.
- Design Criteria for Plant Structures, Buildings & Foundations and Standard drawings.
- Drawings for Structurals, RCC works/ foundations.
- Operating manual,
- Instrument Specification of field Instrument,
- Analyzer Specifications,
- DCS/ESD Specification,
- Instrumentation drawings.

Note : The documents mentioned above will be covered under various categories viz. i) For Approval ii) For Review & iii) For Information, depending on the criticality of documents, which shall be discussed & finalized during Kick-off meeting, based on CONSULTANT's experience on previous projects for similar services.

4.1.3. Procurement Management

The objective of PMC services during Procurement will be to assure that equipment and materials procured by the LSTK Contractor are as per the approved specifications to meet the project requirements and that they are delivered in a timely manner.

LSTK Contractor shall follow the vendor list for various critical & semi-critical equipment and any deviation shall be subject to CONSULTANT / HURL approval, as per procedure laid down in the LSTK ITB.

CONSULTANT shall monitor the procurement activities of LSTK Contractor to meet the specifications and to ensure timely delivery to meet overall project objectives and schedule.

Major activities to be undertaken by CONSULTANT from Home Office during



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procurement phase will include Review of following:

- List of vendors / subcontractors submitted by LSTK Contractor prior to approval of said list by HURL.
- Procurement and coordination procedures of LSTK Contractor.
- Procurement policies, plans, procedures and forms.
- Purchasing schedules.
- Vendor selection procedure of LSTK Contractor.
- Technical purchase specifications.
- Purchase orders of key equipment to check for inclusion of various aspects viz. description of goods, applicable engineering specifications, complete and approved drawings/ documents / data sheets, vendor data requirements, inspection and test, marking/ tagging requirements, requirements for spare parts identification and supply list, vendor start up service requirements, Scheduled delivery dates etc.
- Manufacturing and delivery schedules.
- Coordination plan.
- Inspection and expediting plans and schedules, expediting reports.
- Quality assurance reports.
- Material movement and handling procedures.

Note : The documents mentioned above will be covered under various categories viz. i) For Approval ii) For Review & iii) For Information, depending on the criticality of documents, which shall be discussed & finalized during Kick-off meeting, based on CONSULTANT's experience on previous projects for similar services.

4.1.4. Inspection and Expediting Services

LSTK Contractor shall appoint a Third Party Inspection Agency for Inspection and Expediting. CONSULTANT will recommend to HURL regarding requirement of rendering Inspection Services (periodic / stage wise) on case-to-case basis for equipment, machinery, materials sourced from various Vendors to ensure that such items conform to the requirement of Purchase Order with good design, engineering & fabricating practice and for Expediting of the supply of equipment, machinery & materials.

4.1.5. Construction Management

- CONSULTANT shall undertake overall monitoring of LSTK Contractor construction & erection activities to meet the overall project schedule.
- The scope of construction management by CONSULTANT shall broadly comprise the following activities:
 - Project management and control.
 - Review of drawings / documents, installation details of all critical equipment(s).
 - Review and monitoring of LSTK Contractor's construction activities.



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- Progress reporting, generate “alert” and action plan for overcoming slippage in schedule, if any.
 - Management and Supervision of Construction at Site including Safety Management.
- CONSULTANT shall review and monitor LSTK Contractor's adherence to the approved plans and procedures, and take the necessary actions in providing information to HURL for directing the LSTK Contractor when deviations are noted.
- CONSULTANT shall review/monitor various Construction and Erection activities of LSTK Contractor such as:
- Resource planning, construction plans / Schedules.
 - Proposed key management personnel.
 - Planning and scheduling of LSTK Contractor's work and provide the necessary directives to address the identified schedule concerns.
 - Adequacy of manpower and construction resources (equipment, cranes, tools, scaffolding, lighting, etc.) to be deployed by LSTK Contractor for the execution of the work.
 - Quality of work for adherence to good engineering and construction standards and practices for identification of non-conforming work / inadequacies.
 - Verify for acceptability of inspections and tests carried out / arranged by LSTK Contractor through relevant test certificates / records.
 - Field design changes carried out at site by LSTK Contractor to ensure compliance with Project requirements.
 - Additional work or modifications, if any, are performed according to the approved Change Order.
 - Assistance for close-out of construction work.

CONSULTANT will review/monitor following activities of LSTK Contractor pertaining to Mechanical Completion:

- Mechanical Completion Procedure submitted by LSTK Contractor including checklist of forms and procedures for ascertaining systems completion, inspection and testing to achieve Mechanical completion.
- To monitor that each part of the Project has been mechanically erected and that various systems inspection and testing have been carried out satisfactorily according to the approved procedures.
- To identify uncompleted work and un-rectified deviations from Project requirement so that such work could be performed before Mechanical Completion is achieved.
- Based on the above, CONSULTANT will issue necessary certificate of Mechanical Completion.



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4.1.6. Pre- Commissioning, Commissioning and Start-Up Phase

To provide technical assistance to HURL and coordinate with LSTK Contractor and licensors for safe pre-commissioning & commissioning of the plant and arranging As-built drawings to be prepared by LSTK Contractor.

The objective of CONSULTANT Services for this phase shall be to assure that the Commissioning and Performance Tests are successfully completed by LSTK Contractor in accordance with approved schedules and procedures.

CONSULTANT's role will generally include following:

- Review of procedures, plans and schedules of LSTK Contractor for start-up, pre-commissioning, commissioning & performance test.
- To Monitor LSTK Contractor's pre-commissioning work.
- Review adequacy of manpower and other resources deployed by LSTK Contractor.
- Monitor and supervise various commissioning and start-up activities of the Project.
- Keep HURL informed of the progress and status of the commissioning & start-up work.
- Review preparatory work carried out by LSTK Contractor for commissioning vis-à-vis the procedure & schedule of the startup, commissioning and Guarantee Test Plan as mentioned in the LSTK Contract with HURL.
- Review schedules, procedures, and Performance Tests to be undertaken by LSTK Contractor for commissioning so that procedures and proposed tests include various activities to be completed for commissioning.
- To monitor recording and maintenance of daily commissioning log sheets and preparation of weekly progress reports by LSTK Contractor.

CONSULTANT will also monitor various commissioning activities to be carried out by the LSTK Contractor.

4.1.7. Performance Test Run

The Guarantee Test Run will be conducted by LSTK Contractor in the presence of Licensors, CONSULTANT and HURL. CONSULTANT shall assist in the above test runs. The Guarantee Test Run Report prepared by LSTK Contractor shall be reviewed by CONSULTANT and CONSULTANT shall recommend the same to HURL for acceptance.



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4.2 Pre and Post Award PMC Services for Non-LSTK Packages mentioned at Clause 2.2.1 above:

4.2.1. Pre-Award Services: The indicative list of activities under this scope shall inter-alia cover, but not limited to the followings:

4.2.1.1 Basic Design Engineering

- Finalization of concepts based on process plant requirements as per process licensors' available inputs.
- Preparation of Basic System design i.e. establish concept, capacities and sizing, interconnection requirements, design parameters, defining battery limits and finalization of operating philosophy.
- Preparation of general Plot Plan for all the packages indicating the Hazardous area classification. Necessary input for Ammonia & Urea Plant shall be obtained from the LSTK Contractor / respective Process Licensors.
- Preparation of general layout plan including plot plan with location and dimensions of major plants, buildings, roads etc.
- Preparation of technical enquiry specifications for various Packages.

4.2.1.2 Procurement Services

- A) CONSULTANT shall prepare the Cost Estimate of all Non-LSTK packages and submit to HURL with back-up documents for approval.
- B) Following Procurement Activities shall be covered under CONSULTANT's Scope:
 - Preparation & Issuance of Invitation to Bid (ITB) Document on open-tendering basis as per the Procurement Philosophy finalized during kick off meeting.

The ITB Document shall comprise of the following two parts:

- a) **Technical Part:** shall include site specific data regarding geotechnical survey and topographical survey.
- b) **Commercial Part including Pre-Qualification Criteria:** shall be prepared in accordance with standard tendering & contract procedures adopted for fertilizer projects in India, tendering guidelines of CVC, Department of Expenditure & other wings of Government of India (as applicable) and the



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CONSULTANT's approved contracting strategy for appointment of vendor.

- Furnishing clarifications to the queries of bidders, if any, on the ITB Document.
- Receipt of Bids from vendors.
- Evaluation of Techno-commercial Un-priced Bids for Packages.
- Seeking TQ / CQ from bidders, if required.
- Preparation & submission of Techno-commercial Un-priced Bids' Detailed Bid Evaluation Report (including necessary loading required for bringing the bids at par) to HURL with regard to selection of vendors .
- After finalization of Detailed Bid Evaluation Report, CONSULTANT shall open the priced bids of the techno-commercially qualified bidders. CONSULTANT shall then prepare a detailed recommendation report for submission to HURL
- Along with CONSULTANT's recommendation in (a) Techno-Commercial evaluation report and (b) Price Bid evaluation report of any package, CONSULTANT will certify that the recommendations are approved by CONSULTANT competent authority. CONSULTANT will also furnish a certificate stating that CONSULTANT has carried out the selection of Contractor for that package by exercising its own due diligence and fully complying with all applicable laws, rules, regulations and guidelines of Government of India issued from time to time, as well as CVC's and CONSULTANT's own procurement policies and established procedures.
- Apart from the above, reasonability and justification of recommended price for award shall also be certified by CONSULTANT.
- The Recommendation Report shall take into consideration the aspect of integration of off-sites for the proposed Project with Ammonia, Urea plants.
- Preparation & issuance of LOI / Purchase Order by CONSULTANT (on behalf of HURL) together with spares & special maintenance tools.

4.2.2. Post-Award Services for Non-LSTK packages: This shall include checking of drawings / documents received from package vendors(s) and services similar to those detailed at 4.1.4, 4.1.5, 4.1.6 & 4.1.7 above and as applicable for package vendor(s).



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4.3 EPCM Services for Facilities indicated at 2.2.2 above:

Detailed Scope of Work of CONSULTANT shall inter-alia include, but not limited to facilities indicated at Clause 2.2.2 above and cover the following activities:

4.3.1 Detailed Engineering

CONSULTANT shall perform detailed engineering for non-Package items. This shall include the following activities:

4.3.1.1 Process Engineering

- Preparation of Process Flow Diagram (PFD).
- Preparation and Issue of P&IDs - Approved for Construction (AFC) grade.
- Preparation of basic specifications and data sheets.
- HAZOP Study of the Off sites.
- Finalization of Hazardous Area Classifications based on Packages.
- Preparation of Final plant operating manual(s) based on the Basic operating manual provided by vendors in line with existing operating philosophy to the extent possible.
- Preparation of list of recommended spares for commissioning and two years operation.
- Finalization of overall plot plan.
- Review of vendor drawings & documents.

4.3.1.2 Equipment Engineering

- Preparation of technical enquiry specifications for static equipment.
- Preparation of technical enquiry specifications for moving machinery.
- Review of vendor drawings and documents. All Detailed Design Calculation, Drawings and Fabrication Drawings for Equipment / Pumps / Compressors etc. prepared by vendors shall be checked and approved by CONSULTANT.

4.3.1.3 Piping Engineering



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- Preparation of technical enquiry specifications of piping items.
- Preparation of Support Schedule.
- Preparation of Bill of Quantity / MTO.
- Development of Plot Plan and General Arrangement drawings.
- 3-D Modelling.
- Preparation of Piping Plans, Isometric drawings.
- Flexibility/ Stress Analysis of Steam Piping and other piping as required.
- Preparation of IBR piping drawings as required by IBR.
- Preparation of common Specifications for Insulation, Painting, Wrapping and Coatings for Piping, Equipment and Structures.
- Piping layout drawings including inter-connection / yard piping.
- Review of vendor drawings and documents.

4.3.1.4 Electrical Engineering

- Integration of Electrical System including motors, Motor Control Centre (MCC), battery bank, transformers, electrical substation. Local sub stations shall be provided as per project requirement. Overhead 11 kv line is not envisaged within battery limit of Offsites & Utilities.
- Arranging adequately rated distribution boards, power supply cables and other associated materials for the purpose of construction and fabrication activities shall be included in the scope of individual package contractors and also electrical contractor at their own cost.
- Preparation of cable tray / trench layout, cable layout, cable sizing, transformer sizing, switchgear sizing, cable schedule, earthlings / lightning protection layout, lighting layout, substation equipment layout and other related documents & necessary Bill of material.
- Preparation of technical enquiry specifications for UPS wherever applicable.
- Review of vendor drawings and documents.

4.3.1.5 Instrumentation Engineering



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- Preparation of technical enquiry specifications for instrumentation items.
- Preparation of Instrument drawings and related documents wherever applicable.
- Preparation of bill of materials for applicable Instrument Items.
- Preparation and review of general arrangements, wiring control schematics, installation of instrumentation system/ equipment/ unit wherever applicable.

The control scheme and instrumentation shall be maintained similar for Offsite Facilities wherever possible. In order to maintain this, CONSULTANT shall check and approve the following in all the cases:-

- a. Instrumentation Scheme with tag no.
- b. Interlock Diagram/ Trip Sequence.
- c. General arrangement/ location and spacing of instrument and accessories, cable trays, piping, tubing, wiring, etc.
- Engineering for location, spacing and orientation of instrumentation nozzles on piping & equipment and layout of transmitters, connecting tubing, piping etc. wherever applicable.
- Preparation of Drawings showing Control Loop (P&I diagram), Instrument installation and indicative panel layout.
- Review of vendor drawings and documents.

4.3.1.6 Civil and Structural Engineering

- Preparation of bill of quantities for all items of civil and structural works for inviting bids for relevant works.
- Preparation of preliminary estimates for structural & reinforcement steel and cement for advance procurement action.
- Preparation of specifications for civil, structural & architectural for the proposed substation buildings.
- Formulation of design data for foundations shall be done by CONSULTANT. Design of all open civil foundations for Offsite Facilities is included in CONSULTANT's Scope of Work except when civil works is included in Packages. In such cases, review of necessary design calculations and drawings of vendors & approval of the same for construction shall be done.



HINDUSTAN URVARAK & RASAYAN LIMITED

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SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

- Preparation of Civil Engineering Design & Drawings, Drawings for open civil foundations, design & drawings for super structure of buildings, paving, cladding, roofs and other details, drawings for acid brick areas, structural design drawings of platform, walkways, handrails, structural supports, supporting framework for large mechanical equipment such as bins, hoppers, pipe support and pipe bridges.
- For Plant buildings, CONSULTANT shall prepare Architectural drawings & good for construction drawings. Structural fabrication drawings shall be prepared by Construction Contractor which shall be reviewed by CONSULTANT.
- For Non-plant buildings, CONSULTANT shall prepare Architectural conceptual drawings, structural drawings and detailed drawings.
- Preparation of Detailed Steel Structural design drawings for all Steel Structures, Pipe Racks etc. The Steel Structures' Contractor shall prepare the shop fabrication drawings on the basis of CONSULTANT's design drawings. CONSULTANT shall check and approve Steel Structures Contractor's fabrication drawings.
- The Bar Bending Schedule shall be prepared by Civil Contractor which shall be checked and approved by CONSULTANT's Engineer deputed to Site.
- Review of vendor drawings and documents.
- To incorporate comments given by HURL on various technical specifications and drawings.

Note: Conceptual layout of the Railway track shall be developed by CONSULTANT keeping in view the requirement of Bagging Plant, loading time of Urea and zero demurrage of railway wagons. However, the detailed design of railway track and railway siding shall be done by other consultant. CONSULTANT shall provide Consultancy Services for appointment of the other Consultant mentioned above.

4.3.2 Procurement Services

CONSULTANT shall provide Procurement Services for procurement of equipment and appointment of Contractors for Construction & Erection Works, wherever applicable, in accordance with the procurement philosophy agreed during the kick off meeting.

A) CONSULTANT shall prepare the Cost Estimate of all Non-packages / EPCM jobs and submit to HURL for approval.

Following Procurement Activities shall be covered under CONSULTANT's scope



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

4.3.2.1 Pre-Order Procurement Services

- Pre-Qualification of vendors / contractors as per Procurement Philosophy for supply of Non-Packages and for Construction & Erection Works.
- Preparation & Issuance of Invitation to Bid (ITB) Document to pre-qualified bidders.

The ITB Document shall comprise of the following two parts:

- ✓ **Technical Part:** shall include site specific data regarding geotechnical survey and topographical survey.
- ✓ **Commercial Part including Pre-Qualification Criteria:** shall be prepared in accordance with standard tendering & contract procedures adopted for fertilizer projects in India, tendering guidelines of CVC, Department of Expenditure and other wings of Government of India (as applicable), and the CONSULTANT's approved contracting strategy for appointment of vendor.
- Along with CONSULTANT's recommendation in (a) Techno-Commercial evaluation report and (b) Price Bid evaluation report of any package, CONSULTANT will certify that the recommendations are approved in CONSULTANT by their competent authority. CONSULTANT will also furnish a certificate stating that CONSULTANT has carried out the selection of Contractor for that package by exercising its own due diligence and fully complying with all applicable laws, rules, regulations and guidelines of Government of India issued from time to time, as well as CVC's and CONSULTANT's own procurement policies and established procedures.
- Apart from the above, reasonability and justification of recommended price for award shall also be certified by CONSULTANT.
- Furnishing clarifications to the queries of bidders, if any, on the ITB Document.
- Receipt of Bids from vendors / contractors.
- Evaluation of Techno-commercial Un-priced Bids for Non-Packages.
- Seeking TQ / CQ from bidders, if required.
- Preparation & submission of Techno-commercial Un-priced Bids' Detailed Bid Evaluation Report (including necessary loading required for bringing the bids at par) to HURL with regard to selection of vendors / contractors



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

- After finalization of the Detailed Bid Evaluation Report, CONSULTANT shall open the priced bids of the techno-commercially qualified bidders. CONSULTANT shall then prepare a detailed recommendation report for submission to HURL
- The Recommendation Report shall take into consideration the aspect of integration of off-sites for the proposed Project with Ammonia-Urea plants.
- Preparation & issuance of LOI / Purchase Order by CONSULTANT (on behalf of HURL) for Equipment / Packages together with spares & special maintenance tools and Work Orders for Construction & Erection Works.
- CONSULTANT shall use its best efforts to obtain all guarantees/ warranties, defect liability, performance guarantees from Vendors and pass on the same to HURL.

4.3.2.2 Post-Order Procurement Services

- After approval of HURL, CONSULTANT shall prepare the Draft Contract for signing with the selected contractor / vendor. The Draft Contract so prepared shall be submitted to HURL for their review and comments. The Final Contract will be compiled and submitted by CONSULTANT after suitably incorporating the comments / observations, received in writing, from HURL.
- CONSULTANT shall advise HURL on the need for the presence of vendor's specialists during installation and commissioning of equipment of Offsite Facilities and shall include such provisions in the Contract wherever considered necessary and as agreed between HURL & CONSULTANT.
- CONSULTANT shall coordinate the activities relating to procurement of equipment of Offsite Facilities so that Project is completed in all respects within the specified completion schedule.
- CONSULTANT shall obtain and submit to HURL the schedule/ network for all Vendors' and Contractors' activities related to Work to be executed by them.

4.3.3 Inspection Services

- 4.3.3.1 CONSULTANT shall perform Inspection of Equipments pertaining to Non-Package Items of Offsite Facilities which are of Indian origin at vendor's shop / site. At all times, HURL's Representative shall be entitled to inspect the Equipments pertaining



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

to Non-Package Items of Offsite Facilities, at HURL's cost at the point of manufacture.

4.3.3.2 All test reports, results of radiography or core sample tests conducted by vendors shall be made available to HURL, wherever possible before dispatch of Equipments pertaining to Non-Package Items of Offsite Facilities. CONSULTANT shall also provide / arrange to provide from vendors appropriate test certificates, copies of drawings, radiography examination reports and other documents required by Boiler Inspector, Factory Inspectorate, Electrical safety officer, Explosives Department or other Inspection Authority or Statutory Authorities as may be required in terms of regulations in force in India.

4.3.3.3 After receipt of information from CONSULTANT, HURL shall, within a reasonable time, intimate CONSULTANT in writing the list of Equipments pertaining to Non-Package Items of Offsite Facilities which HURL also intends to inspect. HURL may review such list appropriately, if required. CONSULTANT shall notify HURL by e-mail / Fax, 7 (Seven) days in advance of the date of inspection of such Equipments pertaining to Non-Package Items of Offsite Facilities in order that HURL may also participate in inspection and test. In the event that any inspection or test is not satisfactory, or that tests disclose defective materials or workmanship, CONSULTANT shall advise vendor of corrective measures to be taken. In the event that HURL's Representative does not attend such inspection and test, the same shall be conducted in his absence and HURL shall accept CONSULTANT's decision as to whether or not such test was satisfactory. HURL's failure to inspect any such Equipments pertaining to Non-Package Items of Offsite Facilities or to object to defects at the time of inspection or acceptance of test on certification by CONSULTANT shall not absolve CONSULTANT of its responsibility towards Inspection services.

4.3.4 Expediting Services

CONSULTANT shall render Expediting Services to ensure delivery according to purchase order of Equipments pertaining to Non-Package Items of Offsite Facilities which are of Indian origin.

4.3.5 Site Supervision Services for Construction and Erection

4.3.5.1 CONSULTANT shall provide following Site Supervisory Services during Construction & Erection of Equipment of Offsite Facilities of Project:-



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

- i) Supervision Services for Construction and Erection of Equipment of Offsite Facilities for Project according to schedule. Supervision Services includes instituting safety management system at Site & Overall planning of Work at Site.
- ii) Inspection of Site fabrication and erection of Piping, Equipment, Structures & related works in respect of Offsite Facilities so that these conform to the specifications, approved drawings and good engineering practices.
- iii) Coordination of activities of different Contractors and to prepare periodic Construction and Progress Reports.

4.3.5.2 CONSULTANT shall prepare a site manpower deployment chart, which will be finalized in consultation with HURL and CONSULTANT shall deploy its manpower accordingly.

4.3.5.3 CONSULTANT shall record measurement of Civil, Mechanical, Electrical, Instrumentation and other erection Work in measurement sheets periodically. These measurements shall be carried out jointly by the representatives of CONSULTANT and Contractor(s). The measurements so recorded shall form the basis of preparation of running and final bills of Contractors. CONSULTANT shall check and recommend the bills of Contractors for payment on submission of bills. Deputation of required number of CONSULTANT personnel will be mutually agreed.

4.3.5.4 CONSULTANT shall devise a system for incorporating change orders for Civil and Erection Work arising out of change in specification, nature of Work and/or increase in Scope of Work etc. Change of Work in Work Order shall be carried out after obtaining necessary approval from HURL.

For Supply-cum-Erection Contracts, Mechanical Completion of such items shall be so defined that the same are ready in all respects to accept feed or related inputs.

4.3.6 Pre-Commissioning & Commissioning Assistance and Guarantee Test Run Services

4.3.6.1 Pre-Commissioning Assistance Services

CONSULTANT shall prepare a detailed schedule of pre-commissioning activities and assist in the supervision & direction of Pre-Commissioning Activities leading to the Mechanical Completion of Offsite Facilities of Project. CONSULTANT's Personnel for Construction Supervision shall take care of all Pre-Commissioning activities and where specified under the requirements of a purchase order, shall after approval by HURL, arrange for the services of vendor's specialists to provide Pre-Commissioning Assistance for Equipment.

4.3.6.2 Commissioning Assistance and Guarantee Test Run Services



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

CONSULTANT shall prepare a schedule of commissioning activities and provide supervisory engineers as are required to supervise & direct the commissioning of Offsites & Utilities of PROJECT. Commissioning activities shall include the following:

- CONSULTANT shall supervise and assist HURL in start up and commissioning of Offsite Facilities with the help of HURL and Vendors/ Contractors, by deputing to site, at appropriate time, suitable commissioning engineers and staff. HURL shall provide the operation and maintenance staff.
- CONSULTANT's Commissioning Engineer shall supervise and evaluate acceptance tests & Guarantee Test Runs of various sections / plants for Offsite Facilities which are to be carried out by Contractors.
- Preparation of Organization Chart for operation and maintenance of Non-Packages for submission to HURL.

4.3.7 Progress Reports

CONSULTANT shall prepare the following documents:

- i) S-Curve of the PROJECT (Scheduled vs Actual)
- ii) Detailed Schedule for Engineering and Procurement in the form of Document Control Index (DCI) & Material Control Index (MCI), and related Progress curves.
- iii) Look Ahead Schedule
- iv) Suggested Catch Up Plan, if required.
- v) Monthly Progress Reports covering highlights of the Detailed Status, Progress Statistics, S-Curves, DCI and MCI of the PROJECT.

4.3.8 Assistance for Statutory Approvals

All Statutory Approvals applicable for LSTK Scope and Packages shall be obtained by the LSTK Contractor / respective package vendors. CONSULTANT shall intimate well in advance the various approvals / clearances required for the Project. HURL shall obtain necessary approvals in connection with non-Packages and overall PROJECT from respective Government authorities, Financing Institutions, IBR, Explosives Inspectorate, Factory Inspectorate, and Electrical Safety Officer etc. CONSULTANT shall provide necessary technical assistance from its Home Office by way of furnishing technical information (within the scope of CONSULTANT) to HURL for submission to Statutory Authorities. All applicable fee/charges to be paid for obtaining Approvals from Govt. / Statutory Authorities shall be borne by HURL.

4.3.9 Other Services

- 4.3.9.1 CONSULTANT, being the CONSULTANT, with single point responsibility for this Project shall carry out the following:



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

- Preparation of overall plot plan for the Project meeting all safety and statutory requirements
- An overall 3-D Model Review of the entire Project.
- Any other activity in the capacity of CONSULTANT that is not explicitly mentioned in the Proposal but required for successful completion of the Project.
- Review and approval of all price break-up for purpose of on account payment as specified in terms and procedure of payment in contracts for LSTK, Non- LSTK and Non-Packages.
- Review of vendor's / contractor's request for payment and recommend payment via a payment advice note / payment certification after reviewing all the necessary documents (CONSULTANT shall be responsible for measurement, checking and certification of Works performed by Contractors under LSTK, Non LSTK and Non Packages).
- Review of payments towards taxes & duties as per provisions of the Contract and recommend the amount of payment in this regard to HURL.
- Advise HURL to establish LC (as per terms of payment in LSTK, Non-LSTK and Non-Packages) after checking all the necessary documents. CONSULTANT shall maintain records of LC utilisation and regularly monitor the same.
- Review of Contractor's request for Essentiality certificates, any other certificate regarding duty exemption, if applicable. CONSULTANT shall prepare the draft of such certificates, and submit to HURL for review & signature.
- All transmission of documents / drawings between CONSULTANT Project Manager and HURL will be through Electronic document management system (EDMS) for which access shall be provided to HURL. For LSTK Package Part, the Document Management System of LSTK Contractor shall be followed.

4.3.9.2 HURL reserves the right to request CONSULTANT for replacement of CONSULTANT Personnel working on this Project, if not found suitable by the Engineer-in-Charge of HURL. CONSULTANT, in all such cases, will replace the person within a reasonable time up to a maximum of 30 days.

4.3.9.3 On completion of the Project, CONSULTANT shall hand over / arrange hand over of all as-built drawings and operation / maintenance manuals related to the Project to HURL.

4.4 CONSULTANT shall arrange to provide Management Information system (MIS) for top Management.

Note: Detailed List of deliverables of CONSULTANT for the various kinds of services to be rendered under this Proposal shall be finalized during Kick-off meeting.



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

4.0 HURL's Obligations

Effective Counterpart Support from HURL is very essential for smooth and timely completion of the assignment. HURL shall, therefore, provide the following to CONSULTANT/ CONSULTANT personnel free of cost and also undertake the following obligations:

- 4.1 HURL shall nominate a Project Manager / Coordinator, who shall be single point contact person from their side for all communications & overall coordination of all Work to be carried out by all Parties for the Project.
- 4.2 HURL shall notify other contractors / agencies involved in the Project regarding appointment of CONSULTANT as CONSULTANT for this project.
- 4.3 HURL shall make timely payments to CONSULTANT, as per agreed terms & conditions. Further, HURL shall make payments directly to all the agencies involved in the project like LSTK Contractor, other vendors / contractors/sub-contractor, etc. as applicable.
- 4.4 Cost of publishing ITB on CPP Portal and press advertisement shall be borne by HURL at actual.
- 4.5 HURL shall obtain necessary approvals relevant to Project from Govt. of India, Financing Institutions, Statutory Authorities etc. CONSULTANT shall provide necessary technical assistance from its Home Office by way of furnishing technical information (within the scope of CONSULTANT) to HURL for submission to Statutory Authorities. All applicable fee/charges to be paid for obtaining Approvals from Govt. / Statutory Authorities shall be borne by HURL.
- 4.6 Keep CONSULTANT / CONSULTANT personnel indemnified against any / all loss / claims / consequential damages relating to the assignment.
- 4.7 HURL shall provide free access to site for CONSULTANT personnel visiting the site.

5.0 CONSULTANT's Fee

CONSULTANT fee for the Scope of Work mentioned at Clause 3.0 above shall be as per Schedule of Prices (Annexure ----)



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

6.0 Taxes

6.1 Applicable on Fee for Services to be rendered within India

CONSULTANT's Fee/ Charges mentioned at Clause **Error! Reference source not found.**, **Error! Reference source not found.**, **Error! Reference source not found.**, **Error! Reference source not found.**, **Error! Reference source not found.** and **Error! Reference source not found.**6 includes all taxes and duties except Goods and Services Tax (GST) which shall be reimbursed by HURL at applicable rate. The current rate of Goods and Services tax applicable on CONSULTANT's said fee / charges is 18.00% (Eighteen decimal zero percent) of the total invoiced value of the fee. Any change in current rate of GST and imposition of any new taxes/ levies by Govt. of India shall be to HURL's account.

6.2 On Fee for Services to be rendered outside India

6.2.1 CONSULTANT's Fee / Charges mentioned at Clause **Error! Reference source not found.** above do not include GST applicable in India for consultancy services. Presently, no GST is applicable for this work. If GST is introduced in India on this service in future, CONSULTANT shall present documentary evidence of the same to HURL and HURL shall reimburse the GST to CONSULTANT at actual.

6.2.2 CONSULTANT's Fee / Charges mentioned under Clause **Error! Reference source not found.** above exclude any and all taxes/ cesses / duties/ levies / fees/ Withholding tax / Income tax/ Personnel tax and other impositions payable under the applicable laws outside India on CONSULTANT fee/or CONSULTANT personnel. All such taxes / cesses / duties / levies / fees / withholding tax / Income tax/ Personal tax and other impositions payable under the applicable laws outside India on CONSULTANT fee/or CONSULTANT personnel, if any, shall be borne and paid/settled directly by HURL to the concerned authorities in the country. HURL shall keep CONSULTANT and/or CONSULTANT personnel indemnified from any and all claims, penalties and any other liability arising out of assessment, payment and settlement of any such taxes / cesses / duties / levies / fees / withholding tax / Income tax/ Personal tax and other impositions payable under the applicable laws outside India.

6.2.3 Any new taxes/ duties/levies/Cess, if imposed by Government of India on such services during execution of the assignment, shall be borne and reimbursed by HURL at applicable rates.



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

7.0 Terms and Mode of Payment

7.1 For CONSULTANT Lump sum Fee

7.1.1 **For Lump sum Fee for Post award PMC Services for LSTK Package (Project Management including Scheduling & Monitoring, Engineering Management and Procurement Management) as mentioned at Clause Error! Reference source not found. above**

- 7.1.2.1 10% (Ten Percent) payment on completion of kick-off meeting.
- 7.1.2.2 80% Progressive Payment against submission of monthly invoices based on the progress achieved during the previous month as per LSTK Progress Report certified by CONSULTANT.
- 7.1.2.3 5% (Five Percent) within 15 (fifteen) days from Mechanical Completion of the LSTK Package.
- 7.1.2.4 3% (Three Percent) within 15 (fifteen) days from Commissioning of the LSTK Package.
- 7.1.2.5 Balance 2% (Two Percent) within 15 (fifteen) days from the acceptance of the PGTR of LSTK Package but not later than 6 months from the date of Commissioning of the LSTK Package in case PGTR is delayed for reasons not solely attributable to CONSULTANT. In such a case, the due payment shall be released to CONSULTANT on submission of a Bank Guarantee (BG) of equivalent amount to HURL which shall be valid for 6 months. In the event PGTR is further delayed beyond this period, this BG shall be extended for another 6 months. For any further delay beyond this period, a Corporate Guarantee shall be submitted by CONSULTANT to HURL in lieu of the BG.

7.1.2 **For Lump sum fee for Pre-Award PMC Services for Non-LSTK Packages and checking of drawings & documents from Package Vendors as mentioned at Clause Error! Reference source not found. above**

- 7.1.3.1 10% (Ten Percent) payment on completion of kick-off meeting.
- 7.1.3.2 80% (Eighty Percent) as monthly progressive payment based on the progress of Non-LSTK Packages achieved in the preceding month.
- 7.1.3.3 5% (Five Percent) within 15 (fifteen) days from Mechanical Completion of the Non-LSTK Packages of Offsite facilities.
- 7.1.3.4 3% (Three Percent) within 15 (fifteen) days from Commissioning of the Non-LSTK Packages of Offsite facilities.



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

7.1.3.5 Balance 2% (Two Percent) within 15 (fifteen) days from the acceptance of the PGTR of Non-LSTK Packages but not later than 6 months from the date of Commissioning of the Non-LSTK Packages in case PGTR is delayed for reasons not solely attributable to CONSULTANT. In such a case, the due payment shall be released to CONSULTANT on submission of a BG of equivalent amount to HURL which shall be valid for 6 months. In the event PGTR is further delayed beyond this period, this BG shall be extended for another 6 months. For any further delay beyond this period, a Corporate Guarantee shall be submitted by CONSULTANT to HURL in lieu of the BG.

7.1.3 For Lump sum fee for EPCM services for balance off sites & utilities (Detailed Engineering & Procurement Services and assistance for statutory approvals) as mentioned at Clause **Error! Reference source not found.** above

7.1.4.1 10% (Ten Percent) upon completion of Kick-off Meeting.

7.1.4.2 80% (Eighty Percent) as monthly progressive payment based on the progress of the Non-Packages achieved in the preceding month.

7.1.4.3 5% (Five Percent) within 15 (fifteen) days from Mechanical Completion of the Non-Package Sections of Offsite facilities.

7.1.4.4 3% (Three Percent) within 15 (fifteen) days from Commissioning of the Non-Package Sections of Offsite facilities.

7.1.4.5 Balance 2% (Two Percent) within 15 (fifteen) days from the acceptance of the PGTR of Non-Package Sections of Offsite facilities but not later than 6 months from the date of Commissioning of the Non-Package Sections of Offsite facilities in case PGTR is delayed for reasons not solely attributable to CONSULTANT. In such a case, the due payment shall be released to CONSULTANT on submission of a BG of equivalent amount to HURL which shall be valid for 6 months. In the event PGTR is further delayed beyond this period, this BG shall be extended for another 6 months. For any further delay beyond this period, a Corporate Guarantee shall be submitted by CONSULTANT to HURL in lieu of the BG.

7.2 For CONSULTANT's Additional Fee

7.2.1. For additional outstation visits

Payments for additional visits as mentioned at Clause **Error! Reference source not found.** above, if any, shall be paid on quarterly basis on submission of consolidated quarterly claim based on the visits undertaken during the quarter under consideration.



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

7.2.2. For Inspection Services

Payment for the Inspection Services based on the man-day rates mentioned at Clause **Error! Reference source not found.** above shall be made against monthly invoices prepared based on the actual inspection carried out in the preceding month.

7.2.3. For Fee for Expediting Services

Payment for the Expediting Services based on the man-day rates mentioned at Clause **Error! Reference source not found.** above shall be made against monthly invoices prepared based on the actual expediting carried out in the preceding month.

7.2.4. For rendering Site Supervision Services during Construction management Services during Construction & Erection and Assistance during Pre-Commissioning, Commissioning, Performance Test Run/Guarantee Test Run

Payment of the fee/ charges for rendering Site Supervision Services during Construction Management Services during Construction & Erection and Assistance during Pre-Commissioning, Commissioning and Performance Test Run/Guarantee Test Run as mentioned at Clause **Error! Reference source not found.** and **Error! Reference source not found.** above shall be made 100% against monthly invoices prepared based on actual manpower deployment in the preceding month.

7.2.5. Payment of the fee/ charges for arranging MIS for HURL Management for Project Monitoring as mentioned at Clause **Error! Reference source not found.5** above shall be made 100% against monthly invoices.

7.3 All payments to CONSULTANT shall be released by HURL within 15 (fifteen) days of submission of CONSULTANT invoices and shall be effected through electronic transfer or A/c Payee Demand Draft / Cheques drawn in favour of "CONSULTANT" payable at par at New Delhi.

8.0 Time Schedule

8.1 Tentative Time Schedule for Mechanical Completion of the Project has been envisaged as **32 (Thirty Two) Months** from the Effective Date of LSTK Contract. However, the same shall be subject to the finalized LSTK Contractor's Schedule.



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

- 8.2 Delivery/ Completion period for CONSULTANT's various services/ obligations shall be computed from the date of award for the respective services. Adherence to the delivery/ completion schedule shall be subject to fulfillment of contractual obligations by HURL and other associated agencies in a timely manner.
- 8.3 Delivery/ Completion Schedule shall be correspondingly extended in the event of delay occurring due to reasons not attributable to CONSULTANT, which interalia include the following:
- a) Delays in approval/ clearance of drawings/ documents by HURL beyond 15 (fifteen) working days from date of submission. However approval of any drawing/document by HURL shall not relieve CONSULTANT of its obligations.
 - b) Non-receipt or undue delays in receipt of payments.
- 9.0 Modifications in Data supplied by HURL/ LSTK Contractor / Process Licensors**
- In the event of any data furnished by HURL / LSTK Contractor / Process Licensors requiring modification later on, CONSULTANT shall be entitled to reimbursement of extra costs involved and enhanced time schedule that may arise therefrom.
- 10.0 Change in Scope of Work**
- 10.1 Any additions to the scope of services within the general scope of Proposal, shall be mutually agreed.
- 10.2 CONSULTANT shall comply with any such request of scope addition by HURL if such change would not jeopardize fulfillment of any of CONSULTANT's obligations pursuant to this Proposal. If in CONSULTANT's judgment, fulfillment of any of its obligations under this Proposal would be jeopardized by a change requested by HURL, then CONSULTANT shall explain in writing to HURL the reasons for not accepting these changes within 15 days of receipt of written request from HURL for the same.
- 10.3 For each addition in Scope of Services, CONSULTANT shall promptly submit in writing to HURL the estimated extra cost, completion time for additional scope of work and its effect on overall time schedule, if any, together with relevant detail and particulars of any of the variations required to be made to any of CONSULTANT's or HURL's obligations. It is understood that no such additional scope of work shall be performed until the extra charges, mode of payment, time of completion and other relevant aspects have been agreed upon by HURL. However, minor changes/



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

additional work arising during construction phase shall be mutually discussed and agreed.

- 10.4 In case of requirement of any specialized service (such as legal services, taxation services, mercantile law services, etc.) which HURL may request during the period of implementation of the Project, CONSULTANT shall arrange for such services at a mutually agreed additional fee to be paid by HURL.

11.0 Guarantees and Liabilities

CONSULTANT assumes overall single point responsibility as a Consultant for execution of the Barauni Project and provides the following guarantees:

11.1 Guarantee against Project Time Schedule

- 11.1.1 CONSULTANT guarantees that services shall be rendered with all diligence & care in the most expeditious manner and shall be free from defects and fit for respective uses & purposes intended.
- 11.1.2 CONSULTANT shall guarantee that the Consultancy Services covered under this Proposal shall be performed in such a way so as to enable HURL achieve (a) scheduled Mechanical Completion and (b) scheduled Commissioning and PGTR (except in the event Mechanical Completion / Commissioning / PGTR is delayed for reasons not attributable to CONSULTANT).
- 11.1.3 In case of delay in delivery of documents for reasons solely attributable to CONSULTANT which results in delay in Mechanical Completion of the project, CONSULTANT shall pay **damages @ 0.5%** (Zero decimal five percent) of the total lump sum fee as per Clause **Error! Reference source not found.4** above per complete week of delay subject to a **maximum of 5.00%** (Five decimal Zero percent) of the total lump sum fee for CONSULTANT's Services mentioned at Clause **Error! Reference source not found.4** above.

11.2 Workmanship Guarantee

- 11.2.1 CONSULTANT warrants that all professional personnel of CONSULTANT and its sub-contractors, if any, shall have proper qualifications for the work assigned to them hereunder.



HINDUSTAN URVARAK & RASAYAN LIMITED

(A Joint Venture of NTPC, CIL, IOCL, FCIL & HFCL)

SCOPE Minar, Core 2, 2nd Floor,
Laxmi Nagar District Center, Delhi-110092

- 11.2.2 CONSULTANT guarantees that the Consultancy Services including Engineering, Project Management, Engineering Review, Inspection, Expediting, Construction Supervision and Commissioning services, as applicable for the various facilities covered under this Project as detailed out in Clause 2.0 and Clause 3.0 above shall be in accordance with sound & established engineering practices using applicable Indian/ International standards and codes.
- 11.2.3 The said guarantee will be valid for a period of 12 months from the Acceptance Date of the Project.
- 11.2.4 In the event of any errors, due to reasons solely attributable to CONSULTANT, in Engineering / Engineering Review Services, which require correction within a period of 12 months from the Acceptance Date of the Project, for which HURL gives CONSULTANT written notice within 30 (thirty) Days after discovery thereof, CONSULTANT shall re-perform such additional engineering / engineering review work and also perform such other activities covered under the Proposal including procurement / procurement management services as may be required by such re-work without any additional cost to HURL.

11.3 Limitation of Liabilities

CONSULTANT's total maximum liability on all accounts whatsoever of the project shall be limited to 5.0% (Five decimal zero percent) of the total lump sum fee mentioned at Clause **Error! Reference source not found.** above.

However, this limit of 5.0% shall exclude the following:

- i) Unlimited Corrective engineering/ engineering review, as applicable, mentioned at Clause 11.2.4 above.
- ii) Liability towards any patent infringement by CONSULTANT.

11.4 Nothing in this proposal shall be construed to have imposed any liability on CONSULTANT, for defects or otherwise, if CONSULTANT has to depend on data/ technical information to be supplied by LSTK Contractors, Process Licensors and /or by others on behalf of HURL and if any part or parts thereof are found to be inaccurate or complete or deficient for any reason unless such inaccuracies or incompleteness or deficiencies could have been detected by a reasonably competent Consultant undertaking services similar to the services being undertaken by CONSULTANT.

11.5 CONSULTANT in no circumstances shall be liable for any indirect and/or consequential losses or damages incurred or suffered by HURL in connection with or arising out of the Proposal.



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Laxmi Nagar District Center, Delhi-110092

12.0 Indemnification

HURL shall indemnify and hold harmless CONSULTANT and / or CONSULTANT personnel against any claims / demands / liabilities / cost / charges / expenses arising out of and/ or in connection with infringement of Patent/ Registered design/ Copyright, if any, lodged by Process Licensor or any other third party in connection with the services rendered by CONSULTANT for the Project which shall be carried out on the basis of process details/data/documents/scheme made available by HURL / Process Licensors / LSTK Contractor to CONSULTANT (except when the claims / demands / liabilities / cost / charges / expenses have been lodged arising out of any infringement done by CONSULTANT). HURL shall defend at its own cost and expenses any suit / claim/ demand / proceedings instituted against CONSULTANT and / or CONSULTANT personnel or any suit / claim/ demand / proceedings in which CONSULTANT and /or CONSULTANT personnel may be joined as defendant or respondent (except when the claims / demands / liabilities / cost / charges / expenses have been lodged arising out of any infringement done by CONSULTANT).

13.0 Arbitration

- 13.1 Should any dispute or difference arise out of or in connection with or pertaining to the contractual rights, duties or obligations of either party during execution of the job or thereafter, the parties hereto agree to promptly negotiate a reasonable settlement thereof amicably. If the parties are unable to settle the matter, then such disputes or difference shall be settled in accordance with the guidelines of Indian Arbitration and Conciliation Act 1996 and modifications thereof in force from time to time. Venue of Arbitration shall be New Delhi, India.
- 13.2 Notwithstanding any such reference to arbitration mentioned above, the parties shall continue to fulfill their respective obligations and no payment under the Contract shall be withheld during the arbitration, unless the same is a subject matter of dispute or difference.

14.0 Force Majeure

Neither party shall be considered in default of its obligations if such performance is prevented or delayed because of war, hostilities, revolution, civil commotion, strikes, epidemic, accident, fire, flood, earthquake, or because of any law and other



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proclamation, regulation or ordinance of the Government or Sub Division thereof or because of any act of God or any causes beyond the reasonable control of the party affected. It is incumbent on either party to inform the other within **14 days** of such occurrences mentioned above. Should one or both parties be prevented from fulfilling their obligations by a state of Force Majeure, lasting continuously for a period of two months or more, both parties shall consult with each other regarding the future mode of execution.

Note: This Clause may be suitably modified in the Contract in line with the corresponding provision agreed by HURL with the LSTK Contractor.

15.0 Suspension / Termination

- 15.1 In the event the execution of the project could not be completed by HURL or in case execution of the project is postponed indefinitely by HURL or if HURL is not satisfied with the services of CONSULTANT under the Contract, HURL may terminate the Contract upon giving one month's prior notice in writing to CONSULTANT.
- 15.2 CONSULTANT may terminate the Contract upon giving one month's prior notice in writing to HURL in the event the execution of the project is delayed/postponed by HURL for a period or periods aggregating more than 60 days in any 365-day period or in case CONSULTANT's services under the Contract have to be discontinued or given up by CONSULTANT for reasons not attributable to it.
- 15.3 On termination of Contract as mentioned above, HURL shall thereupon become immediately liable to pay to CONSULTANT such proportion of the remuneration of the work actually done by CONSULTANT bears to the total amount of work for which the remuneration was fixed.

16.0 Compensation for Inordinate Delay

In the event completion of the project gets **delayed beyond 8 months** from the scheduled Mechanical Completion for reasons not attributable to CONSULTANT, CONSULTANT shall be entitled to escalation in rates mentioned at Clause **Error! Reference source not found., Error! Reference source not found., Error! Reference source not found., Error! Reference source not found., Error! Reference source not found.** above applicable on the services rendered after the above date. Such escalation in the price payable shall be the percentage change in Consumer Price Index Numbers for Industrial Workers – All India published by RBI between the above date and on the relative date of invoice for those services on which escalation is claimed. Such escalation shall be over and above the ceiling mentioned at Clause **Error! Reference source not found.** above.



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17.0 Governing Language

The governing language for this proposal shall be English. All attached documents, subsequent contract/ agreements, all correspondence/ communications exchanged and all documentation to be prepared and supplied for the project under this proposal shall be written in English. All documents / correspondence/ communications under this proposal, shall be construed and interpreted in accordance with English language.

18.0 Guarantee for Performance

CONSULTANT shall within 15 (fifteen) days from award of the job, furnish a Security Deposit in the form of **Bank Guarantee (for Private Ltd.) / Corporate Guarantee (for Public Ltd.)** for an amount equal to **5% of CONSULTANT's total lump sum fee** indicated at Clause **Error! Reference source not found.** above which shall be valid till commissioning of the project. On completion of the commissioning of the project, the said guarantee shall be replaced by a performance bank guarantee of an equivalent amount and the same shall be valid till 12 months from the Acceptance of the Project. However, in case, commissioning of the project is delayed beyond 36 months from the effective date of the LSTK Contract, for reasons not attributable to CONSULTANT, all obligations of CONSULTANT under the guarantee shall stand discharged and the guarantee shall be released by HURL.

19.0 Governing Law

This Proposal shall be governed by and construed according to Indian Laws, except otherwise expressly provided in Proposal. The parties hereby agree to submit to the jurisdiction of the Courts situated at New Delhi for the purposes of actions & proceeding arising out of the Proposal and the Courts at New Delhi only will have the jurisdiction to hear and decide the actions & proceedings.

20.0 General

CONSULTANT shall cooperate fully with any legitimately provided/ constituted investigative body, conducting inquiry into processing or execution of this consultancy contract/ any other matter related with discharge of Contractual obligation performed by CONSULTANT regarding LSTK, Non LSTK, EPCM tenders/ works of Barauni Fertilizer Project.



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21.0 Validity

Proposal shall remain valid for six month from the date of submission of this Proposal and thereafter the validity shall be subject to mutually agreed terms.

Encl:

Annexure-I : Proposed Manpower Deployment for the Project to be submitted by Bidder