

**Tender Document
for
'ONE-BHEL' - ERP Project**



Tender No.: M1A1M04216

Date of Issue: 4th September 2013

BHARAT HEAVY ELECTRICALS LIMITED

Registered Office:
BHEL House,
Siri Fort, New Delhi -110049
India

TENDER INFORMATION		
A	Tender No.	<u>M1A1M04216</u>
B	Job	'ONE-BHEL' - ERP Project.
C	Tender Document fee (Non-Refundable and Not Exempted)	INR 20,000/- (INR Twenty Thousand only) by DD in favour of Bharat Heavy Electricals Limited, payable at Hyderabad. The DD must be submitted by the bidders during the pre-bid meeting.
D	Availability of Tender Documents in the Web site	Download from www.bhel.com , Start of display date: 4 th September 2013.
E	Pre-Bid Queries	The Bidder is requested to submit questions in writing or by email as per Annexure #6 Template for Pre-Bid Queries. Last date for receiving pre-bid queries – 19 th September 2013 (within 15 days from the date of Availability of Tender Documents in the Web site), either in writing or via email to ashokkumargs@bhelhyd.co.in copying to bc@bhelhyd.co.in .
F	Pre-bid Conference	From 29 th day (for maximum of 3 working days) from the date of Availability of Tender Documents in the Web site from 10:00 Hrs IST to 16:30 Hrs BHEL office at BHEL Ramchandrapuram, Hyderabad (i.e. from 3rd October 2013 to 5th October 2013). No bidder can join in the pre-bid conference without submission of pre-bid query/interest and the DD as per 'C' above to join pre-bid conference by mail within stipulated date. Only authorized person from Bidder's organization will be permitted. However, BHEL reserves the right to accept or reject the request for attending pre-bid conference.
G	Tender Submission	29th October 2013 by 11:00 Hrs IST (After 3 weeks from Pre-Bid Conference completion)
H	Place of Submission of Bid	Tender Box, Vendor Complex, BHEL Ramchandrapuram, Hyderabad – 502 032.
I	Opening of Technical Bid	29th October 2013 by 14:00 Hrs IST
J	Contact Person	Shri G. S. Ashok Kumar, Additional General Manager, Purchase/Common Materials Management, BHEL Ramchandrapuram, Hyderabad (A.P.) Phone No: 040 23183391, 040 23182520 Mobile No: +91 9441482182 Email id : ashokkumargs@bhelhyd.co.in , bc@bhelhyd.co.in

K	Time For Completion (Commissioning)	Details provided in the technical volume of the tender
L	Bid Security/ Earnest Money Deposit (EMD)	INR.2,00,00,000/- (INR Two Crore Only) - this will not attract any interest
M	Validity of Bid	180 days from actual date of opening of Techno-Commercial / Un-Priced Bids.
N	Independent External Monitor (IEM)	Shri J. M. Lyngdoh, IAS (Retd.)

Disclaimer

The information contained in this Tender Document or subsequently provided to Bidder(s) whether verbally or in documentary form by or on behalf of BHEL or by any of their employees or consultants, shall be subject to the terms and conditions set out in this Tender Document and any other terms and conditions subject to which such information is provided.

This Tender Document is not an agreement and is not an offer or invitation by BHEL to any party other than the Bidder who is qualified to submit the Bid. The purpose of this Tender Document is to provide the Bidder with information to assist the formulation of their Proposal in response to this Tender Document. This Tender Document has been prepared with care and attention to provide all required information to the Bidders. However, Bidders may need more information than that provided. In such an event, the Bidder is solely responsible to seek the information required. BHEL reserves the right to provide additional requested information at its sole discretion and shall provide the same to all Bidders (i.e. the Bidder who has sought for such information as well as all other Bidders). In order to respond to the tender, if required, and with the prior permission of BHEL, each Bidder may conduct his own study and analysis, as may be necessary to supplement the information and data. BHEL, its employees and consultants make no representation or warranty and shall incur no liability under any law, statute, rules or regulations on any claim the Bidder may make in case of his failure to understand the requirement and make the proposition. BHEL may, in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this Tender Document.

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1 Introduction

1.1 About Bharat Heavy Electricals Limited (BHEL)

BHEL is an integrated power plant equipment manufacturer and one of the largest engineering and manufacturing companies in India in terms of turnover. BHEL was established in 1964, ushering in the indigenous Heavy Electrical Equipment industry in India - a dream that has been more than realized with a well-recognized track record of performance. The company has been earning profits continuously since 1971-72 and paying dividends since 1976-77.

BHEL is engaged in the design, engineering, manufacture, construction, testing, commissioning and servicing of a wide range of products and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation (Railway), Renewable Energy, Oil & Gas and Defence. The company has 15+ manufacturing divisions, two repair units, four regional offices, eight service centres and 15+ regional centres and currently operate at more than 150 project sites across India and abroad. There is a strong emphasis on innovation and creative development of new technologies. The company's research and development (R&D) efforts are aimed not only at improving the performance and efficiency of the existing products, but also at using state-of-the-art technologies and processes to develop new products. This enables BHEL to have a strong customer orientation, to be sensitive to their needs and respond quickly to the changes in the market.

The high level of quality & reliability of BHEL's products is due to adherence to international standards by acquiring and adapting some of the best technologies from leading companies in the world including General Electric Company, Alstom SA, Siemens AG and Mitsubishi Heavy Industries Ltd., together with technologies developed in own R&D centres.

Most of our manufacturing units and other entities have been accredited to Quality Management Systems (ISO 9001:2008), Environmental Management Systems (ISO 14001:2004) and Occupational Health & Safety Management Systems (OHSAS 18001:2007).

The company has a share of 59% in India's total installed generating capacity contributing 69% (approx.) to the total power generated from utility sets (excluding non-conventional capacity) as of March 31, 2012.

BHEL has been exporting our power and industry segment products and services for over 40 years. BHEL's global references are spread across 75 countries. The cumulative overseas installed capacity of BHEL manufactured power plants exceeds 9,000 MW across 21 countries including Malaysia, Oman, Iraq, the UAE, Bhutan, Egypt and New Zealand. BHEL's physical exports range from turnkey projects to after sales services.

BHEL's greatest strength is its highly skilled and committed workforce of approx. 49,000 employees. Every employee is given an equal opportunity to develop himself/herself and grow in his/her career. Continuous training and retraining, career planning, a positive work culture and participative style of management - all these have engendered development of a committed and motivated workforce setting new benchmarks in terms of productivity, quality and responsiveness.

Further details including Annual Reports can be accessed at BHEL website www.bhel.com.

1.1.1 Product Profile

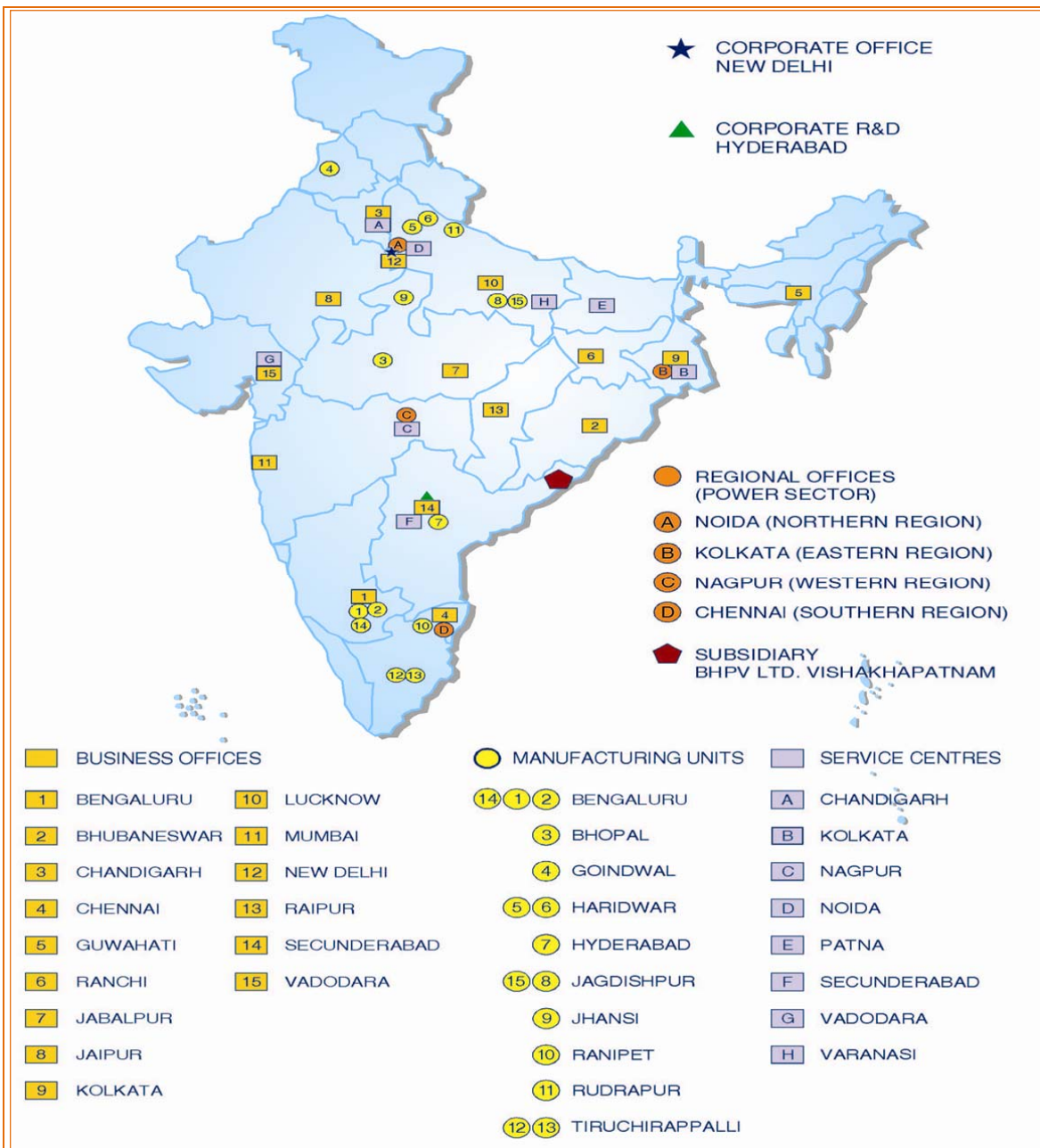
Power	Industry	Transmission	Transportation
Air Pre-heaters	Capacitors	Bushings	Electric Rolling Stock
Boilers	Ceralin	Capacitors	Electrics for Rolling Stock
Control Panels	Relay Compressors	Control Relay Panels	Electrics for Urban Transportation System
Electrostatic Precipitators	Desalination Plants	Transformers	R&D Products
Fabric Filters	Diesel Generating Sets	Control Shunt Reactor	Fuel Cells
Fans	Industrial Motors & Alternators	HVDC Transmission System	Surface Coatings
Gas Turbines	Gas Turbines	Insulators	Automated storage & Retrievals
Hydro Power Plant	Oil Field Equipment	Switchgears	Load Sensors
Piping Systems	Solar Photo-voltaics	Power Semiconductor Devices	Transparent Conducting Oxide
Pulverisers	Power Semiconductor Devices	Power System Studies	Non-Conventional Energy Source
Pumps	Seamless Steel Tubes	Power Transformer	Mini/Micro Hydro Sets
Seamless Steel Tubes	Soot blowers		Solar Lanterns
Soot blowers	Steel Castings & Forgings		Solar Photo-voltaic
Steam Generators	Steam Generators		Solar Water Heating Systems
Steam Turbines	Steam Turbines		Wind Electric Generators
Turbo generators	Turbo generators		
Valves	Valves		

FGD	Steel Chimney		
Gates and Dampers	Gates and Dampers		
Desalination Plants	Desalination Plants		
Steel Chimney			
LTC (Load Tap changer)			

1.1.2 Systems & Services

Power Generation Systems	Transmission Systems	Transportation Systems	Industrial Systems
Turnkey power stations.	Sub-stations switchyards.	Traction systems.	Industrial drives and control systems.
Combined-cycle power plants.	HVDC transmission systems	Urban transportation systems.	Erection commissioning, operation and maintenance services.
Cogeneration systems.	Shunt and series compensation systems.	Erection commissioning, operation and maintenance services.	Spares management.
Modernization and rehabilitation of power stations.	Power system studies.	Consultancy services.	Consultancy services.
Erection commissioning, operation and maintenance services.	Erection commissioning, operation and maintenance services.		
Spares management.	Consultancy services.		
Consultancy services.			
Renovation, Modernization & Up gradation (R,M&U)			
Residual Life Assessment (RLA)			

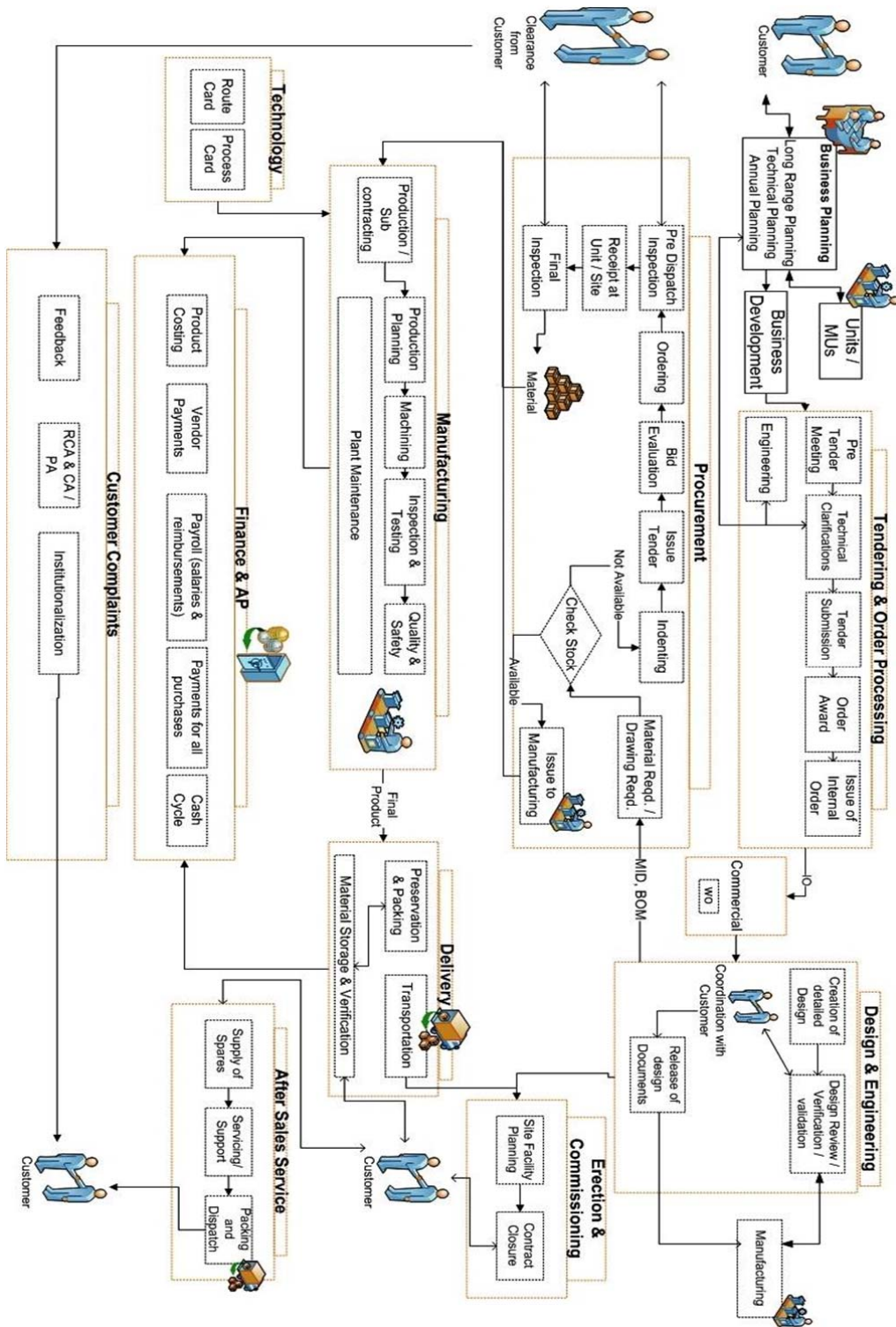
1.1.3 BHEL Units/Divisions Location Details



For complete list of locations refer **section 9.5 Geographical Scope**.

1.2 Business processes at BHEL

1.2.1 BHEL Overall Process Flow



Tendering & Order Processing – Customer and Corporate Marketing

Tendering is collaborative exercise between Corporate Sales outfits, Unit sales & engineering divisions.

Pretender Meeting – Pretender discussions are held with the customer to understand the customer's requirement.

Tender Issue – The tender is issued by the customer.

Technical Clarifications by unit engineering – Technical Clarifications, if required, are taken by Unit engineering and preliminary designs are worked out to estimate the material and labour requirements.

Tender Submission – Offers received from different units are consolidated at corporate level and bid is submitted as per the customer requirements.

Order Award – Further process starts in case the Order is awarded to BHEL else data is used for market analysis.

Issue of internal Order to units – On award of a contract to BHEL, the corporate marketing issues Internal Order to respective units. Unit commercials issues work order based on the Internal Order for respective products.

Unit Engineering

At unit level Design & Engineering groups are organized on product line.

Identification of teams for design review & verification – At Unit engineering, internal teams are formed for design review and verification.

Preparation of the design – Detailed design is worked out by the Unit Engineering and engineering documentation including drawings, BOM etc are prepared. In BHEL Group technology is used where in a large product such as Steam Turbine is broken in several sub-products (Groups) each having their modular documents. Complete product is assembled using these modular sub-products/ Groups.

Technological review by technology groups – There are technology groups at Unit level. These groups do the technological review of the drawings and BOM.

Approval from customer (If required) – Some design documents need approval from customer, in case required.

Release of design documents to Manufacturing – After finalization and approval of the design documents by engineering, these are released for manufacturing.

Material Forecast (MF)/ manufacturing drawings & Bill of Materials (BOM) – Bill of Materials (BOM) are released for material procurement and subsequent issue of material to manufacturing shops. MF is used for material Procurement wherever Design is still to be finalized.

Issue of Quality plan and customer drawings – Along with the release of drawings to manufacturing, the customer drawings are also issued. Quality plan is issued by Quality Assurance in consultation with design department as per Customer requirement. It includes erection & commissioning drawings.

Issue of repair and OM manuals – The repair manuals and OM manuals are also prepared by Unit engineering.

Material Procurement

Material procurement is done by unit MCX groups. The existing material stock is checked for availability and issue of material. If material is available, it is issued to Production. If not, indenting of required material quantity is done by engineering.

Purchase

The purchase of material is done as per purchase policy of BHEL. The main steps involved are:

Issuing Tender – The purchase department issues tender for material purchase.

Bid evaluation – The bids from registered vendors are obtained and evaluated for the purchase.

Ordering – The required quantities of material are ordered thru L1 vendor.

Pre dispatch Inspection – The material is inspected either at vendor's premise or at BHEL location before dispatch of the requisite material.

Receipt of Material – Material is received at BHEL.

Clearance from Customer If needed – If required, the clearance is obtained from customer for the inspected material.

Final Inspection, financial accounting and receipt in stores – The material is finally inspected, its accounting done in finance and the same is received in unit material stores.

Payment to supplier by finance – The payment for the supplied material is made by the Unit finance to the supplier.

Issue of material is done by stores for production on clearance from Material Planning & Inventory Control (MPIC).

Manufacturing

The material received against indents is received and stored in the central plant stores. The material is issued for Production against stores issue vouchers accepted by MCX– The production takes place based on the design documents, drawings, BOM and route card.

Certain production processes also involve partial processing in contractor works outside the factory. The part processes items are issued to contractor and brought back to production shop for further processing.

Stage Inspection & Customer Clearance - If required, the stage inspection is done and customer clearance is taken at agreed stages.

Testing – Testing of components and sub-assemblies is done during various stages.

Storage of subassemblies and components – The components and sub-assemblies are stored at the block gantry/ Storage area. They are taken to assembly area at the time of final assembly.

Assembly – The final assembly is done by manufacturing after all components and subassemblies are available for that product.

Final Testing – Final testing of the assembled product is done as per the test plan.

Dispatch Clearance from Customer - The dispatch clearance is taken from the customer, if required.

Preservation & Packing – The material to be dispatched is preserved and packed.

Invoicing and Dispatch – For all the dispatches, invoicing is done and the material is actually dispatched.

Delivery to site – The material is delivered to site through approved transporter.

Cash collection from customer – The cash collection is done from the customer by the commercial and other corporate entities.

Sub-contracting

OS yearly tonnage plan is being finalized based on PGMA responsibility.

Yearly Rate contract is finalized and Rate schedules are maintained based on type of operations. For every rate schedule, source list is maintained.

Each demand identified for sub-contracting gets converted to Purchase Requisition (PR) through MRP. These PRs are linked manually to Corresponding Rate schedules based on the operations involved. Vendor is also identified based on his available capacity.

Purchase order (PO) is placed based on the rate contract.

Materials are issued to the vendor based on the Bill of Materials in the PO. If original materials are not available, alternate materials are issued.

Gate pass generated at stores for material issue.

Cutting plan prepared by vendor for every material issued in a gate pass.

After completion of product, Inspection call is given by Vendor and closed by Inspection agency.

Vendor hands over accepted materials to Shipping and the finished goods are taken into Stock.

After PO completion, Material Accounting (MAS) is done for a completed PO.

Vendor returns the Excess materials. Recovery is done for the materials not returned.

Import Clearance Process (Port Operations)

Imported content of consumption of raw materials, components, stores & spare parts is 35% (Rs.6200 crore) against 65% of Indigenous value as per annual report data for year 2009-10. Apart from this capital goods and other items are also imported.

License applications/ Registration of Licenses/ Certificates with Customs/ Ports. Around 200 certificates and licenses may be active. Presently BHEL operates through DEEC/PI/Power Cert/R&M Cert/Defence Cert.

Major imports through Mumbai (4000 BLs), Chennai(2000), Bangalore(1500), Delhi(150), Bhopal(20 BLs) including Air/Sea/ICD amounting to approximately 3 lac Metric Tonnes from more than 80 ports worldwide and may be dispatched to manufacturing units/Sites from ports.

Port operations include License Registration, Vessel Monitoring, Bill of Entry (self-filing/through CHA), Customs Clearance, Duty/Freight/Port Payment, Other payments and Debiting expenditure to Units, Dispatch of Material as per transporter contracts, Accounting of License/Certificate Debiting, Bond Closure, Bonding (Section 49/59) and Ex-Bonding, Managing deposit accounts with ports. Material is dispatched to Manufacturing Units/Sites after clearances. Imported Material may also be directly dispatched from Indian port to foreign ports as export.

Importing Unit operations include coordination with ROD/Clearing Agency, License Application/Ratification/ License Allocation/Checklist, Document Retirement, Sending Documents to ROD like NND/OBL etc., Approvals/Dispatch Instructions, SRV Pricing, and Drawbacks etc. Manufacturing Units capture the cost of Customs Duty, CVD and SAD paid at ports and ship cost is arrived based on the actual B.E and GR is priced including these costs. License closure / Bond closure/ Export Obligation Discharge are the responsibilities of Foreign Exchange Division at Units. Units also declare the detailed exposure of risk involved during transit from foreign ports to destination for insurance cover under available policy.

Marketing/Business Sector operations include arrangement of Essentiality/Project Authority Certificates for further processing of Units for arranging Licenses etc. depending on the nature of contract e.g. International Competitive Bidding (ICB)/LCB/Negotiable. Time-to-time coordination for schemes like SFIS/ Market Focus, etc.

Corporate Finance provides daily exchange rates used for various payments.

Corporate Finance provides Insurance related rates for ocean freight. Insurance is also to be done for consignments dispatched from ports. Insurance is covered under Corporate Open Policy and only Units files Declaration of import to the regional insurance agency.

Project Engineering Management - PEM

Project Engineering Management (PEM) Division is BHEL's power plant System Integrator, a nodal agency providing total engineering solutions for conventional thermal and gas based power projects and conventional island of nuclear power plant, and procurement of BOP packages enabling BHEL to offer complete Engineering, Procurement and Construction (EPC) services.

PEM's experience of project engineering for over 250 units (coal based units of rating up to 600 MW and gas based units based on 9FA advance class gas turbines) installed and under execution in India and abroad totalling more than 100000 MW, makes it India's largest power plant engineering and design organization. Presently PEM is also engaged in the engineering of supercritical power projects of unit ratings 660 MW, 700 MW & 800 MW being executed by BHEL.

It carries out following functions / activities during the lifecycle of a typical project:

System engineering for BHEL manufactured equipment.

Design & Engineering – Various teams are formed by PEM for design review and verification & engineering.

Preparation of the power plant design – The overall power plant design is prepared by the PEM.

Technological review – PEM does a technological review of the power plant design and suggests any changes, if required.

Approval from customer – If required, PEM takes a formal approval of the power plant design from the customer.

Release of design documents – The design documents are finally released for manufacturing & procurement by BHEL units, civil and structural works, erection & commissioning and procurement of Balance of Plant (BOP).

Engineering and Procurement of balance of plant packages (BOP)

Power Sector – Regions and Site Teams

Receipt, Inspection, Storage and Issue – The material dispatched by the various Units of BHEL is received, inspected, raised Material Discrepancy Report (MDR) and securely stored by the site teams. They also issue materials to Subcontractor for Erection & Commissioning.

Organizing the resources – The site teams organize the manpower, support equipment and material for the project site.

Purchase - Procurement of Steel, Cement, Chemicals and T & P etc is done by the Regional HQ teams.

Subcontracting - Subcontracting Group fixes up Vendor for Material Management and Erection of Equipment.

Document Management: Management of Documents & Drawings required for Erection & Commissioning

Receipt, Storage and Issue: Receipt, storage and issue of Bought out Items (BOI)

Project Planning: The Site Team prepares Erection Plan based on Material, Drawing, and Document availability from MUs & PEM. Site Team also prepares Erectability Analysis report.

Erection and commissioning – The site teams carry out the erection and commission (E&C) at the site.

Resolution of site problems – The site teams also need to resolve the various problems encountered at the project site.

Contractor Billing – Contractor Bills are checked & verified by the Site Engineer & paid by the Site Finance personnel.

Coordination – The site teams also need to coordinate with the units, sub-contractors and customer and other dealing agencies.

Customer Billing - Customer billing is also done by Site Finance Personnel.

Customer Service after Sales (SAS)

Customer / Site complaint – After handover of the project, the customer complaints are received by commercial, quality or the engineering functions.

Analysis – The analysis of the complaint is carried out by Engineering for man or material requirement.

Problem resolution – The problem is resolved thru Quality, Engineering or production.

Feedback Entry in system – The feedback received from the complaint resolution is captured into some system.

RCA & CA/PA Identification – Root Cause analysis (RCA) & Corrective Actions Preventive Actions (CA/PA) are worked out.

Institutionalization - Entry in on line system for future corrective action if required.

Requirement of Spare Items

Enquiry – An enquiry is received for the requirement of spare items.

Offer – AN offer is given by BHEL for the supply of spares.

Placing the internal order – An internal order is placed within BHEL Unit for supply of spare item.

Issue of engineering documentation – Engineering documentation is issued for the concerned spare item.

Manufacturing of the component – The spare component is then manufactured as per the design document.

Inspection, Packaging & Dispatch – The spare is then inspected, packed and dispatched for the destination.

BHEL Typical Contracts

Hydro

EPC – Engineering, Procurement & Construction is done by BHEL. Civil work is sub contracted.

Electro Mechanical – Storage, Material handling, Erection, Testing & Commissioning of Turbine and Generator is done by BHEL.

Thermal

EPC – Engineering, Procurement & Construction is done by BHEL. Civil work is sub contracted.

BTG – Storage, Material handling, Erection, Testing & Commissioning of Boiler, Turbine and Generator is done by BHEL.

1.3 IT Landscape at BHEL

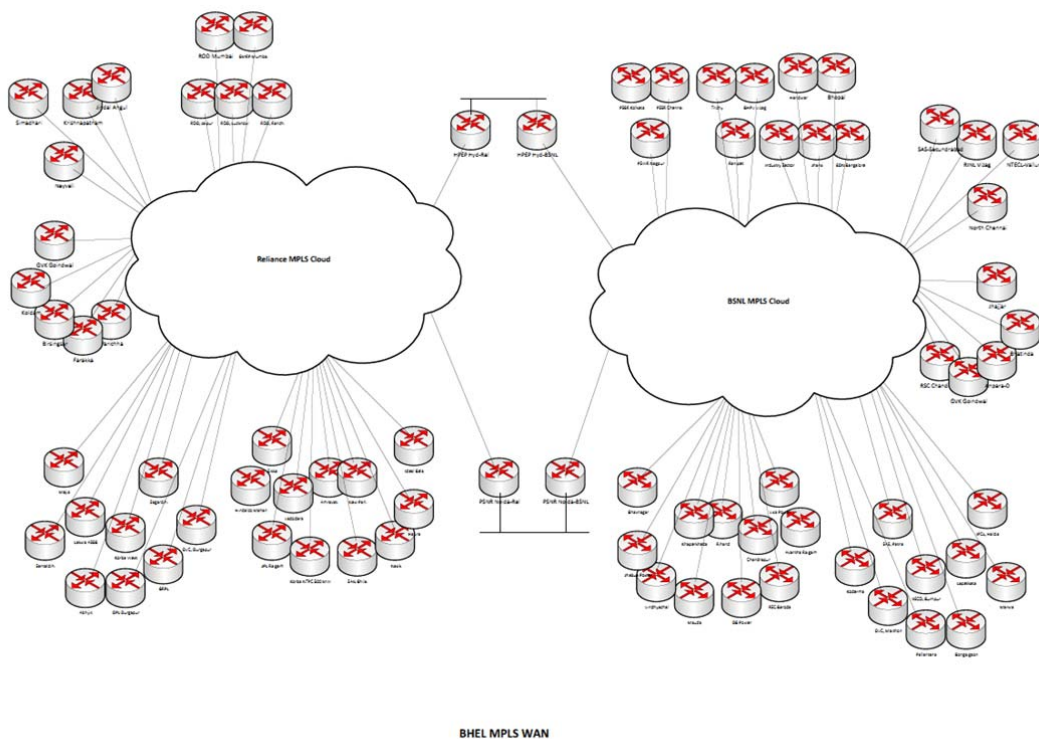
In BHEL, Information Technology has deeply penetrated all the functional areas and it is suitably deployed in various facets of company's operations. The company has substantially introduced IT in

its Engineering, Manufacturing, and Materials Management & Production functions. IT initiatives have been taken up so as to meet the emerging demands of the business challenges of the New Economy.

1.3.1 Existing Network Infrastructure

BHEL is using MPLS connectivity from multiple service providers to connect their locations.

The BHEL locations are connected through multiple connectivity options with redundancy as required.



Details of Bandwidth at BHEL:

Unit	Available Bandwidth
Major Units	16 Mbps
Mid-Sized Units	10 Mbps
Small Units	4 to 8 Mbps
Sites & Other small locations	2 Mbps

1.3.2 Existing IT Infrastructure

All Units and Divisions have their own computing resources as per their perceived needs. Local connectivity of different departments and groups has been achieved through state of the art LAN technologies (Giga Bit Ethernet/ Fibre optics). BHEL has established its Corporate Level Wide Area Network on MPLS based technology linking Manufacturing Units, Service Divisions, Project Sites

and offices. This has enabled exchange of information across the Units / Divisions in a secured way. This network MPLS interconnects all locations of BHEL across the country on OFC/RF Links/VSATs/ internet.

1.3.3 Existing Applications

The Owner's establishments since the past few decades are engaged in full swing operations in heavy engineering, manufacturing, supply, erection/ commissioning, service after sales, spares, Renovation & Modernization of several types of products related to power plant, transportation & transmission. Such works of varied products were executed at different business establishments of the Owner. Over a period of time, such individual establishments of the Owner developed, operated & maintained several legacy applications (mostly web-based) for its local use. Such legacy business applications are normally unique to Owner's establishment. SAP-ERP was also progressively rolled out by few of such Owner's establishments i.e. in Trichy, EDN, EPD Bangalore & RCPuram & PE&SD, Hyderabad between 2002 to 2012.

Such above stated business applications built & relied upon by such establishments have been delivering certain business values & goals, apart from having developed system familiarity & adoption by the end users over passage of time.

Aggregate of such business applications in operation across Owner's establishments' totals to few hundreds & these applications are residing on several hardware & software procured at substantial costs, apart from major expenditures made on human resources on change management, engagements, trainings, etc. Oracle has been used as RDBMS technology & J2EE/Oracle forms reports/ JSP/ASP are the major existing technologies used for application development.

All engineering centres are well equipped with engineering workstations using advance Engineering Software for Designing, Modelling, Analysis and Drafting etc. Electronic Depositories, with appropriate work flow & change control, have been implemented particularly for Engineering Documents at major units.

The list of existing ERP & Non ERP software is mentioned in **Annexure #3 Existing Software**.

2 Definitions

Owner/ Purchaser: Bharat Heavy Electricals Limited (Registered Office: BHEL House, Siri Fort, New Delhi - 110049, India).

- **ERP Product / Software:** Shall mean, Standard, proven, off-the shelf, integrated, modular software application using an integrated database with the following functionality (single application and not as bolt-on solutions) – Sales, Marketing & Dispatch, Project Management, Material Management, Engineering Management, Production Management, Financial Management & Costing, Quality, Plant Maintenance, Document Management, Payroll and HR & Workflows. In case of any ambiguity in definition of modules, the above modules shall mean the above function as relevant to BHEL processes. These functions should be natively integrated applications on a single interoperable open platform and not the integration of multiple products & overlapping middleware.
- **Integrated Solution:** Shall mean, ERP Product / Software as specified above, Bolt-on / Add-on solutions, third party applications and any other tools, accessories and services required for the fulfilment of the intent of the contract.
- **Implementation Partner:** Shall mean, the agency that provides all necessary supplies and services for the successful implementation of the Integrated Solution, who may be either ERP Product Vendor and/ or a partner in the Bidding Consortium as per Section 4.1.

- **Bidding Consortium / Bidder:** Shall mean, ERP Product Vendor and its authorized Implementation Partner entering into a Consortium Agreement for a common objective of satisfying the Owner's requirements & represented by the Implementation Partner as Lead member of the consortium.
- **Request for Proposal (RFP) / Tender Document:** Shall mean, written solicitation that conveys to the Bidder, requirements for products/ services that the Owner intends to buy and implement.
- **Bid / Proposal:** Shall mean, the offer by the Bidder to fulfil the requirement of the Owner for an agreed price. It shall be a comprehensive technical and commercial response to the RFP.
- **Successful Bidder:** Shall mean qualified & Successful in the bidding process and is given the award of Work.
- **Specification:** Shall mean the specifications contained in the RFP Documents and Annexure, Schedule etc. attached thereto, if any, and includes any subsequent modifications thereof.
- **Approved:** Shall mean approved in writing by authorized Officer of the Owner. No review, consent, approval or acknowledgement by the Owner shall relieve the Bidder from any liability or obligation under the Contract.
- **Month / Week:** The Month shall mean calendar month & Week shall mean calendar week.
- **Applicable Law:** Shall mean the laws and any other instruments having the force of law in India as they may be issued and in force from time to time.
- **Milestones:** Shall mean junctures in the progress of the Project/Contract as defined hereinafter in accordance with Section 3.3 (Implementation Plan) and which shall act as the basis for monitoring/measurement of progress of the Project/Contract and also shall constitute the qualification criteria for the release of payment or levy of penalties/liabilities, as the case may be.
- **Penalties:** Shall mean, the imposition of pecuniary liability against unfulfilled/incomplete Works and/or milestones calculated on the basis of prescribed milestones in Section 9 herein. If the Bidder fails to achieve Substantial Completion of the Work on or before the due date, the Bidder shall pay the Owner penalties as set out in the Contract for each day or part of a day that Substantial Completion is delayed beyond the required date up to the maximum prescribed under Annexure #22 hereunder or such other limit as may have been stated in the Contract. Unless stated otherwise in the Contract if a certificate of Substantial Completion has been issued for part of the Work on or before the Substantial Completion Date, the penalties payable shall be reduced in the proportion which the value of such part of the Work bears to the value of the whole of the Work.
- **Payments:** Shall mean all sums of monies as defined under Section 9 hereunder.
- **Breaches:** Shall mean inter alia and include a failure of performance under the contract, whether or not penalties are attracted/applicable for the violation of terms and conditions contained herein, non-adherence of instructions and prescribed compliances, non-performance or unsatisfactory performance of obligations in the opinion of the Owner, non-adherence to laws and regulations, and shall include within its purview, a failure to ensure satisfactory performance parameters of the 'ONE- BHEL' initiative as defined hereunder which is significant enough to give the Owner the right to sue in a manner so as to place itself in the position they would be in if not for the breach committed.
- **Termination:** Shall mean any of the events defined under Section 11.13 resulting in the cessation/expiration/short closure of the Contract and consequences thereof.
- **Amendment/ Variation to Contract:** Shall mean any amendment of the Contract agreed by the Owner and the Bidder in writing and in accordance with Section 5.8 contained herein.
- **Work:** Shall mean all work to be carried out and all services rendered by the Bidder including all temporary work, design, procurement and installation work to be performed by the Bidder for and in connection with the permanent and temporary works, and all other work and services to be carried out by the Bidder under the Contract.

- **Instruction:** Shall mean communication issued by the Owner in accordance for purposes herein including but not limited to requiring the Bidder to add to, omit from, alter, cancel or delete all or part of the Work.
- **Associated Companies & Affiliates:** Shall mean the ultimate holding Owner of any Owner Affiliates and the subsidiaries in any tier in the chain thereof with such ultimate holding companies where the immediate parent Owner has a controlling or greater than 50% of the Bidder interest in the subsidiary.
- **Completion:** Shall mean that the whole of the Work has been completed in accordance with the requirements of the Contract, when so certified by the Owner, with no exceptions or outstanding items. The date of issue of the Completion certificate shall be the date on which the Bidder is deemed to have achieved Completion.
- **Final Completion:** Shall mean that the end of Warranty Period, including any extension thereof, has expired, when so certified by the Owner.
- **Confidential Information:** Shall mean all knowledge, data or information acquired by the Bidder from, or disclosed to the Bidder by, the Owner, or on behalf of the Owner, in connection with the Work in writing, drawings, magnetic tapes, computer programs or in any other way, as well as all data derived there-from, to the extent that such knowledge, data or information at the time of such acquisition or disclosure is not either already in the unrestricted possession of the Bidder or part of public knowledge or literature.
- **Commencement Date:** Shall mean the date stipulated in the Contract on which the Bidder shall commence executing the Work. If no date has been stipulated in the Contract, the Commencement Date shall be the Effective Date.
- **Contract Price:** Shall mean the sum of money stated in the Schedules, subject to such additions thereto or deductions there-from as may be made under the provisions of the Contract.
- **Documents:** Shall mean all drawings, calculations, computer software (programs), patterns, models, operation and maintenance manuals and all other manuals and information of whatever nature submitted by the Bidder.
- **Facilities:** Shall mean any of Bidder software, hardware, knowledge portals, offices, bases, yards, factories, warehouses, workshops, laboratories, camps or other installations identified as such.

3 About 'ONE-BHEL' Initiative

The Owner is the largest engineering and manufacturing enterprise in India in the energy related/infrastructure sector today.

Currently, five of the Owner's manufacturing units (Trichy, HPEP & PESD Hyderabad, EDN & EPD Bangalore) have implemented SAP-ERP in an independent and phased manner on separate instances while the remaining units and business sectors have implemented in-house developed computer systems to meet their information requirements. SAP-HCM is implemented at corporate level for entire BHEL as a single instance.

Information Technology platforms and their business processes are distributed and at variance across the Organization. In order to meet the current business challenges for sustaining competitiveness and ensuring growth in the market, there is a need for the Owner to undertake an ERP implementation driven Business transformation exercise. This exercise will enable the Owner to streamline and standardize business processes across the organization and to adopt some of the global best practices being followed in similar industries.

3.1 Objectives

'ONE-BHEL' term is coined for an Integrated Solution across BHEL. The key objectives envisaged out of 'ONE-BHEL' Integrated Solution are:

- Single version of information with 'ONE-BHEL' view to all the stakeholders.
- Standardized, rationalized, automated and integrated business processes and systems across BHEL to deliver business value.
- Online reconciliations of various information (project, financials, logistics etc.).
- Real Time and end-to-end visibility of information on multiple dimensions (projects, financials, inventory, customer, vendor database, etc.) across BHEL in a multiple execution environment.
- Online Collaboration for engineering and projects.
- Improvement of Key Performance Parameters (KPIs) in BHEL.
- Management dashboards for monitoring and decision support systems at Unit and Corporate level.

3.2 Implementation Approach & Strategy

As part of the 'ONE-BHEL' initiative, the Owner intends to implement a single ERP instance for the entire organization via a common Global Business template. Bidder shall standardize and harmonize the business processes based on standard and global best practices to achieve process standardization across BHEL. The Global Business template should have base standardized processes with unit level variances as approved by the Owner. The Owner expects minimum unit level variances so as to achieve the 'ONE-BHEL' objectives.

Subsequent to Global business template creation, the Bidder will do the realization called "Common realization" of base standardized processes with all Unit level variances along with the customizations. The tested "Common realized" processes will then be rolled out to each of the units along with that unit specific variances as per Implementation plan mentioned in **Section 3.3 Implementation Plan**.

Following should be mandatorily factored in the implementation:

- The Engineering Systems like AutoCAD, PDMS, Wrench, etc. & certain legacy systems shall remain & be part of the overall landscape & integrated with 'ONE-BHEL' ERP solution, as per specifications contained in this document.
- Existing SAP-HCM system shall have integration with the proposed 'ONE-BHEL' solution.
- Apart from the benefits, goals & requirements to be delivered by the consortium to the Owner by implementing 'ONE-BHEL' ERP solution, the benefits & business values/goals which Owner's establishments have been deriving from legacy & currently running SAP-ERP business applications, shall continue to be provided as a minimum, with efforts for improvement, through 'ONE-BHEL' ERP solution design and implementation.
- Owner's existing software (**as per Annexure #3**) can be reutilized in 'ONE-BHEL' ERP solution after provisioning for running old data related applications.
- 'ONE-BHEL' implementation shall ensure visibility of data, seamless data movement to achieve integration across inter / intra unit without human intervention, example – components visibility, financial transactions and information, procurement status, project related information i.e. 'ONE-BHEL' ERP solution shall provide an integrated solution across Owner's organization.

- The Global/Common Business Template shall achieve process standardization & unification across Owner's entire organization for achieving the 'ONE-BHEL' objectives for each location & seamlessly across all locations.
- Separate Balance sheet is required for each manufacturing unit, corporate functions, regions, business sectors and derived balance sheet for the Corporate. This shall be finalized at the time of Business Blueprinting.
- Business analytics and web enabled local & Corporate MIRs (Management Information Reports) for all required operational & performance data and for monitoring the local & Corporate KPIs without human interface & "pushing" & "pulling" data from the database.
- To achieve the 'ONE-BHEL' ERP Objectives, standalone applications shall have to be interfaced / integrated with the proposed optimized solution.

The preceding paras above & the other terms of this tender would be part of bidders evaluation.

4 Instructions to Bidders

4.1 Eligible Bidders

For the avoidance of doubt, M/s. PricewaterhouseCoopers (PwC) and any entity affiliated with them who were associated with the preparation of this document shall not participate in any manner with respect to providing goods, works or services directly or indirectly for implementation of the Integrated Solution.

The bidder must submit a certificate of no conflict through authorized signatory confirming that there would be no conflict of interest with BHEL. Bids of any Bidder may be rejected if a conflict of interest between the Bidder and BHEL is detected at any stage. To clarify, conflict of interest may arise from due to multiple reasons including the following:

1. If any competitor of BHEL has stake in Bidder's organization. Competitors will be defined as companies working in the same field as that of the product/project line of BHEL and is working in the same territory as that of BHEL.
2. If the executive management of Bidder is related to executive management of BHEL.
3. If any team members of the Bidder who has worked for any period in this project shall not work with the competitor of BHEL till the expiry of the agreement with BHEL.

No claims / correspondences later or during the bidding process in any form shall be considered from any vendor / bidder who have not participated in owner's bidding process and not submitted its bid as per Tender requirements.

The bidder shall comply with the following mandatory requirements:

- a. The Bidder shall include a letter signed by both the members of the consortium who are bidding jointly expressing their intention to be jointly and severally responsible for the project. In the above arrangement, the ERP OEM vendor's authorized Implementation Partner must be nominated as a Consortium Lead Member and this nomination along with the joint and several liability undertaking between members of such consortium shall be evidenced by submitting an entry into force of a duly stamped agreement of the duly executed Consortium Agreement in accordance with the format placed in **Annexure #25 Consortium Agreement**.
- b. For the purposes of clause a. above, the Bidding Consortium of ERP OEM vendor and its authorized Implementation Partner may associate with any other Third Party Solution Vendor at their end for related IT application / tools etc. if required Provided hereinafter that should such an alliance/collaboration be contemplated, such arrangement and intention should be made known to the Owner through the signed letter mentioned in clause a. above and that such alliance/collaboration if any, shall be duly reflected in the Consortium Agreement mentioned in clause a. above. For the avoidance of doubt, such Consortium Agreement shall warrant and reflect the joint and several liability clauses between all participating entities in the Consortium.
- c. The Lead Member of the Bidding Consortium shall be liable to incur all liabilities and receive instructions for and on behalf of both/all the members of the Bidding Consortium, as the case may be and shall be over-all responsible for delivery of all provisions of the contract till the completion of the contract.
- d. Members of the Bidding Consortium will be jointly and severally responsible, as defined in the Special Conditions of Contract, for the entire Scope of the Contract and to that effect, such joint and several liabilities shall unambiguously be reflected in the Consortium Agreement to the satisfaction of the Owner.

- e. All payment transactions shall be done by the Owner to the members of the Bidding Consortium on certification by the Lead Member of the Bidding Consortium. For the avoidance of doubt, the lead member of the consortium must collect payments on behalf of all consortium members.
- f. Each member of the Bidding Consortium (ERP Product OEM & Implementation Partner) has to individually qualify the Pre-Qualification criteria as specified in the Tender document.

For the avoidance of doubt, the above clauses remain applicable in the event where the ERP OEM vendor chooses to bid as the same entity for both parts.

4.2 Ethical Standard, Good Faith and Fair Dealing

Bidders shall use its best efforts to prepare, file and cause to become effective, as promptly as practicable all obligations under this arrangement and to that effect the Parties aforementioned shall act in utmost good faith at all times and are expected to observe the highest standard of ethics during the procurement and execution of this Contract. In pursuit of this policy, Owner will reject a proposal for award if it determines that the Bidder being considered for award has engaged in any objectionable, corrupt, misleading or fraudulent practices in competing for the Contract.

For the purposes of this provision, the terms set forth below are defined as follows and shall be construed as such:

- i. “corrupt practice” means the offering, giving, receiving, or soliciting of anything of value to influence the action in the procurement process or in Contract execution; and
- ii. “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process including collusive practices designed to establish bid prices at artificial, non-competitive levels to deprive the Owner of the benefits of competition or the active or passive concealment of a fact which may have direct or indirect consequences on the Owner ;
- iii. “Wilful Misconduct” means the commission or omission of conduct/action that has been intended to harm the Owner or cause losses thereof.

For the avoidance of doubt, breach of the above conditions shall be considered to be a breach of the Contract thereby leading to the imposition of penalties as defined in **Annexure #22 Penalty** more particularly over and above the Owner’s right to pursue any/all remedies under common law.

By signing the Bid-form the Bidder represents that for the software it supplies, it is either the owner of the Intellectual Property Rights in the software or that it has proper authorization and/or license from the owner to offer them. Wilful misrepresentation of these facts shall be considered a fraudulent practice without prejudice to other remedies that the Owner may take.

4.3 Language of Bid

The bid prepared by the Bidder and all correspondence and documents related to the bid exchanged by the Bidder and the Owner shall be written in English language, provided that any printed literature furnished by the Bidder may be written in another language, as long as such literature is accompanied by a translation of its pertinent passages in English language, in which case, for purposes of interpretation of the bid, the translation in English shall govern.

4.4 Bid Format & Contents of Bid

The project scope, bidding procedures, Contract terms and technical requirements are prescribed in the Bidding Documents. The Bidder is expected to examine all instructions, forms, terms, specifications and other information in the Bidding Documents. Failure to furnish all information

required by the Bidding Documents or submission of a bid not substantially responsive to the Bidding Documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

Wherever Softcopies are submitted, hardcopy data shall prevail for all purposes.

This tender invites 3(Three) parts bid as listed below:

- a. Pre-Qualification Bid
- b. Techno-Commercial / Un-priced Bid
- c. Price Bid

4.4.1 Envelope 1

The envelope containing the Tender Document fee & Bid Security/ Earnest Money Deposit (EMD) shall be sealed and marked as:

Tender Document fee & Bid Security / Earnest Money Deposit (EMD) for Tender No. M1A1M04216, Dated 4th September 2013 for 'ONE-BHEL' - ERP Project.

The contents of the Envelope 1 must be as follows:

Sl. No.	Content	Format	Remarks
1.	Bid cover sheet including Bid validity	Annexure #7 Bid Cover Sheet	NA
2.	Tender Document Fees – Original DD of INR 20,000/- (INR Twenty Thousand Only), in favour of Bharat Heavy Electricals Limited payable at Hyderabad or Copy of DD (if original DD submitted during pre-bid).		NA
3.	The Earnest Money Deposit (EMD) of INR 2,00,00,000 (INR Two Crore Only)	NA	EMD should be in the form of Pay order or Demand draft issued by a Nationalized bank drawn in favour of 'Bharat Heavy Electricals Limited' payable in Hyderabad

4.4.2 Envelope 2

Hard copy of the Bidder's response to the Pre-Qualification criteria describing the information requested by the Owner in the format as mentioned in the below table.

The response should be a complete document, bound as a volume and placed in separate sealed envelope marked as "**Pre-Qualification Response**".

One Soft copy of the Pre-Qualification Response in word format should also be submitted on a CD/DVD sealed in a separate envelope marked as "**Soft copy of Pre-Qualification Response**".

Envelope 2 will contain above 2 super scribed envelopes and will be marked as:

Pre-Qualification Bid for M1A1M04216, Dated 4th September 2013 for 'ONE-BHEL' - ERP Project.

Note:

1. Envelope 2 should not contain pricing information, in either explicit or implicit form. Any deviations in this regard shall make the proposal as being unresponsive and may lead to disqualification.
2. Each page of the hard copy must be numbered and signed by the authorized signatory of the Bidder.

The contents of the Envelope 2 must be as follows:

Sl. No.	Content	Format	Remarks
1.	Agreement between consortium partners duly executed on non-judicial stamp paper and notarised.	Annexure #25 Consortium Agreement	
2.	Pre-Qualification confirmation to each of the parameters mentioned in Annexure # 9 Pre-Qualification Eligibility Form along with the required supporting documents	Annexure # 9 Pre-Qualification Eligibility Form	If a single Pre-Qualification criterion is not met or document(s) submitted for each Pre-Qualification criterion do not adequately & explicitly prove Bidder's claim, the Bid shall be disqualified.
3.	Board Resolution authorizing participation in tenders of similar classification.		The Board resolution should not be older than 6 months from the date of submission. Failure to provide the valid board resolution document will result in disqualification of Bidder.
4.	Power of Attorney, if applicable, duly executed and notarised.		
5.	Types of Indemnities (duly stamped and notarized), to be provided: <ul style="list-style-type: none"> • General Indemnity for protection of 3rd party claims 		The indemnities could be in the Bidder's format.

Sl. No.	Content	Format	Remarks
	against the Owner • IPR compliance and compliance of law and regulations in force • Compliance of licenses and registration, as applicable • Joint and several liability • Vicarious (can be combined with Joint & several liability)		
6.	No deviation Confirmation	Annexure #11 No Deviation Certificate	

4.4.3 Envelope 3

Hard copy of the Bidder's response to the Techno-Commercial evaluation criteria information requested by the Owner in the format as mentioned in the below table.

Hard copy of Techno-Commercial evaluation criteria should be a complete document, bound as a volume and placed in separate sealed envelope marked as "**Techno-Commercial Response**".

One Soft copy of the Techno-Commercial evaluation criteria in word format should also be submitted on a CD/DVD sealed in a separate envelope marked as "**Soft copy of Techno-Commercial Response**".

Envelope 3 will contain the above defined 2 (two) envelopes and will be marked as:

Techno-Commercial Bid for M1A1M04216, Dated 4th September 2013 for 'ONE-BHEL' - ERP Project.

Note:

- Envelope 3 should not contain pricing information, in either explicit or implicit form. Any deviations in this regard shall make the proposal as being unresponsive and may lead to disqualification.
- Each page of the hard copy must be numbered and signed by the authorized signatory of the Bidder.
- The bidder is expected to provide detailed bill of materials (BOM) for the proposed Integrated Solution as part of techno-commercial proposal without price quote. The Bill of materials/deliverables as given in the technical solution should be in consonance with the Price bid. Any deviations between Techno-Commercial and Price bids shall make the proposal as being unresponsive and may lead to disqualification of the proposal. The Owner reserves the right to take appropriate action in this regard.

The contents of the Envelope 3 must be as follows:

Sl. No.	Content	Format	Remarks
1.	Techno-commercial Bid Covering letter	Annexure #10 Techno-commercial Bid Covering Letter	

Sl. No.	Content	Format	Remarks
2.	No deviation Confirmation	Annexure #11 No Deviation Certificate	
3.	Profile of the Bidder in terms of financials, number of years of service rendered in India, centres in India and abroad and other relevant details	Bidder to enclose document(s).	
4.	Approach & Methodology which the Bidder will adopt during the execution of 'ONE-BHEL' project	Bidder to enclose document(s).	
5.	Schedule of delivery	Annexure #12 Schedule of Delivery	
6.	Resource deployment plan	Annexure #13 Resource Deployment Plan	Mention clearly the resources which will be deployed for minimum resource compliance requirement & those which are over & above the minimum resource compliance requirement
7.	Project Governance & team structure	Bidder to enclose document(s).	
8.	Team composition & detail CV's of each of the proposed team member (Including ERP product Vendor resources)	Annexure #14 Team Profile - CV's	CVs of the Resources which will be deployed for minimum resource compliance requirement & those which are over & above the minimum resource compliance requirement
9.	Declaration that the Bidder will deploy: <ul style="list-style-type: none"> • Minimum resources during the entire duration of the 'ONE BHEL' project as mentioned in Sections 7.6 & 8.2. • Human Resources proposed for the project as mentioned in Annexure #14 Team Profiles – CVs 	Annexure #23 Resource Deployment Declaration	

Sl. No.	Content	Format	Remarks
10.	<p>Citations and references including:</p> <ul style="list-style-type: none"> • Completion certificate from the Customer for each complete implementation OR Self certification along with Purchase Order copy and provide access to the Owner/ PwC for validation by the customer within 7 days of request from the Owner/ PwC. If such access is not provided / available within days stipulated, herein, including response of such customer(s) are inadequate / non-responsive / inexplicit as decided by the Owner, such citations of the Bidder are liable to be rejected. • Annexure # 15 Citations duly filled in with the required details 	Annexure #15 Citations	
11.	Response to Functional requirement specification	Annexure #1 Functional Requirement Specification.	
12.	Response to Technical requirement specification	Annexure #2 Technical Requirement Specification.	

Sl. No.	Content	Format	Remarks
13.	Un-Priced Bid	<p>Following Annexures without price:</p> <ul style="list-style-type: none"> • Total Cost Annexure #16 • License cost Annexure #17 ((17.1 OR 17.2) and 17.3) • Implementation cost (Annexure #20) • Man-power cost for Implementation Partner (Annexure # 18.1) • Man-power cost for Solution Expert Consulting Services (Annexure # 18.2) • Training Cost (Annexure #19) 	Against each item in Un-price bid format, the bidder should write "QUOTED".
14.	License Price as Percentage (%) to Total Price	<p>Annexure #30</p> <p>License Price Percentage</p>	
15.	Bidder's plan to address the key challenges anticipated during the execution of the project.	Bidder to enclose document(s).	
16.	Signed copy of the tender document and any addenda released after the release of the tender document		

4.4.4 Envelope 4

Hard copy of the Price Bid describing the information requested by Owner in the format as mentioned in the below table and placed in sealed envelope marked as

Price Bid for M1A1M04216, Dated 4th September 2013 for 'ONE-BHEL' - ERP Project.

Note:

1. All pages of the Bid must be numbered and signed by authorized signatory.

The contents of the Envelope 4 must be as follows:

Sl. No.	Content	Format	Remarks
1.	Price Bid	<ul style="list-style-type: none"> • Total Cost Annexure # 16 	

Sl. No.	Content	Format	Remarks
		<ul style="list-style-type: none"> • License cost Annexure #17 ((17.1 OR 17.2) and 17.3) • Implementation cost (Annexure #20) • Man-power cost for Implementation Partner (Annexure # 18.1) • Man-power cost for Solution Expert Consulting Services (Annexure # 18.2) • Training cost (Annexure #19) 	

4.4.5 Envelope 5

All the above 4 envelopes along with the proposal letter should be put in envelope 5 which shall be properly sealed and marked as:

Bid for M1A1M04216, Dated 4th September 2013 for 'ONE-BHEL' - ERP Project.

Last Date of Submission 29th October 2013, 11:00 Hrs.

Submitted by:

The contents of the Envelope 5 must be as follows:

Sl. No.	Content	Format	Remarks
1.	Envelope 1	Section 4.4.1	
2.	Envelope 2	Section 4.4.2	
3.	Envelope 3	Section 4.4.3	
4.	Envelope 4	Section 4.4.4	

4.5 Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of the Bid and Owner will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

4.6 Bid Currency

All figures mentioned under the commercial bid should be in Indian National Rupee (INR). Commercial proposals in any currency other than INR would be considered non-responsive and hence rejected.

4.7 Bid Price

Price Bid shall be as per the format given from **Annexure #16** to **Annexure #20**. Bidders shall give the required details of all applicable taxes, duties, other levies and charges etc. in respect of direct transaction between the Owner and the Bidder.

Bidders shall quote for the entire scope of contract on a “overall responsibility” basis such that the total bid price covers all the Bidder’s obligations mentioned in or to be reasonably inferred from the bidding documents in respect of providing the product / services. This includes all requirements under the Bidder’s responsibilities for successful completion of the Integrated Solution implementation as per scope of work and, where so required by the bidding documents, the acquisition of all permits, approvals and licenses, etc. and such other items and services as may be specified in the bidding documents, all in accordance with the requirements of the General and Special Conditions of Contract

Prices quoted by the Bidder shall remain firm during the entire contract period and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

4.8 Bid Validity Period

Bid shall remain valid up to 180 (One Hundred & Eighty) days from the actual date of opening of Techno Commercial / Un-Priced Bids. Withdrawal of quotation by the bidder, at any stage after its submission, may entail appropriate action including forfeiture of EMD.

In exceptional circumstances, the Owner may solicit the Bidders’ consent to an extension of the bid validity period. The request and responses thereto shall be made in writing or by email. If a Bidder accepts to prolong the period of validity, the bid security shall also be suitably extended.

4.9 Earnest Money Deposit (EMD)

One time EMD of INR 2,00,00,000 (INR Two Crore Only) is to be submitted by each bidder in the form of Pay order or Demand draft issued by a Nationalized bank drawn in favour of ‘Bharat Heavy Electricals Limited’ and be payable in Hyderabad. EMD may be forfeited under following conditions:

- a. After opening of bid, the bidder revokes his bid within the validity period or increases his earlier quoted rates.
- b. Non-faithful performance, including but not limited to delayed and non-qualitative/ inadequate response, in the opinion of the Owner in the bidding process until order is placed.
- c. The Bidder not abiding by **Section 5.7** w.r.t to failure to accept the issued PO within a maximum of 7 Calendar days along with the submission of Security Deposit.

EMD will only be refunded upon presentation of a valid bank guarantee to the Owner by the Successful Bidder and receipt of balance security.

EMD given by all unsuccessful bidders shall be refunded within 15 days of acceptance of award of work by the successful bidder on production of Original Cash receipt along with claim.

EMD shall not carry any interest. In case of any delay in refund due to any reason, Owner shall not pay any interest on delayed refund.

EMD shall remain valid as per clause 4.8 above.

4.10 Bidder queries

4.10.1 Pre-Bid Clarifications / Amendments

Owner may at its sole discretion amend the RFP document exclusively through a corrigendum published on the Owner’s website at any time prior to the deadline for submission of bids. However in case of any such amendment, the bid submission date may be extended at the discretion of the Owner.

Any modifications of the Bidding Documents, which may become necessary as a result of the Pre-Bid Conference, shall be made by the Owner exclusively through a corrigendum published on the Owner's website. However in case of any such amendment, the bid submission date may be extended at the discretion of the Owner

Any corrigendum / notification issued by the Owner, subsequent to issue of RFP, shall only be available / hosted on the Owner's website (www.bhel.com).

Bidders requiring any clarification on the Bidding Documents may notify the Owner in writing or by email at the Owner's mailing address given in Tender Information Page (page no. 2 & 3 of this RFP document). The Owner will respond during Pre-bid Conference to any request for clarification or modification of the bidding documents. If deemed fit, written copies of the Owner's response (including an explanation of the query but not identification of its source) will be sent after Pre-bid Conference to all prospective Bidders that have participated in Pre-Bid meeting.

The Bidder is advised to visit and examine the sites where the Services are to be provided and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a Contract for providing the Services / Facilities. The cost of visiting the sites shall be at the Bidder's own expense. The purpose of this exercise is for the Bidder to fully inform & acquaint himself with all aspects & it's likely impacts (technical, financial, logistics, environmental, etc.) for delivering successfully the 'ONE-BHEL' ERP solution. No claims, of any nature on such accounts shall be entertained by Owner. The Bidder (along with the details of visiting Personnel) may request to visit the owner's sites in writing or by email at the Owner's mailing address given in Tender Information Page (page no. 2 & 3 of this RFP document). After owner's acceptance for the visit, the provision for Bidder to visit Owner's site, as requested by the Bidder, shall be arranged appropriately. Owner reserves the right to share only relevant information with the visiting Bidders.

The purpose of this exercise is to clarify any issues regarding the Bidding Documents in general and the Scope of Work in particular.

The Bidder is requested to submit questions in writing or by email as per **Annexure #6 Template for Pre-Bid Queries** to reach the Owner, not later than fifteen (15) days from the date of publication of the tender.

All clarifications sought by prospective Bidders as pre-bid clarifications shall be accompanied by a Demand Draft of INR 20,000 towards tender document cost. Only those vendors who submit the copy will only be entertained for replies towards pre-bid queries. The Bidder shall submit the original DD along with the main tender submitted on or before the due date.

Non-attendance at the Pre-Bid Conference will not be a cause for disqualification of a Bidder.

Any effort of the Bidder to influence the Owner in its decision in respect of evaluation of the Bid or award of the contract shall result in the rejection of the Bid and forfeiture of the EMD. During the Bid preparation process, Bidders will focus their inquiries and communications, if any, to ONLY the authorized designated contact person of the Owner.

4.11 Security Deposit (SD)

Security deposit amount of Rs.4,00,000 (INR Four lacs only) plus 5% of the amount by which the order value exceeds Rs.50 lacs shall be submitted by the successful bidder before start of the work. Non-submission in time of SD for value stated herein shall lead to forfeiture of EMD and cancellation of Order.

Security deposit shall be furnished in any of the following forms:

- i. Pay order in favour of BHEL.
 - ii. Demand draft in favour of BHEL.
 - iii. Local cheques of scheduled banks, subject to its realization.
 - iv. Bank Guarantee shall be from Nationalised banks / public financial institutions as per the **Annexure #8 Bank Guarantee Format**
 - v. Original Fixed deposit receipt (FDR) issued by scheduled banks / public financial institutions as defined in the Companies Act. The FDR should be in the name of successful bidder, A/c BHEL, duly discharged on the back
- Acceptance of security deposit against serial 4.11-iv and 4.11-v will be subject to hypothecation or endorsement on the documents in favour of the Owner. However, Owner will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected there with. Security deposit shall not be refunded to the Successful bidder except in accordance with the terms of the Contract i.e. upon successful completion of the Contract.
 - EMD of the successful bidder may be converted and adjusted against the Security Deposit.
 - The security deposit shall not carry any interest.
 - The Owner reserves the right to forfeit the Security Deposit under following circumstances:
 - a. In the event that the successful Bidder fails to sign the Final Contract Agreement within a maximum of 15 calendar days from the date of issue of draft agreement.

4.12 Contract Performance Bond

- The Bidder shall at its own expense provide the Owner with a Contract performance bond as per **Annexure #26** issued by a first class bank in India in the form of 5 (five) % of total contract price and valid till Contract completion period or extended period, if any.
- The Contract performance bond shall be submitted and come into effect within fifteen (15) days from the date of Owner's purchase order. In no event shall the Owner be obliged to make any payments to the Bidder under the Contract before having received the duly signed Contract performance bond & Security deposit.
- The Bidder shall, at the Owner's request, ensure that the Contract performance bond is amended periodically to reflect any approved variations or extension of the Completion Date and shall submit the revised original of such document to the Owner within Ten (10) days of Owner's instruction. All costs in amending such documents shall be for the Bidder's account.
- The Owner shall have the right, without limitation, to call the performance bond for any non-compliance with the terms of the Contract which the Bidder fails to remedy within the period stated in the notice issued by the Owner advising the Bidder to remedy the non-compliance.

4.13 Interest Liability

In case of any delay in payment due to any reason, Owner shall not pay any interest on delayed payment.

4.14 Duty of Due Diligence

For the purposes of the procurement and execution of this Contract, the Bidder does hereby accept, covenant and acknowledge its duty at all times to ensure the highest degree of care and competence in execution of the Contracts in question and hereby acknowledges its inherent duty of due diligence in all its acts/commissions and/or omissions at all times.

For the purposes of this provision, such duty of due diligence shall continue and extend jointly and severally amongst its consortium partners.

Wilful Negligence: For the purposes of this clause, wilful negligence shall be defined as any act/omission necessary for the completion of the objectives of the works which has been known to the bidder/ Implementer by virtue of his proficiency in this field but has been omitted/committed by his negligence with an intention to deceive and/or cause hindrance to the smooth functioning of the objectives herein. Wilful negligence and negligence in general, arising out of the Bidder's obligation of due diligence towards the Owner shall amount to a breach under this contract, the difference between the two being only that while the former shall attract penalties as defined in **Annexure #22 Penalty** of the contract, the latter shall amount to a breach under tort not necessarily attracting consequential damages.

4.15 Tender Cancellation

The owner reserves the right to cancel this tender at any time after publication & before award without assigning any reasons whatsoever & without any financial implication to the Owner. The EMD for bids submitted shall be returned to respective Bidders.

5 Selection Process

5.1 Opening of Bids

- Envelope 1 and Envelope 2 of the tender will be opened on the same day or the day appointed for the same by the Owner. Bidder's authorized representative may attend the Bid opening meeting and shall sign in a register/document prepared by the Owner, as proof of his attendance. Envelope 3 & 4 will not be opened by the Owner on the same day. The offer received without Tender Document fee and EMD are liable for rejection.
- Bidder's names, bids received, the presence of any alternative bids, the presence of requisite bid security and other such details will be announced by the Owner at the opening. Late bids are liable to be rejected.
- The Owner will open the Envelope 3 of only those Bidders who qualify in the Pre-Qualification evaluation given in **Section 5.4 Prequalification Criteria**. The date, time, and place for opening the Envelope 3 will be communicated to the qualified bidders. Bidder's authorized representative may attend the Bid opening meeting.
- The Owner will open the Envelope 4 at a later date. The date, time, and place for conducting the Reverse Auction (RA)/ opening of Price Bid will be communicated to the qualified bidders. Bidder's authorized representative may attend the Bid opening meeting. In the event RA is proposed, business rules applicable for 'No English Tie' will be communicated to all qualified Bidders.

5.2 Preliminary Examinations of Bids

- The Owner will examine the bids to determine whether they are complete, whether the documents have been properly signed and whether the bids are generally in order. Any bids found to be non-responsive for any reason or not meeting any criteria specified in the Bidding Documents will be rejected by the Owner and shall not be included for further consideration.
- Prior to the detailed evaluation, the Owner will determine whether each bid is complete, and is substantially responsive to the Bidding Documents. For the purposes of this determination, a substantially responsive bid is one that conforms to all the terms, conditions, and specifications of the Bidding Documents without material deviations, exceptions, objections, conditionality or reservations. A material deviation, exception, objection, conditionality, or reservation is:

- a) One that limits in any substantial way the scope, quality, or performance of the desired system; or
 - b) one that limits, in any substantial way that is inconsistent with the Bidding Documents, the Owner rights or the successful Bidder's obligations under the Contract; and
 - c) One that the acceptance of which would unfairly affect the competitive position of other Bidders who have submitted substantially responsive bids.
- In particular, bids with deviations from, objections to or reservations about critical provisions such as those concerning Bid Security, Governing Law, Taxes and Duties, Defect Liability, Maintenance period, Patent Indemnity or Limitation of Liability, that the Bidder is not prepared to withdraw, will be treated as non-responsive. The Owner determination of a bid's responsiveness will be based on the contents of the bid itself without recourse to extrinsic evidence.

5.3 Clarification on Bids

During the bid evaluation, the Owner may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the price or substance of the bid shall be sought, offered, or permitted.

5.4 Pre-Qualification Criteria

5.4.1 ERP Product Vendor

Each of the Qualifying condition mentioned below is MANDATORY. In case any of the conditions listed below is not met, the bidder will be disqualified.

S. No.	Parameter	Mandatory Qualification Description	Evidence
<u>Financial</u>			
1.	Global Annual Financial Turnover	The ERP Product Vendor must have Global Annual turnover of atleast INR 2000 Crores per year for 2 years out of the last 3 years. The company should be profit making for at least 2 years out of the last 3 years.	Audited financial statements for the last three financial years.
2.	Indian Annual Financial Turnover	The ERP Product Vendor must have Annual turnover from Indian Business of atleast INR 400 Crores per year out of which INR 80 Crores per year should be from ERP Business for atleast 2 years out of the last 3 years. The company should be profit making for atleast for 2 years out of the last 3 years.	Audited financial statements for the last three financial years. Auditor's Certificate of the Turnover of ERP License.
<u>Experience</u>			
3.	Globally Accepted ERP Product	The offered ERP product should have been implemented in 5 different countries in last 7 years. This should be 5 independent installations (for different clients) with at least 1000 licenses in each installation.	Purchase Order / Work Order / Completion certificate for each implementation
4.	Implementation in related industry globally	The offered ERP product should have been implemented for at least 3 operational global application customers in heavy equipment Engineering and Manufacturing sectors with at least 500 licenses in each installation.	Purchase Order / Work Order / Completion certificate for each implementation
5.	Implementation in Engineer To Order	The offered ERP product should have been implemented for at least 1 operational application customer in ETO type of Industry in India.	Purchase Order / Work Order / Completion certificate for each

S. No.	Parameter	Mandatory Qualification Description	Evidence
	(ETO) type of Industry in India		implementation
6.	Implementation in Engineering, Procurement & Construction (EPC) Industry in India	The offered ERP product should have been implemented for at least 1 operational application customer in EPC type of Industry in India.	Purchase Order / Work Order / Completion certificate for each implementation
7.	Implementation experience in India	The offered ERP Product should have at least 10 installations in India with at least 500 licenses in each installation in last 7 years.	Purchase Order / Work Order / Completion certificate for each implementation
8.	Experience in Indian PSU	The offered ERP product should have been implemented for at least 1 Indian Public sector customer / Government department with licenses greater than 500 each in a single implementation.	Purchase Order / Work Order / Completion certificate for each implementation
Technical			
9.	India specific Tax Compliance	The offered ERP product must meet Indian tax requirement and also capable of incorporating future changes	Provide self-certificate stating how the product will incorporate future changes, as & when applicable
10.	Integration Capability	The offered ERP product should be capable of integrating with the following - <ul style="list-style-type: none"> • Auto CAD • Engineering automation & Product Life Cycle management software • SAP-HCM 	Provide the list of PLM software which can be integrated with the Offered ERP product. Provide the list of Customers where Offered ERP product is integrated with SAP-HCM.

S. No.	Parameter	Mandatory Qualification Description	Evidence
Others			
11.	Registration In India	The company should have registered office in India	Registration certificate
12.	Research & Development centre in India	The company should have at least one Research & Development centre for offered ERP product in India from last 3 years as on 31st March 2013 and with minimum 500 employees.	Provide self-certificate containing the address of the Research & Development Centre
13.	Product Partners	The offered ERP product should have at least 5 certified implementation partners in India.	Provide self-certificate along with Implementation Partner names
14.	Training Centres	The company should have its own training centre in India with minimum capacity of 50 participants per batch.	Provide self-certificate with location and address.
15.	Client Satisfaction	The offered ERP Product Vendor should not have been black listed by PSU, Govt. of India and / or have past & on-going legal cases with such entities.	Provide self-certificate from company's authorized signatory
16.	J&S Responsibility	The offered ERP Product Vendor must be Jointly and Severally responsible for the Successful implementation of the project.	Duly Executed Consortium Agreement on Non-judicial stamp paper, notarized and Letter from authorized signatory in ERP Product Vendor organization confirming J&S responsibility.

Note:

- 1) *Technical upgrades and rollouts would not be considered.*
- 2) *All self-certificates must be signed by the Authorized signatory, unless specified otherwise.*
- 3) *The Self-service licenses & low end licenses like partners, reports, view only etc. will not be considered.*
- 4) *Definition in Section 2 to be referred for words used in table(s) above.*

5.4.2 Implementation Partner

Each of the Qualifying condition mentioned below for the ERP Product OEM's authorized Implementation Partner and for the offered ERP Product is MANDATORY. In case any of the conditions listed below is not met, the bidder will be disqualified.

Sl. No.	Parameter	Mandatory Qualification Description	Evidence
<u>Financial</u>			
1	Global Annual Financial Turnover	The Implementation Partner should have Global Annual turnover of more than INR 2000 Crores per year out of which INR 400 Crores per year should be from offered ERP product Implementation Business at least for 2 years out of the last 3 years. The Company should be profit making at least for 2 years out of the last 3 years.	Audited financial statements for the last three financial years. Auditor's Certificate of the Turnover of offered ERP Licenses.
2	Indian Annual Financial Turnover	The Implementation Partner should have annual turnover from Indian Operations of more than INR 500 Crores per year out of which INR 100 Crores per year should be from offered ERP product Implementation Business at least for 2 years out of the last 3 years. The company should be profit making at least for 2 years out of the last 3 years.	Audited financial statements for the last three financial years. Auditor's Certificate of the Turnover of offered ERP Licenses.
<u>Experience</u>			
3	Global Implementation	The Implementation Partner must have implemented offered ERP product for at least 3 operational global customers with at least one of those implementation having	<ul style="list-style-type: none">• Completion certificate from the Customer for each complete implementation OR Self certification with access to the Owner/ PwC for

Sl. No.	Parameter	Mandatory Qualification Description	Evidence
	Experience	minimum 5000 licenses.	<p>validation from the customer within 7 days of request from the Owner/ PwC. In case such timely access is not available & or customers are either non-responsive or give inadequate response, as decided by the Owner, such claims of Bidder shall be rejected.</p> <ul style="list-style-type: none"> • Annexure #15 Citations duly filled in with the required details
4	Implementation of ERP Functions	<p>The Implementation Partner must have implemented offered ERP product which covers the following functions in a single implementation:</p> <p>Sales, Marketing & Dispatch, Project Management, Material Management, Production Management, Financial Management & costing, Engineering, Quality & Plant Maintenance.</p>	<ul style="list-style-type: none"> • Completion certificate from the Customer for each complete implementation OR Self certification with access to the Owner/ PwC for validation from the customer within 7 days of request from the Owner/ PwC. In case such timely access is not available & or customers are either non-responsive or give inadequate response, as decided by the Owner, such claims of Bidder shall be rejected. • Annexure #15 Citations duly filled in with the required details
5	Implementation in manufacturing industry	<p>The Implementation Partner must have implemented offered ERP product in at least 1 company in heavy equipments engineering & manufacturing sector with atleast 500 licenses.</p>	<ul style="list-style-type: none"> • Completion certificate from the Customer for each complete implementation OR Self certification with access to the Owner/ PwC for validation from the customer within 7 days of request from the Owner/ PwC. In case such timely access is not available & or customers are either non-responsive or give inadequate response, as decided by the Owner, such claims of Bidder shall be rejected. • Annexure #15 Citations duly filled in with the required details

Sl. No.	Parameter	Mandatory Qualification Description	Evidence
6	Implementation in EPC industry	The Implementation Partner must have implemented the offered ERP product in at least 2 companies in Engineering, Procurement and Construction (EPC) industry with atleast 500 license in each installation.	<ul style="list-style-type: none"> • Completion certificate from the Customer for each complete implementation OR Self certification with access to the Owner/ PwC for validation from the customer within 7 days of request from the Owner/ PwC. In case such timely access is not available & or customers are either non-responsive or give inadequate response, as decided by the Owner, such claims of Bidder shall be rejected. • Annexure # 15 Citations duly filled in with the required details
7	Current implementation experience	The Implementation Partner must have implemented offered ERP product for at least ten customers in last 5 years with at least 500 licenses in each implementation.	<ul style="list-style-type: none"> • Completion certificate from the Customer for each complete implementation OR Self certification with access to the Owner/ PwC for validation from the customer within 7 days of request from the Owner/ PwC. In case such timely access is not available & or customers are either non-responsive or give inadequate response, as decided by the Owner, such claims of Bidder shall be rejected. • Annexure #15 Citations duly filled in with the required details
8	Indian PSU experience	The Implementation Partner must have worked with the Indian Government / Indian PSU for a Software project value not less than INR 60 Crores.	<ul style="list-style-type: none"> • Completion certificate from the Customer for each complete implementation OR Self certification with access to the Owner/ PwC for validation from the customer within 7 days of request from the Owner/ PwC. In case such timely access is not available & or customers are either non-responsive or give inadequate response, as decided by the Owner, such claims of Bidder shall be rejected. • Annexure #15 Citations duly filled in with the

Sl. No.	Parameter	Mandatory Qualification Description	Evidence
			required details
9	Large implementation Experience	The Implementation Partner must have executed at least 1 offered ERP product implementation project in India with at least 1000 licenses.	<ul style="list-style-type: none"> Completion certificate from the Customer for each complete implementation OR Self certification with access to the Owner/ PwC for validation from the customer within 7 days of request from the Owner/ PwC. In case such timely access is not available & or customers are either non-responsive or give inadequate response, as decided by the Owner, such claims of Bidder shall be rejected. Annexure #15 Citations duly filled in with the required details
10	Multi location Implementation Experience	The Implementation Partner must have implemented offered ERP product in at least 1 company with multiple locations (minimum 5 locations).	<ul style="list-style-type: none"> Completion certificate from the Customer for each complete implementation OR Self certification with access to the Owner/ PwC for validation from the customer within 7 days of request from the Owner/ PwC. In case such timely access is not available & or customers are either non-responsive or give inadequate response, as decided by the Owner, such claims of Bidder shall be rejected. Annexure #15 Citations duly filled in with the required details
11	Project Value	The Implementation Partner must have implemented offered ERP product during the last 7 years worth: At least 3 jobs with each worth over INR 25 Crores Or At least 2 jobs with each worth INR 30 Crores	<ul style="list-style-type: none"> Completion certificate from the Customer for each complete implementation OR Self certification with access to the Owner/ PwC for validation from the customer within 7 days of request from the Owner/ PwC. In case such timely access is not available & or customers are either non-responsive or give inadequate

Sl. No.	Parameter	Mandatory Qualification Description	Evidence
		Or At least 1 job worth INR 60 Crores	response, as decided by the Owner, such claims of Bidder shall be rejected. <ul style="list-style-type: none"> • Annexure # 15 Citations duly filled in with the required details
<u>Others</u>			
12	Quality Certifications	The Implementation Partner must have following valid certificates for last one year: <ul style="list-style-type: none"> • Level 5 SEI CMMi • ISO 9001:2008 certification • ISO 27001/27002 certification/ IB clearance 	Provide copy of certificate
13	Support Centre/ Centre of Excellence	The Implementation Partner must have a 24 x 7 support center / Centre of Excellence for offered ERP product in India from last 3 years as on 31st March 2013 and with minimum 200 employees.	Provide self-certificate containing the address of the Support Centre
14	Trained consultants	The Implementation Partner must have at least 300 full time consultants of the offered ERP product on its current payroll in India with experience on implementation of all the major modules out of which at least 50 consultants must be certified on & by offered ERP product.	Provide self-certificate from company's authorized signatory
15	Product partnership	The Implementation Partner must have an existing implementation partnership with the offered ERP product for a period of at least last 5 years & it should be currently active as well.	Recognition status by ERP Product OEM clearly stating the Category and number of years the partnership is active

Sl. No.	Parameter	Mandatory Qualification Description	Evidence
16	Client Satisfaction	The Bidder Company should not have been black listed by PSU, Govt. of India and / or have past & on-going legal cases with such entities.	Provide self-certificate from company's authorized signatory
17	J&S Responsibility	The Implementation Partner & offered ERP product OEM must be Jointly and Severally responsible for the Successful implementation of the project.	Duly Executed Consortium Agreement on Non-judicial stamp paper, notarized and Letter from authorized signatory in Implementation Partner Organization confirming J & S responsibility.

Note:

- 1) *Technical upgrades and rollouts would not be considered.*
- 2) *All self-certificates must be signed by the Authorized signatory, unless specified otherwise.*
- 3) *The Self-service licenses & low end licenses like partners, reports, view only etc. will not be considered.*
- 4) *Definition in Section 2 to be referred for words used in table(s) above*

5.5 Evaluation Process

The evaluation for 'ONE-BHEL' project will be a 3-Step process, as elaborated below:

5.5.1 Step 1

Owner shall open the envelope marked as **Tender Document fee & Bid Security/ Earnest Money Deposit (EMD) for M1A1M04216, Dated 4th September 2013 for 'ONE-BHEL' - ERP Project.**

If the contents of the Envelope 1 are as per requirements, the owner shall open the envelope marked as **Pre-Qualification Bid for M1A1M04216, Dated 4th September 2013 for 'ONE-BHEL' – ERP Project.** Each of the Pre-Qualification condition mentioned in the **Section 5.4 Prequalification Criteria** is MANDATORY. In case a Bidder/ERP Product OEM does not meet any one of the conditions, the bidder will be disqualified.

Pursuant to the successful qualification on the Pre-Qualification criteria as mentioned in **Section 5.4 Prequalification Criteria**, the Bidders will be short-listed for the Techno-Commercial Bid evaluation.

Bidders would be informed of their qualification/disqualification based on the Pre-Qualification criteria through Email and Phone. The Bid Security amount and the Unopened Techno-Commercial and Price Bid will be returned to the respective unsuccessful Bidders after the award of the contract to the successful Bidder.

The bidders qualifying in the Pre-Qualification criteria will be provided the Proof of Concept (POC) document along with the schedule for demonstration of POC. The Bidder would be required to carry out a demonstration of Proof of Concept (POC) of the proposed ERP application to meet the requirement of the Owner, as defined in this RFP document on a no cost no commitment basis. This POC will be on live demo system.

Note: The evaluation team may seek written clarifications from the Bidders on the Pre-Qualification Evaluation Bid / hold discussions with the Bidders during the evaluation process. The primary purpose of clarifications in the evaluation process is to clarify ambiguities and uncertainties arising out of the evaluation of the bid documents. Written clarifications provide the opportunity for the committee to state its requirements clearly and for the Bidder to more clearly state its proposal. The committee may seek inputs from their professional and technical faculties & Programme Management Consultant – M/s. PricewaterhouseCoopers Private Limited (PwC) in the evaluation process.

5.5.2 Step 2

Owner shall open the envelope marked as **Techno-Commercial Bid** of only those Bidders who have successfully qualified Step 1.

The Bidder's Techno-Commercial Bid will be evaluated and a score will be assigned to each Bidder as mentioned in **Annexure #5 Technical Evaluation Methodology.**

The Technical evaluation methodology is based on the following evaluation criteria:

Sl. No.	Evaluation Criteria
1	Functional Requirement Specifications (FRS)
2	Technical Requirement Specifications (TRS)
3	Client Citations
4	Proposed Solution
5	Project Implementation approach & methodologies
6	Proof of concept (POC)

The Bidder should qualify in each of the evaluation criteria (as in **Annexure #5**) and overall score of atleast **80 percentile** to qualify for the next stage of evaluation.

Note: Owner's evaluation team may seek written clarifications from the Bidders / hold discussions with the Bidders on the Technical Bid during the evaluation process. The Bidder must provide the response in the specified time. The primary function of clarifications in the evaluation process is to clarify ambiguities and uncertainties arising out of the evaluation of the bid documents. Written clarifications, subject to not making changes to the RFP, provide the opportunity for the team to state its requirements clearly and for the Bidder to more clearly state its proposal. Owner's team may seek inputs from their professional and technical faculties & Programme Management Consultant – M/s. PricewaterhouseCoopers Private Limited (PwC) in the evaluation process.

5.5.3 Step 3

All technically qualified bidders (as per Step 2) will have to submit an undertaking for "Acceptance of Technical Evaluation done by the Owner".

Any extension of bid validity as desired by the Owner shall be provided by the technically qualified bidders (as per Step 2).

The technically qualified Bidders (as per Step 2) will participate in the reverse auction/conventional price bid opening process, as the case may be, as per Owner's decision.

In case of Reverse auction, Owner will inform all qualified Bidders about Reverse Auction & the multiplication factor applicable to that bidder in order to arrive at destination cost or Cost to the Owner. The successful bid in the reverse auction will be the one with lowest destination cost or cost to the Owner. Owner reserves the right to negotiate with the lowest bidder.

5.6 Notification of Award

Owner will notify the successful Bidder in writing by e-mail followed by registered letter or by fax, to be confirmed by the Bidder in writing by email followed by registered letter or by fax.

5.7 Signing of Contract

After the Owner notifies the successful Bidder that its bid has been accepted (through issuance of a Purchase Order), the Bidder shall sign and return back to the Owner duplicate copy of the Purchase Order as an acceptance of the PO within 7 working days along with Security Deposit (SD) & Bank Guarantee (BG). Thereafter, the Owner shall issue the draft contract agreement within 15 days of acceptance of Purchase Order along with submission of SD & BG by the Bidder. The Contract agreement between the Owner & Bidder shall be signed in the next 15 days.

5.8 Amendments and Variations to Contract

5.8.1 Instructions for Alterations/ Deletions

1. The Owner shall, at its sole discretion, be entitled to instruct any alteration, suspension, cancellation or deletion to the form, scope, specification, quality or quantity of the Work/Project.
2. The Owner shall, at its sole discretion, be entitled to instruct in writing any variation to the scope of Contract, subject to 10 percent (%) of the total contract price, though without extension of the Contract Period apart from the other terms of the Contract remaining unchanged. However, this does not entitle the Bidder to claim any variations under any reason whatsoever.
3. Upon issue of such written instructions, the Bidder, while taking up the execution of such instructions (without delay and immediately), shall also submit, within 10 (ten) days to the Owner, variation to costs arising out of such instructions, detailing direct manpower requirements (including but not limited to type and number of days of engagement for such instructions) and direct supplies (including but not limited to type and number of licenses) impacted and claimed.
4. For the avoidance of doubt, no indirect, overhead and/or consequential costs can be claimed as payable by the Bidder.
5. The per-unit manpower and licenses price quoted & approved by the Owner at pre-award stage and, the actual quantity as per specifications and actual time period utilized, as certified by Owner, shall constitute the basis of financial evaluation of cost. Bidder shall quote the price for additional manpower as per **Annexure #18.1**.
6. Actual payment shall be effected by the Owner based on Section 5.8.1(5) above.

5.8.2 Confirmation of verbal instructions

For the purposes of this section/Article all Instructions contemplated herein should be issued in writing. However, if the Owner considers it necessary to issue an Instruction verbally the Bidder shall immediately comply with such verbal request. Where the Owner confirms a verbal request in writing, either before or after carrying out of the Service, this shall be deemed an Instruction. If the Owner does not confirm such a verbal request in writing within seven (7) days then the Bidder shall so confirm within a period of seven (7) further days and shall obtain the Owner's written agreement which shall be deemed an Instruction. No claims shall be made by Bidder & entertained by Owner if the Owner does not confirm in writing such approval within above 7(seven) days.

5.8.3 Amendment/Variations

1. Once the effect of an Instruction or series of Instructions has been evaluated and agreed then they shall be summarized and issued in an Amendment/ Variation to Contract document delineating full details of the Value and effect on the Contract duration if any.

2. Amendments/Variations to Contract agreed by both parties in accordance with this section shall be the only valid manner of amending the Scope of Services and/or any other document or provision of the Contract, if any. For the avoidance of doubt, nothing contained in this section shall confer upon the Bidder, a right to initiate an Amendment/Variation to the Contract/Work.

5.8.4 Valuation of the Work

The alterations to the Work shall be finally valued by the Owner after consultation with the Bidder in accordance with the following principles:

- a) There shall be no variation in the Contract Price at any time. In the event of direct costs incurred due to amendment or variation of the Contract, the manner of payments as described in clause 5.8.1 (3) above.
- b) if in the opinion of the Owner such direct costs incurred as applicable require to be valued on a day work basis, which shall only be in circumstances where the method of payment specified in the Contract does not apply to such alteration, then a written order shall be issued. In respect of all such Work payable on a day-work basis the Owner and the Bidder shall comply with clause 5.8.1 above; and
- c) the value of any Instruction entailing direct costs, shall not include the costs incurred by the Bidder in administering, compiling or otherwise establishing the validity, or content of the instruction being valued. These costs shall be deemed included within the Contract Price and rates.

5.9 Order of Precedence

5.9.1 Pre-Award Stage

In the event of a conflict and/or contradiction of the terms contained herein, this RFP and terms and conditions along with its Annexures, Amendments (if any), Bidder's Clarifications (if any) and any other document/s in writing by the Owner shall prevail.

Notwithstanding that for the above purposes, in the event there arises a contradiction between the RFP terms and its annexures, the RFP shall always prevail.

5.9.2 Post Award Stage

Upon successful signing of the Contract arising out of the present RFP/ Tender No. **M1A1M04216**, **Dated 4th September 2013** between the Parties, the Contract entered into between the Owner and the Successful Bidder/s along with its Annexures and Schedules (if any) shall prevail and supersede all communications previously executed and shall constitute the supreme governing document of this Project at all times.

Notwithstanding that in the event of contradiction between the Contract and its Annexures/Schedules etc. (if any), the Contract document shall forever prevail.

6 Roles & Responsibilities

A clear definition of the roles and responsibilities of all the stakeholders in a project establishes transparency, accountability, manageability and efficiency in the project. The sections following summarize the roles and responsibilities of relevant stakeholders.

6.1 Responsibilities of the Owner

As owner of the Project, the role of the Owner in the successful implementation of project includes discharging the following responsibilities:

1. Mobilize appropriate personnel from the Owner and constituent organizations (other than those by bidder which forms part of bidder's own obligations) in the project team. Provided hereinafter that the tangible requirements and timelines of such mobilisations shall be given by the Bidder adequately and with sufficient time prior to its intended utilization.
2. Facilitate the training programs (preferably at Owner's premises) when conducted in the Owner's premises by the bidder and other agencies to the extent of providing the venue for training, projection/viewing of training material. For the avoidance of doubt, the entire training material with distribution to all participants in hard copy and soft copy, travel costs, local logistics, boarding and lodging/ accommodation costs of the Bidder shall be borne by the Bidder. If training venues are organised at other than Owner's premises, the bidder shall make and bear all costs for successfully imparting training except logistics, boarding and lodging costs which would be borne by the Owner. However, the bidder shall facilitate all logistic, boarding and lodging arrangements.
3. Issuing of, circulars, instructions, etc., to intimate relevant changes to existing roles and responsibilities of employees, to the extent of their relevance and applicability to the Bidder/vendor (in the opinion of the Owner), and the general adaptation to approved reengineered processes, provided adequate and qualitative works are ensured by the Bidder through trained personnel to suit the specific requirements of the 'ONE-BHEL' Integrated solution and Owner's employees in order to ensure comprehension of new processes of Owner's personnel. For the avoidance of doubt, the duty to ensure suitable comprehension of such reengineered processes shall be that of the Bidder and the above obligation of the Owner shall take effect only upon fulfilment of the Bidder's obligation to this effect as more particularly described in Section 7 & Section 8 hereunder.
4. In order to facilitate the smooth functioning and able administration of the initiative, the Owner shall on a reasonable effort basis, as far as practicable provide support for the infrastructure and material inputs required from the Owner (directly required under the project/initiative). Provided hereinafter that all such inputs for the purposes of the above obligation shall be tangible and specific inputs, in the opinion of the Owner, forming part of the Owner's practices and records, apart from the Owner's prior written acceptance in providing such inputs. Provided further that the above obligation is subject to the exclusions and/or exceptions of force majeure as defined in Section 11.9 and further is requisitioned in a manner allowing a notice of at least 10 weeks in advance of its intended utilization to the Owner. For the avoidance of doubt such notification of required inputs shall always be addressed to the Owner in writing in a manner where there is no qualitative and quantitative ambiguity in the nature of inputs.
5. In order to facilitate the smooth functioning and execution of the project the Owner shall as far as practicable provide all necessary approvals, reviews as may be applicable on a reasonable effort basis as expeditiously as possible. Provided hereinafter that the documents/subject matter on which such approvals/reviews are sought shall be accurate, unambiguous and qualitatively satisfactory in the opinion of the Owner. Provided further that for the purposes of the above obligation, the Bidder shall ensure that such reviews & approvals are sought at least 21 working days prior to its intended utilization so as to allow the Owner adequate time

to complete protocols in connection therewith. Nothing contained in this section shall apply in the event of Force Majeure as defined under Section 11.9 and to oral requisitions.

6. For the purposes of the above mentioned clauses, any grievances/complaints/delay claims by the Bidder, which, in the opinion of the Owner are just, reasonable and warrant for a resolution shall be dealt with and addressed by the Owner at the end/conclusion of the project/initiative.
7. Owner will have an agenda point of 'ONE-BHEL' ERP implementation progress in its Management Committee meeting held once in a month.
8. Owner's change management team will work in tandem with ERP Product OEM's Change Manager and Bidder's change management team for conducting change management programs/workshops across the Owner's organization.
9. Owner will provide the following facilities to the successful bidder: Office seating space (Central location), Network connectivity, Internet, PCs for Project Team.
10. The decision of the Owner shall always be final and binding.

6.2 Responsibilities of Programme Management Consultant – M/s. PricewaterhouseCoopers Private Limited (PwC)

The Owner has appointed PwC to provide Project Management Services, who shall work with the bidder for management of the project.

PwC would act on behalf of the Owner and be responsible for its acts and omissions at all times. PwC would seamlessly integrate and coexist with the ERP product OEM, Implementation Partner and other agencies. PwC, ERP product OEM and the Implementation Partner shall be either jointly and severally responsible for performance of the Integrated Solution.

Following details the responsibilities of PwC, inter alia, including but not limited to:

- Provide continuity (from the concept stage) during implementation
- Provide support to the Owner and its field units in their discussions with Bidder
- Provide guidance and clarifications to the successful partner (e.g. FRS)
- Periodic review of project plans and progress
- Provide support to the Owner and the Bidder in the change management initiatives and training programs.
- Review data migration plans and their implementation.
- Review the documentation provided by the Bidder and ensure its conformance to standards.

7 Obligations of ERP Product OEM

7.1 Business process standardization and harmonization

ERP Product OEM shall deploy senior business consultants (**ref. section 7.6**) along with the Implementation Partner project team to drive the overall business process standardization. Owner has units having various processes running, ERP Product OEM should be able to recommend the Owner on how to standardize and harmonize the business processes based on standard and global best practices available in their ERP solution. As part of these services provided by the ERP Product OEM, Owner expects ERP Product OEM to focus in following areas during ERP project implementation.

- Assist in identifying potential area for standardization of business processes in the functional areas covered as scope of this implementation
- Assist the Owner in preparing necessary templates and strategy for standardization and governance mechanism for sustaining the standardization process
- Assist the Owner in identifying potential areas for optimization (continuous improvement) of ERP Software solution.
- Assist the Owner in forming a systems group, for executing and maintaining the standardization program.
- Assist the Owner in formulating Master & Cut-Over data migration strategy.

7.2 Supply of ERP Software & Licenses

The ERP Product OEM will be responsible for supplying the current versions of ERP application licenses and related software, integration tools, along with the source code and support the Bidder for installing the same. The licenses shall be supplied by the ERP Product OEM only on the basis of written requisition of the Owner. The ERP Product OEM shall provide the licenses to the Owner within 4 weeks of requisition by the Owner. In case of delay in supply of licenses the payment is liable for deduction @0.5% of the total contract price for delay of each week or part thereof (**refer Annexure #22**).

The ERP Product OEM shall carefully consider the functional scope of work and support the Bidder in providing a solution (base ERP software/ industry and/ or functional solutions) that best meet the Owner's requirements. The Owner is a complex organization conducting manufacturing of diverse engineering products, undertaking turnkey projects in a variety of sectors and has a strong focus on outsourcing as well as transportation. Looking forward, the Owner expects the "ONE-BHEL Solution" to be the source of providing business intelligence to aid in strategic decisions. Considering the scope set in this RFP, the ERP Product OEM & bidder shall carefully consider the solutions proposed and explicitly mention the same in the Technical bid.

The Owner has identified the indicative type of users & numbers and their system usage profiles of ERP users as follows:

- **Transaction Users:** A Transaction user has the profile of a data entry user & batch processing user and including full functionality of Medium Users.
- **Medium Users:** For Reporting/querying and Workflow/Approvals having role based access through portal. Reports viewing / querying should be cutting across Functions/Modules, add-on modules and Third party software

- **Business Partners:** For access to Business Partners such as Vendors, Customers, etc. for input/output of information through web-based, mobile Portals.

Following is the proposed tentative License Buying Schedule based on the proposed Implementation schedule as mentioned in **Section 3.3 Implementation Plan**; which could vary depending upon the owner without any price implications.

The table below gives the requirement of Licenses in case of a non-SAP ERP product.

License requirement by Phases	Start of the Realization Phase	Actual Start of Phase-I Final Preparation Phase	Actual Start of Phase-II Final Preparation Phase	Actual Start of Phase-III Final Preparation Phase	Actual Completion of Phase-III rollouts & Sustenance Support	Total
Transaction Users	300 (50 Users out of these will be used for Development)	3025 (25 Users out of these will be used for Development)	1000	2675	1000	8000
Medium Users	-	-	1000	800	1000	2800
Business Partners	-	-	5000	5000	5000	15000

The table below gives the requirement of Licenses in case of a SAP ERP product.

License requirement by Phases	Start of the Realization Phase	Actual Start of Phase-I Final Preparation Phase	Actual Start of Phase-II Final Preparation Phase	Actual Start of Phase-III Final Preparation Phase	Actual Completion of Phase-III rollouts & Sustenance Support	Total
Transaction Users	300 (50 Users out of these will be used for	2050 (25 Users out of these will be used for	1000	1525	1000	5875

	Development)	Development)				
Medium Users	-	-	1000	800	1000	2800
Business Partners	-	-	5000	5000	5000	15000

The above license procurement schedule is tentative and the Owner reserves the right of procuring the licenses as per the actual project progress.

No payment shall be due on the Owner without receipt of licenses, based on Owner's written requisition, at any stage.

In case of SAP-ERP as the offered ERP product:

- ERP product OEM shall upgrade the existing SAP licenses, if required, for meeting functional & technical requirements of 'ONE-BHEL'.
- Owner's **existing SAP-ERP licenses (2129 nos.)** to be factored at **Actual Start of Phase-I Final Preparation Phase (975 nos.)** and at **Actual Start of Phase-III Final Preparation Phase (1154 nos.)**.

Owner will award the contract for purchase of ERP licenses directly to the ERP product OEM. The validity of the negotiated Licenses price(s), covering Transaction Users, Medium Users & Business Partners & all add-on engines should be for a minimum period of 5 (five) years from the date of signing the First License buying agreement.

The offered optimal integrated solution shall satisfy all requirements as specified in Functional and Technical requirements of the Owner as specified in **Annexure #1 Functional Requirement Specification & Annexure #2 Technical Requirement Specification** of this bid document.

The ERP Product OEM shall supply:

- Core ERP software & licenses (Latest version).
- Advanced/Additional modules & related components software & Licenses (Latest version).
- Tools, accessories, documentation and provide a list of the same. Tools and accessories shall be part of the offered solution.
- Latest supported version of Database Software to support the Integrated Solution and any other software, tools and Bolt-on/Add-on application.
- Product Documentation: Two sets of Product Documentation in hard copy and one soft copy to be supplied along with licenses and shall include but not limited to following:
 - Technical manuals
 - Installation guides
 - User manuals
 - System administrator manuals
 - Toolkit guides and Troubleshooting guides

All the above documents mentioned or any other standard documentation for the product should be included in the cost of the license. All the tools, accessories, software and media supplied under the contract shall be original copies and warranted against damages or not working, for 90 days from the date of installation and will be replaced without any cost to the Owner.

Add-on Modules and related engines should have sufficient provision to meet the functionality & business requirement keeping the ERP user licenses as mentioned above.

The Bidder should quote the ERP Licenses (inclusive of Add-on engines) price as per **Annexure #17(#17.1 for SAP Bids OR #17.2 for non-SAP Bids)**.

The Bidder shall make provision for creation of End User License agreement (EULA) between Owner & ERP Product OEM and Owner shall make the payments to the ERP Product OEM based on the invoices raised by Bidder's ERP Product OEM.

** ERP licenses (Transaction & Medium users) should be interchangeable to allow all users to use all the modules of the ERP (Finance, Materials Management, Inventory, Maintenance, Project Management, HR and DMS). A letter should be provided by the ERP Product OEM confirming this.

7.3 Annual Technical Support (ATS)

The ERP Product OEM shall provide support, maintenance & upgrades for all the software products versions (ERP Licenses & all Add-on engines) supplied as per section 7.2 above for a period of 7 (seven) years from the date of First Licensing agreement.

The ATS cost shall be quoted as per **Annexure #17(#17.1 for SAP Bids OR #17.2 for non-SAP Bids)** and shall be valid for **7 (seven) years** from the date of First Licensing agreement. The payments for ATS shall be done progressively as per the licenses being acquired by the Owner.

Owner will take ATS for ERP licenses & Add-ons directly from the ERP product OEM. The Bidder shall make provision for the Owner to make the payments for ATS directly to the ERP Product OEM based on the invoices raised by Bidder's ERP Product OEM

Following is covered under ATS:

- Provide free upgrades, updates & patches of the products to Owner as and when released by ERP Product OEM & Database Vendor.
 - Technical upgrade of the installation to the new version, when required by Owner.
 - Unlimited Support through telephone / Fax / E-mail / Video Conferencing /Installation visit as required.
 - Quarterly visit to Owner's ERP installations.
-
- ATS payment will be started at the Start of the Realization Phase (for the licenses acquired at start of realization phase) and subsequently after each 12 months period.
 - The payments for ATS for subsequent licenses shall be done progressively as per the licenses being acquired by the Owner.
 - For every stage, for those licenses which have not completed 12 months from its procurement date, ATS will be on proportionate basis.
 - In case of SAP-ERP as the offered ERP product (refer section 7.2), the ATS payment for Owner's existing SAP licenses shall be due from the date of incorporation of such licenses and shall be payable along with the scheduled ATS payments.
 - For evaluation, the ATS cost till end of Post Go-Live support phase shall be quoted by the Bidders in **Annexure #17(#17.1 for SAP Bids OR #17.2)**.

7.4 Program Management Office

Owner's experience in ERP implementation indicates that strong project governance is critical to timely and successful completion of the project. ERP Product OEM's participation in the Program Management Office in the following areas is mandatory:

a) Program Manager

The program manager from the ERP Product OEM need to have a deep understanding of offered ERP product and Solution, identify the top issues, and drives the resolution process. Owner expects the ERP Product OEM Program Manager shall work towards a timely delivery of the ordered activities in accord with the terms as set forth.

The Program Manager should focus in these areas during ERP project implementation:

- Identifying potential area for performance improvement of the core business processes, technical stability of the ERP solution, data consistency and stable operation of critical interfaces and operations readiness.
- Identifying potential areas for optimization (continuous improvement) of ERP Software solution.
- Coordinating the maintenance support process for ERP solutions.
- Implementation of recommended actions (including providing reports on support related topics) resulting from ERP's deliverables hereunder as well as any other ERP support services.
- Provide guidance to support team on the use of ERP tools, if required.
- Work with project team in sharing relevant best practices with End User Team.

The services should also include the following:

- Project Review and Monitoring
- Monitor Project Progress
- Drive Quality Review Process
- Participate in Project Steering Committee meeting
- Escalations to steering committee
- Oversee Change Management

b) Organization Change Manager

Based on the overall size of the project, ERP Product OEM shall deploy one senior Change Management Consultant, who will define and drive the Change Management strategy across the Owner's organization, seamlessly aligned with the implementation methodology. The Change Manager from ERP Product OEM shall conduct the assessment, recommend strategy for Change Management, align the change management program with the implementation methodology and coach change agents of Owner on how to drive change across all units.

The key deliverables are:

- Getting the sponsoring leaders to align on the benefits, goals, metrics and accountabilities
- Getting business unit managers to own the success of the implementation and to drive the realization of benefits
- Preparing, training, and supporting the end users who will be using the system regularly to input data and conduct business transactions.

Detailed Organization Change Management scope for 'ONE-BHEL' ERP project is mentioned in **section 8.6**.

c) Training Manager

Owner believes that proper training and knowledge transfer to the project team and end users is the key to successful implementation. Proper training will not only help in mitigating the risk of business disruption or issues after going live, it will also help the Owner in understanding the product much better and contribute significantly during the design phase of the project. Hence, Owner expects the overall training program to be designed and managed by the ERP Product OEM, so that Owner can take full advantage of the features and functionalities available in the product.

It will be training manager's responsibility to perform following activities for ensuring effective training of all stakeholders in BHEL:

- Prepare Training strategy and learning roadmap for the Owner
- Define a detailed training program required for successful knowledge transfer
- Advise on what kind of training platform will be best suitable to address the training needs of all users across all locations
- Conduct readiness review at the completion of each phase and make recommendations on gaps
- Train the training manager / training agents on how to conduct effective training at their respective location

7.5 Solution Quality Review Services

Quality Review Process will be an integral part of the Project implementation and will focus on the deliverables and not on the methodology that is being followed for the implementation. It is critical that regular quality checks be performed throughout each phase, as tasks are completed. All issues regarding scope, project environment, and initial technical setup must be addressed. This Quality Review Process shall be carried out by the ERP Product OEM. Owner will forward an agenda and a time schedule for the review in advance keeping in view the on-going project activities.

The Quality Review Service is to be carried out from Owner's Central Project Implementation Site.

Following Quality Review Program services are required to be provided by the ERP Product OEM to minimize project risk through periodic reviews of the project and to ensure successful implementation of the project. The review shall be carried out for each of the phases so as to cover entirely all implementation activities across all regions and entities of the Owner. The Review is expected to provide an independent and objective view of the implementation project, identify any risks to the project goals and recommend appropriate corrective action. The review report from ERP Product OEM will be submitted to the Owner as well.

The review will take place in all the defined milestones of the project implementation depending on the need, deliverables and project timelines.

Owner will only consider the phase / milestone as completed after the review and recommendations from the audit team of ERP Product OEM is submitted to the Owner. It will be the responsibility of bidder to make the necessary changes as per the recommendations of ERP Product OEM.

These are the types of Review that are required to be carried out by the ERP Product OEM:

7.5.1 Project Review

Project Review will take place at the end of each phase of implementation. Project review should cover project management, implementation road map, key deliverables of the phase, and critical success factors. This is required at the end of each major milestone defined in the project.

Audit Team of ERP Product OEM will visit the central project site as an independent and objective auditor to assess its status and the progress of all activities. The reviewer identifies potential risks to the project goals and recommends corrective action. It will be the responsibility of bidder to make the necessary changes as per the recommendations of ERP Product OEM. Owner will only consider the phase / milestone as completed after the review and recommendations from ERP Product OEM is submitted to the Owner and after the Bidder has ensured the corrective measures are implemented.

7.5.2 Business Blueprint Review

The solution review should cover the application design and business process parameters. The objective of this exercise is to review the business blueprint / model proposed / gaps identified in ERP system. The review team should make suitable recommendations towards use of ERP functionalities and features and shares the practices followed in other similar implementations. The ERP Product OEM should carry out solution review at the end of critical phases in the project. This review should be conducted in the functional area (functional modules) identified and across these modules for the purpose of integration.

Audit Team of ERP Product OEM will visit the central project site as an independent and objective auditor to assess its status and the progress of all activities. The reviewer identifies potential risks to the project goals and recommends corrective action. It will be the responsibility of bidder to make the necessary changes as per the recommendations of ERP Product OEM. Owner will only consider the phase / milestone as completed after the review and recommendations from ERP Product OEM is submitted to the Owner and after the Bidder has ensured the corrective measures are implemented.

7.5.3 Technical Review

Technical Review will be an analysis of the technical implementation components and operational procedures, such as security, backup, performance management, printing, and desktop operations. This review will typically be scheduled two to three times during the course of implementation. The technical review will also include a go-live health check review just before the Go Live event. This will be a comprehensive review of technical preparedness of the system to go-live.

Audit Team of ERP Product OEM will visit the central project site as an independent and objective auditor to assess its status and the progress of all activities. The reviewer identifies potential risks to the project goals and recommends corrective action. It will be the responsibility of bidder to make the necessary changes as per the recommendations of ERP Product OEM. Owner will only consider the phase / milestone as completed after the review and recommendations from ERP Product OEM is submitted to the Owner and after the Bidder has ensured the corrective measures are implemented.

7.5.4 Development Review

Development Review will help determine whether the design and implementation adheres to proven standards such as upward compatibility where custom developments or enhancements to the ERP systems are planned. The scope of this review will be to study programs and applications that have been developed explicitly for the Owner. The feedback provided will mainly deal with ways and means of optimizing the custom developments to achieve better performance.

Audit Team of ERP Product OEM will visit the central project site as an independent and objective auditor to assess its status and the progress of all activities. The reviewer identifies potential risks to the project goals and recommends corrective action. It will be the responsibility of bidder to make the necessary changes as per the recommendations of ERP Product OEM. Owner will only consider the phase / milestone as completed after the review and recommendations from ERP Product OEM is submitted to the Owner after the Bidder has ensured the corrective measures are implemented.

7.5.5 Final Implementation Review

At the end of the phase-III roll-out, Final Implementation Audit shall be carried out by the ERP Product OEM's independent audit team.

7.5.6 Schedule of Solution Quality Review Services

Audit	Minimum Effort
Project Review	1 man-day for each phase review
Business Blueprint Review	3 man-days per Functional module
Technical Review	2 man-days
Development Review	3 man-days per Functional module
Final Implementation Review	3 man-days per Functional module

7.5.7 Hardware/ Infrastructure Sizing

ERP Product OEM shall review the hardware sizing estimate for Primary Site, Business Continuity Site and Remote Disaster Recovery Site prepared by the Implementation Partner. Such review shall necessarily factor optimal re-use of Owner's existing hardware inventory.

The sizing estimates must consider all aspects of sizing such as server configuration, storage, network, type of platform, number and type of users, the Owner's expected service levels, desired response time etc. The Owner also expects that the sizing estimate is backed up by appropriate testing undertaken by ERP Product OEM in its solution Centres to validate the sizing estimate.

ERP Product OEM shall also review and vet the successful bidder's recommendations on Bandwidth requirements at all the Owner locations from where the 'ONE-BHEL' Solution will be accessed.

All such bidder recommendations have to be explicit and duly vetted at competent levels in ERP Product OEM organization and submitted to the Owner at appropriate juncture.

7.5.8 Solution landscape Review

ERP Product OEM shall mandatorily review the entire Solution landscape for meeting 'ONE-BHEL' objectives. All such recommendations have to be explicit and duly vetted at competent levels in ERP Product OEM's organization and submitted to the Owner at appropriate juncture.

7.5.9 Pre Go-Live Health check

ERP Product OEM shall mandatorily review & vet Go-live health check before the Go-Live event. This will be a comprehensive review of technical preparedness of the system to go-live.

Corrective measures should be implemented by the Implementation Partner under technical supervision of ERP Product OEM subsequently and duly verified by the Owner's Project Manager on receipt of jointly signed statement.

7.6 Team Profile & Deployment

7.6.1 Team Profile

The Bidder should deploy on-site team of resources from ERP Product OEM, specialized & experienced in Implementations of offered ERP product to ensure successful and timely completion of the project. All resources deployed at any stage of the project should be mandatorily certified for the relevant function/technical module of offered ERP product. All the mandatory experience requirements mentioned in profiles below are w.r.t. the offered ERP Product.

- a) **Program Manager:** Minimum 25 years of experience, including ERP Program Management experience of minimum 3 Projects and implementation experience in minimum 3 ERP implementation lifecycles (end to end and more than 6 months) which includes at least 1 implementation experience in the Engineering, Procurement and Construction (EPC) industry or heavy equipment engineering & manufacturing sector in India. PMP/PRINCE2 certification is mandatory.
- b) **Organization Change Manager:** Minimum 15 years of professional experience including experience of conducting change management workshops, developing change management strategy. The person should have led the change management track in at least 2 ERP implementation lifecycles.
- c) **Training Manager:** Minimum 10 years of experience in Learning & Development domain across Information Technology. His/Her experience should include leading training function for offered ERP Product Software implementation and support projects, implementing effective training frameworks and processes at CMM level 5 and also as an internal trainer for various programming languages and soft skills. Should have extensive experience in talent management which includes requirement gathering, understanding skill levels for various resources, identifying the right resources and filling knowledge gaps by organizing targeted trainings.
- d) **Functional Leads:** Minimum 15 years of professional experience including Functional Lead experience of minimum 2 ERP implementation projects (end to end and more than 6 months), implementation experience of minimum 3 ERP implementation lifecycles (end to end and more than 6 months) which includes at least 1 India localization experience in the relevant modules. The experience should include minimum 1 ERP project implementation in the Engineering, Procurement and Construction (EPC) industry or heavy equipment engineering & manufacturing sector in India.
- e) **Technical Leads:** Minimum 15 years of experience in the technical domain including Technical Lead experience of minimum 2 ERP implementation projects (end to end and more than 6 months), implementation experience of minimum 3 ERP implementation cycle experience (end to end and more than 6 months). Development Lead should have expertise in development work. System administration lead should have expertise in system administration work.

7.6.2 Minimum Resource Deployment

The bidder shall deploy full time, onsite human resources from ERP Product OEM across the functional and technical areas, as specified in the below table, for the mentioned phases of the project.

At no point in time, ERP Product OEM's number of resources shall fall below the minimum numbers as specified below, apart from its concurrent availability at all times, otherwise penalty as mentioned in **Annexure #22 Penalty** would be levied on the bidder.

Resource Profile	Phase	Minimum resources required (Nos.)	Remarks
Program Manager	From Planning to end of Sustenance support of Phase-III locations roll-out.	1 person	For Program Management
Functional Lead(s)	From Planning till end of Realization Phase.	1 person for each of the following Functional module: <ol style="list-style-type: none"> 1. Planning & Development 2. Finance & Accounts 3. Erection & Commissioning, Project Management 4. Materials Management & Imports 5. Manufacturing 6. Quality 7. Engineering & Technology 8. Commercial. Marketing & Exports 9. Maintenance. 	For Business process standardization and harmonization.
Technical Lead	From start of Realization phase till the end of Sustenance support of Phase-III locations roll-out.	1 person	BI (Business Intelligence) Lead.
Organization Change Manager	From Planning to end of Sustenance support of Phase-III locations roll-out.	1 person	
Training Manager	From Planning till Phase-I Final Preparation completion.	1 person	

7.7 Solution Expert Consulting Services

The ERP Product OEM is required to provide Solution Expert Consulting Services for this project. It is expected that the ERP Product OEM will provide dedicated solution experts with extensive experience who will be available on Owner's project site(s) on Owner's requisition to ensure that the Owner's business requirements are mapped on to solution to the maximum possible extent. This requirement is over and above the minimum resources required from the ERP product OEM as specified in **section 7.6.2**.

As part of Solution Expert Consulting Services the ERP Product OEM should appropriately support the Owner by providing Expert Consultants (Domain, Functional & Technical) at appropriate junctures addressing bottlenecks in the solution. The Expert Consulting will primarily be used for, but not limited to, consulting assistance for issue resolution in design and configuration phases. ERP Product OEM is expected to provide at least **500 man-days** of expert consulting to ensure support to BHEL during the implementation and transition phase. Such services through expert resources shall be provided on Owner's requisition only and the payments shall be made as per actual no. of expert consulting mandays consumed by the Owner.

The profile of ERP product OEM's expert consulting resources should atleast be of the profile of Functional/Technical Leads as specified in **section 7.6.1(d) and 7.6.1(e)**.

The cost for Solution Expert Consulting Services should be quoted as per **Annexure #18 (18.2)**.

7.8 Setting up of Certified Competency Centre / Centre of Excellence

The Owner intends to build its own Certified Competency Centre / Centre of Excellence (CoE) comprising of its own manpower resources, in order to retain and build in-house Knowledge base. Using ERP Product OEM's methodologies for the same, the ERP product OEM shall assist the Bidder to establish the Certified Competency Centre / Centre of Excellence for the entire 'ONE-BHEL' solution landscape and should incorporate necessary steps for this in the Project Plan. The Certified Competency Centre / Centre of Excellence will support the live system, provide enhancements and developments, act as a knowledge Centre on best practices, evaluate future technologies, tools, & bolt-on applications. The established Centre of Excellence must be certified by the ERP product OEM.

ERP product OEM shall assist the Bidder in preparing and providing detailed plan for establishing the Certified Competency Centre / Centre of Excellence and also help in creating its organization structure during and post implementation. This plan has to be mutually agreed between the Owner and Bidder.

8 Obligations of Implementation Partner

This section outlines the responsibilities of the Implementation Partner during the entire project duration from project launch to project post-implementation support. The key responsibilities are:

8.1 Program Management Office

8.1.1 Project Management Structure

The Project Management Structure for this engagement consists of the following stakeholder groups:

- Steering Committee consisting of the **Owner's top management, CEO from the Implementation partner, CEO from ERP Product OEM organization and Executive Director from PwC**. The Steering committee would do monthly review of the project progress.
- Project Management Office, consisting of a Program Manager & Project Manager from the Owner, Program Manager from ERP Product OEM organization, Change Manager from ERP Product OEM organization, Training Manager from ERP Product OEM organization, Project manager from the Implementation Partner and Project Manager from PwC.
- Core Group, consisting of functional experts, technical experts and infrastructural experts provided by the Bidder & ERP Product OEM, technical resources (IT) and functional resources (core and business users) from the Owner.
- Non-Core Group consisting of the end users/power users in the Owner, and the Helpdesk team (resources from both the Owner and bidder).

8.2 Team Profile & Deployment

8.2.1 Team Profile

The Bidder should deploy a team specialized, experienced in Implementations of offered ERP product to ensure successful and timely completion of the project. All resources deployed at any stage of the project should be mandatorily certified for the relevant function/technical module of offered ERP product. All the mandatory experience requirements mentioned in profiles below are w.r.t. the offered ERP Product. The key personnel in the team must have the following minimum qualifications and work experience:

- a) **Project Manager:** Minimum 20 years of experience, including ERP Project Management experience of minimum 2 Projects and implementation experience in minimum 3 ERP implementation lifecycles (end to end and more than 6 months) which includes at least 1 implementation experience in the Engineering, Procurement and Construction (EPC) industry or heavy equipment engineering & manufacturing sector in India. PMP/PRINCE2 certification is mandatory.
- b) **Function Integration Consultant:** Minimum 15 years of experience, including ERP Project Implementation experience of minimum 3 Projects (end to end and more than 6 months) which includes at least 1 implementation experience in a metals / process industry in India. Understands different modules of ERP and effect of change in parameters in one module how the same will affect the system. Should be in-charge of all the integration issues during implementation.
- c) **Functional Leads:** Minimum 15 years of professional experience including Functional Lead experience of minimum 2 ERP implementation projects (end to end and more than 6 months), implementation experience of minimum 3 ERP implementation lifecycles (end to end and more than 6 months) which includes at least 1 India localization experience in the relevant modules. The experience should include minimum 1 ERP project implementation in the Engineering, Procurement and Construction (EPC) industry or heavy equipment engineering & manufacturing sector in India.

- d) **Functional Consultants:** Minimum 10 years of professional experience including 2 years of experience in ERP implementation including minimum 2 ERP implementation lifecycles (end to end and more than 6 months) which include at least 1 India localization experience in the relevant modules. The experience should include a minimum of one ERP project implementation in the Engineering, Procurement and Construction (EPC) industry or heavy equipment engineering & manufacturing sector in India.
- e) **Technical Leads:** Minimum 15 years of experience in the technical domain including Technical Lead experience of minimum 2 ERP implementation projects (end to end and more than 6 months), implementation experience of minimum 3 ERP implementation cycle experience (end to end and more than 6 months). Development Lead should have done relevant development work. System administration lead should have done relevant system administration work.
- f) **Technical Consultants:** Minimum 10 years of professional experience including 2 years of experience in ERP technical domain including minimum 2 ERP implementation lifecycle experience (end to end and more than 6 months) on different modules, implementing interfaces to legacy applications, report customization, system architecting, Database management, etc.

8.2.2 Minimum Resource Deployment

The bidder shall deploy a full-time, on-site dedicated team for the ERP implementation project at the Owner's project site. During the implementation stage i.e. till the last go-live date, the full team needs to be deployed on-site i.e. at the Owner's premises. The Owner would not permit any offshore / on-site mix in the deployment. The bidder should deploy adequate resources for required duration on site at the Owner as well as any other site / unit / location as may be necessary during any stage of the project.

The bidder shall deploy concurrent resources, comprising of members specified & approved by owner, to ensure concurrent execution to meet overall contract period plan & detailed plan.

The bidder shall deploy the minimum resources for Project Management, Functional and Technical areas, as specified in the below tables, during the entire duration of the project. At no point in time, number of resources fall below the minimum numbers as specified below otherwise penalty as mentioned in **Annexure #22** Penalty would be levied on the bidder.

Project Management Team (From Planning to end of Sustenance support of Phase-III locations roll-out)	
Project Manager	1
Functional Integration Consultant	1

ERP Functional Area	Lead (From Planning to end of Sustenance support of Phase-III locations roll-out)	Consultant (From Planning to end of Sustenance support of Phase-III locations roll-out)	Consultant (Additional requirement from planning to end of Sustenance support of Phase-I locations roll out)
Manufacturing	1	1	2
Engineering & Technology	1	1	2
Commercial, Contract, Marketing & Exports	1	1	1
Erection / Construction, Project Management, Commissioning & Technical Services	1	1	2
Materials Management, Imports	2	1	2
Quality	1	1	1
Finance & Accounts incl. Costing	2	1	2
Maintenance Services	1	1	1
Planning & Development (incl. Central Planning & LRP)	1	1	1
Human Resource Management	1	1	
Total	12	10	14

The minimum Technical resources required are as follows:

ERP Technical Area	Lead (From Planning to end of Sustenance support of Phase-III locations roll-out)	Consultant (From Planning to end of Sustenance support of Phase-III locations roll-out)
Master Data & Governance	1	3
Workflow	1	2
System Administrators	1	2
Developers	1	2
Developers (Interface)	1	3
Management Reporting (BI)	1	3 (Out of the three 1 should be an administrator)
Total	6	15

The team for each of the areas mentioned above would be looked in totality and the Owner reserves the right to request for a change if the owner is not satisfied with the capability of the resource proposed for the function & any time post-approval due to capability & or performance limitations decided by the owner. The bidder shall promptly provide substitute for same of similar or higher experience, qualification & capability where CV shall bear prior written approval if owner.

The bidder shall at no additional cost, augment its resources to recover implementation gaps & delays.

Other than the ERP Functional & Technical areas as covered above, the Bidder shall deploy adequate quality and number of resources required for implementing add-on modules & 3rd party / bolt-on solutions as planned and proposed in Bidder's response to this RFP (apart from the above mentioned minimum resources). The schedule of such deployment shall be indicated in advance to the Owner by the successful Bidder.

The bidder is requested to provide a phase-wise manpower deployment plan (pre go-live & till the last go-live) as part of their response to this bid document maintaining the minimum number of resources as specified above. Such manpower deployment plan is subject to owner's acceptance.

8.3 Steering Committee meetings

The Bidder shall participate in monthly Steering Committee meetings (prior to Owner's internal review meeting as ref. in section 6.1) and update the Owner's team on Project progress, Risk parameters (if any), Resource requirements, immediate next project steps, and any obstacles in project. The Steering committee meeting will be a forum for seeking and getting approval for project decisions. All relevant records of proceedings of Steering Committee should be maintained and shared with the Steering Committee and Project Management Office. Other than the planned meetings, in exceptional cases, Owner may call for Steering Committee meeting with prior notice to the Bidder.

8.4 Project Monitoring and Reporting

The bidder should provide written progress reports at regular intervals, which have been defined below.

Weekly: The Bidder shall submit to Owner a written progress report every week. The Bidder shall also report exceptions and issues that require action.

Monthly: The Bidder shall attend monthly project execution committee meetings that shall be held at Owner's premises. The date and time of the meeting shall be decided mutually between the parties. The Bidder shall to provide a written report on the following:

- Progress against the Project Management Plan
- Status of all risks and issues
- Status of testing

Ad-hoc: Other than the planned meetings, in exceptional cases, Owner may call for Project execution Committee meeting with prior notice to the Bidder.

The formats and contents of the weekly and monthly progress reports will be finalized at the start of the project preparation phase with the program office.

The owner reserves the right to ask the bidder for the project review reports other than the standard weekly review reports.

8.5 Risk and Issue management

The Bidder shall develop a Risk Management Plan and shall identify, analyse and evaluate the project risks, and shall develop cost effective strategies and action plans to mitigate those risks.

The bidder shall develop an issues management procedure to identify, track, and resolve all issues confronting the project. The risk management plan and issue management procedure shall be done in consultation with the Owner's program management office.

The Bidder shall monitor report and update the project risk profile. The risks should be discussed and a mitigation plan be identified during the project review meetings with the program office.

The Risk and Issue management should form an agenda for the Project Steering Committee meetings as and when required.

8.6 Organization Change Management

For Organization Change Management, the bidder (**led by ERP Product OEM's Organization Change Manager**) shall focus on building awareness in the Owner employees on benefits of 'ONE-BHEL' project, changes (if any) to their current roles and responsibilities, processes, changes in dashboard screens & its solution addressing the employee's concerns and apprehensions w.r.t. implementation of 'ONE-BHEL' Project.

The bidder is required to conduct the Change Management Workshops for all the Owner employees in a phased manner in line with the 'ONE-BHEL' implementation plan. These workshops shall be conducted at the respective workplaces of the Owner. The Change Management Workshops shall be conducted concurrently for three levels (Junior, Middle & Top management) of officials/employees in the Organization as defined by the Owner which will be communicated to the successful Bidder at the time of planning the workshops.

The workshop content and material shall be designed with specific focus on the requirements of each of these levels. Bidder shall conduct minimum two workshops for each group of employees at owner's each unit (Bidder to finalize the actual number of sessions in consultation with the Owner). The necessary infrastructure for conducting the workshops shall be provided by the Owner such as systems etc. However, bidder has to provide the required material for the workshops including presentations, training material etc.

Following outlines key activities/approach to be adopted by bidder for designing and execution of change management plan for 'ONE-BHEL'.

- Impact Assessment – The bidder shall perform the impact assessment, in light of 'ONE-BHEL' Project, to identify the changes to the current functioning, organization structure, roles and responsibilities, current capacities (training to the existing resources or deployment of additional resources) etc.
- Assess change readiness – The bidder shall perform an assessment, based on the Impact Assessment, to identify to what extent the Owner is currently equipped for the change, what are the key potential blockers and enablers within the structure, processes and staff to implementing the changes.
- Design the change management approach – The bidder shall perform an assessment and advise on the optimal way of getting the Owner from where it is to where it needs to be, for successful implementation of 'ONE-BHEL' Project and to mitigate all the project risks. This will include the approach to change. What are the time frames and when are benefits expected to accrue?
- Develop the change plan – The bidder shall design a road map to achieve/implement all the changes, which are essential for success of the project. The plan shall be more than an implementation plan; and shall contains change milestones based on the change vision, benefits milestones, benefits tracking mechanisms, actions to build commitment and actions to ensure business continuity.
- Define change governance – including appropriate decision making and review structures
- Implementation of Change Management Plan – The bidder shall implement all the necessary services for successful implementation of the change management plan developed by the bidder & approved by owner. The bidder shall be responsible for all the costs involved in design and implementation of the change management plan for 'ONE-BHEL' Project.

- The bidder shall proactively work with the Owner to address the project needs and gain buy-in and involvement of all the stakeholders in achieving the change. During the whole exercise, stakeholders' awareness, understanding and commitment to new ways of working should be raised. Stakeholders should also be encouraged, where appropriate, to contribute to or participate in the project to engender a joint sense of ownership.
- Success of above change management implementation through written satisfaction level of the trainers of such change management practices / trainings imparted.

Scope & Methodology of Change Management needs to be proposed by the Bidder.

Minimum number of workshops required for conducting change management workshops should be:

Level	Program	Participant Category	Duration (Days)	Participants		Number Of Workshops	Location of Workshops
				Total	Batch Size		
I	Sensitization Workshops	Employees	1	1000	50	20	Delhi, Hyderabad, Bhopal, Haridwar etc.
II	Leadership & Workshops	Identified Leaders	1	250	25	10	Delhi, Hyderabad, Bhopal, Haridwar etc.

8.7 Quality Assurance

The Bidder shall develop a Quality Assurance Plan for the execution of this project. The quality parameters should be defined for all the project phases like project management, functional coverage, support services and documentation. The quality parameters should be regularly monitored and reported to Owner.

The Quality Assurance Plan shall be finalized during the project preparation phase.

The deliverables for this phase will include but not limited to the following:

Sl. No.	Project Deliverables
1	<ul style="list-style-type: none"> • Project progress report • Updated Project plan and progress • Distributing project status reports to Owner Project manager / PMO • Identifying project bottlenecks (if any) and highlighting the same to Owner's PMO/ Steering Committee
2	Assist the owner in: <ul style="list-style-type: none"> • Steering Committee meeting and defining agenda for same • Recording Steering Committee proceedings and circulating the meeting record notes • Updating progress on issues discussed in the Steering Committee meeting and inclusion of same in subsequent meetings, if required

3	<ul style="list-style-type: none"> • Project Risk parameters • Project Risk evaluation and Risk parameter monitoring
4	<ul style="list-style-type: none"> • Project Quality parameters • Defining, monitoring and reporting of Quality parameters
5	<ul style="list-style-type: none"> • Project Issues (Open and Closed issues during the reporting period) • Logging issues identified for the project during any phase of the project • Raising the issues with Owner team and analysing the options to resolve the issues • Incorporating changes in relevant project documents / deliverables (e.g. Contract document, Procedures manual, etc.) based on decision on issue resolution • Tracking the resolved and unresolved issues
6	<ul style="list-style-type: none"> • Escalation instance and resolution reports
7	<ul style="list-style-type: none"> • Project Resource deployment (during the reporting period)
8	<ul style="list-style-type: none"> • Change management strategy • Change readiness assessment report • Change impact assessment report

8.8 Support Services

8.8.1 Project Implementation & Sustainment Support

Bidder shall provide Support services covering Implementation Support, Performance Testing & Tuning, Help Desk & Sustainment Support for Owner's all Units going live in Phase-I, II & III without additional cost to the owner. The details of services under this support phase are mentioned in **section 9.12.5**.

During Project Implementation, support & maintenance services shall be provided by trained and experienced personnel of the Bidder and would entail the following activities but not limited to:

- 24x7 Unlimited Support through telephone/Fax/E-mail/Video Conferencing/ Installation visit as required.
- Tuning of ERP, Databases, third party software's and any other components provided as part of the business solution software including reconfiguration of the system in the event of any hardware/ network failures/ if any hardware/ network components have to be replaced.
- Provide and apply "free upgrades", updates & patches of the products to Owner as and when released.
- Technical upgrade of the installation to the new version, as and when required.
- As and when any new releases/ higher version become available, the Bidder will inform the Owner for the enhancements and interpret how it may benefit the Owner directly. The Bidder shall accordingly inform the Owner through various media including product newsletters, hotline access, release notes, design alerts or technical bulletins. All product fixes or release updates on the new system will take place at the Owner's discretion.
- Migration of the Integrated Solution from one Hardware Platform to another.
- Removing bugs as and when discovered.
- Incremental functionality enhancements and patches to cater to changes (including tax, legal and all statutory requirements)

Above services shall be provided without any additional cost to the Owner.

8.8.2 Post Go-Live Support

During Post Go-Live support period of **1(one) year** for the 'ONE-BHEL' solution after the completion of sustenance support for Business Intelligence & Dashboards - CORPORATE MIRs or after expiry of 36 months from start of Project, whichever is later, the Bidder shall provide on-site resources at Owner's location for the following:

- Helpdesk Support (**ref section 9.12.5.4**)
- Provision of software upgrades and patches and resolution of software bugs
- Training of new support personnel;
- Training of Owner personnel on future upgrades whenever the Bidder supplies future upgrades as a part of Annual Technical Support (ATS).
- Support to Owner's users through provision of access to hot-line / telephone / fax / e-mail / Video conferencing.
- Logging and resolution of problems through deployment of onsite personnel.
- Assistance with recovery from operator errors, system errors or hardware failures;
- Operational assistance with special processing events (end of year close off, tax reporting etc.)
- Enhancement & Bug fixing.

The Support services under this period shall be provided to the Owner at no additional cost to the Owner.

For the services to be rendered during this period, the Bidder shall deploy following resources:

Resource Profile	Resource Requirement
Functional Consultant	Minimum 1 Consultant, per Functional Module
Technical Consultant	Minimum 1 Technical Consultant each for Master Data & Governance, Workflow, System Administrator, Developers, Developers (Interface), Management Reporting (BI)s

Above resources shall be deployed on a full time basis at Owner's location and the profile of the resources should be minimum as specified in **section 8.2.1(d) and 8.2.1(f)**.

The Bidder shall quote the price of Post Go-Live Support as per **Annexure #29**.

9 Scope of Work

9.1 Overview of Scope of Work

The Owner intends to implement an Integrated ERP Solution within the timeframe indicated in this document. The Solution would encompass a configured, pre-approved customized base ERP with pertinent advanced modules / bolt-on solutions / third party add-ons as well as interface & integrate with Owner's relevant legacy applications (using industry standard tools & technology) as the case may be duly approved by owner, and would cover the Functional, Technical, Geographical, & detailed scope mentioned in the following sections. The solution would include the underlying database and all the other supporting Software.

The bidder while responding to the scope of work (as per Functional & Technical scope) of this RFP document via various formats for Technical & Price Bids etc. must ensure that all necessary Software, Licenses, Implementation effort, Annual Technical Support, Support & maintenance, Integration Tools/software, etc. for creating and sustaining the entire Integrated Solution have been factored suitably. Any additional cost, not factored suitably in the response, but necessary for completeness of the Integrated Solution shall be solely borne by the Bidder.

As part of the 'ONE-BHEL' initiative, the Owner intends to implement the integrated ERP solution via. common Global Business Template across BHEL.

9.2 General Scope

The broad scope of work shall consist of but not limited to:

- 1) First level ERP overview training to Owner's Core Team.
- 2) Supply of ERP licenses & Add-on modules and 3rd party software.
- 3) Recommendations on requirement of hardware & networking.
- 4) Installation of ERP & related software at BHEL.
- 5) Preparation of Business Blueprint/ Workflows.
- 6) Audit of Project Status and Business Blueprints.
- 7) Professional level Training in ERP functionality to Owner's Core Team.
- 8) Integration with BHEL's engineering software, for eg. AutoCAD, Wrench etc.
- 9) Integration with Owner's SAP-HCM solution.
- 10) Customization & Developments for process enhancement.
- 11) Development of day to day monitoring Reports.
- 12) Audit of Project Status & Developments.
- 13) Realization of Blueprint solution.
- 14) Audit of Project status and 'ONE-BHEL' solution.
- 15) Unit & Integration Testing.
- 16) Development of Unit and Corporate MIRs, dashboards.
- 17) Master Data & Cut-Over Data migration strategy.
- 18) Data Migration assistance (as detailed in subsequent sections).
- 19) Users creation & authorizations.
- 20) Implementation of ERP solution at Phase – I locations.

- 21) End User Training in ERP for BHEL Personnel.
- 22) Roll out at Phase – II & Phase - III locations.
- 23) Final Implementation Review.
- 24) Provide required assistance to Owner and other associated agencies during disaster recovery strategy finalization and disaster recovery site setup.
- 25) Provide Support services during Warranty period for entire solution.
- 26) Annual Technical Support for the supplied software.

The bidder shall provide all required equipment, tools, and resources which may not be specifically stated herein, but required to meet intent of ensuring completeness, maintainability and reliability of the total system covered under this specification.

9.3 Functional Scope

The Owner has different and varied processes across the business units. An indicative list of Processes of major functional areas is placed in **Annexure #4 Overview of Functions**. The detailed functional requirements to be met by the integrated ERP solution are detailed in **Annexure #1 Functional Requirement Specification** of this tender document.

The AS-IS processes, as compiled by the Owner, would be shared with the successful Bidder. The functionalities which are not mentioned in the shared AS-IS process but are required for completeness of the optimal Integrated Solution shall form the part of the Functional Scope and have to be provided at no additional cost to the Owner.

As mentioned in the **Section 1.3 IT Landscape at BHEL** of this RFP document, owner has listed major business applications running/planned at various locations. During the solution design stage, the bidder along with owner's team must preferably bring the functionality of legacy business applications within the proposed optimal Integrated Solution. However, some of the applications, based on Project Team decision might co-exist along with the optimal Integrated Solution. In all such cases, interfacing/integration effort (including any additional software requirement) of these applications with the Integrated Solution shall form the part of Bidder's Functional scope of work and factored suitably in Bidder's response in Technical & Price bids.

9.4 Technical Scope

Following are some of the important requirements of the Owner with respect to the optimal Integrated Solution which have to be ensured by the Bidder:

9.4.1 Technical Requirements

Technical requirements for the solution are attached in **Annexure #2 Technical Requirement Specification** of this tender document and provide technical specifications that have to be met by the Integrated Solution as envisaged by the Bidder.

9.4.2 Accounting Architecture

The Integrated Solution should be capable of generating consolidated as well as unit wise financial/cost statements.

The Integrated Solution should be able to generate financial statements under IFRS and Indian GAAP seamlessly at any point of time with detailed reconciliation between the two as reconciled through the Integrated Solution.

9.4.3 Project Management Architecture

The Integrated Solution should be able to generate consolidated as well as project wise/unit wise/customer wise status reports.

9.4.4 Data Access and Security

Data security is to be addresses from two perspectives:

- To restrict access to / sharing of confidential data, and
- To ensure that data is not changed or destroyed, either inadvertently or intentionally, by any user / administrator or an external party.

The Bidder should ensure the following:

- Only those with relevant authority can access the solution,
- Those with access to the solution have access only to the data which is relevant to them, and
- Access to the relevant data is further restricted to either inquiry or update depending on the responsibility.

The Integrated Solution should be compliant to ISMS standard (ISO 27001).

9.4.5 Data Archival

In order to meet statutory and MIS requirements, archiving and easy retrieval of data along with supporting documents/ attachments is required. The bidder must ensure that the Integrated Solution provides a data archiving capability, with support for implementing archival policies. The Integrated Solution should also be able to access archived data for on-line inquiry and reporting as and when required. Bidder should provide a policy document for archival along with the solution.

The Integrated Solution should be compliant to ISMS standard (ISO 27001).

9.4.6 Audit Trail

The Integrated Solution must have extensive audit trail facility. Any addition, deletion or modification to an existing record, whether master or transaction, must bear the date and time stamp, the name of the log-in user who made the change and the node/ terminal from which the change was made. It should also be possible to maintain details of the original record and subsequent changes to the same. Standard audit trail reports should also be available. Proper access should be planned for audit trail reports.

The Integrated Solution should be compliant to ISMS standard (ISO 27001).

9.4.7 Workflow

The solution should be capable of replacing the current physical flow of documents, wherever required, with the flow of electronic data.

9.4.8 Auditor Access

The Integrated Solution should be capable of enabling the audit (both internal and statutory) through the system.

9.4.9 Business Intelligence

The solution should have capability of providing on-line information to facilitate tactical and operational decision-making. It should be possible for the Owner to configure a Business Intelligence Dashboard visually representing the key organizational performance data in a user-friendly manner.

Successful bidder shall create a portal for BI dashboards, scope not limited to:

- Development and deployment of well-designed interface which includes user administration, security and development features to create and maintain reports, charts, etc.
- Sharing of reports/queries, through portal, across the enterprise based on role based access.
- Creating a Business Intelligence dashboard personalized by job role.
- Development of charts and/or reports representing key performance indicators (KPI's)
- Ability to access the reports on Mobile Devices (Device Independent).
- Access to dashboard applications to users based on predefined criteria.

9.4.10 Modularity

The Integrated Solution should be modular in nature, i.e. it should be possible for the Owner to implement modules/ add-ons, which are not implemented as part of this project, at a later date, without any technical difficulties. Integration between such modules with the modules already implemented should be seamless and should not require any development effort.

9.4.11 Scalability

The Integrated Solution must be easily scalable, in terms of number of users, entities, organization structure, transactions, functionalities, new modules, add-ons from the same ERP suite etc. The Integrated Solution should be scalable to handle increased volume of data load and increase in the number of users without compromising response time or efficiency of operations.

9.4.12 Statutory Requirements

The solution should meet all Indian statutory requirements such as Excise, Sales Tax, Service Tax, GST, TDS etc. The Integrated Solution should be IFRS compliant and should generate financial reports in expected formats. Given that the taxes and other statutory requirements keep changing from time to time, the solution should be able to timely adapt to such changes without any technical difficulties and extra cost to the owner.

9.4.13 Retaining Critical Functionalities

The Bidder must ensure that the functionalities already available in certain critical areas are to be made available in the solution as well. If certain key functionalities are not to be covered in the

Integrated Solution either because relevant sub-processes being specific to the Owner or otherwise, the Bidder must suggest suitable workaround solutions, process changes, legacy system interfaces, etc. to cover the same & implement same on approval by owner.

9.4.14 24x7 Operations

The Integrated Solution should support 24x7 operations since the plants work on multiple shifts and shipments from the stockyard/ plants may happen at any time of the day.

9.4.15 Alerts/ Notifications

The Integrated Solution should generate alerts/ notifications in various processes in the Integrated Solution. These alerts/ notifications could be time based or event based.

9.4.16 Document Management

The Integrated Solution shall have the provision to link all the documents stored in Document Management System (DMS) and provision for accessing the same from the Solution.

The bidders shall explicitly mention the Integrated Solution architecture including redundancy and scalability so that the infrastructure is amenable to such mission critical IT system.

9.4.17 Corrective Actions

All corrective actions arising out of review by ERP Product OEM of hardware / infrastructure sizing, project progress, solution quality review, solution expert consulting, etc. should be promptly attended concurrently by the Implementation Partner by augmenting its resources, as may be required, without any additional cost. Joint signed statement with ERP Product OEM of having implemented the corrective measures shall be provide to the Owner.

9.5 Geographical Scope

The Owner is a diverse organization with multiple Business Units spread across many geographical locations. The geographical scope of the project will comprise of the following locations:

1. Bhopal.
2. CFFP, Haridwar.
3. HEEP, Haridwar.
4. HPBP, Trichy (includes Piping Centre, Chennai & IVP Goindwal).
5. SSTP, Trichy.
6. Thirumayam.
7. Corporate Office, New Delhi.
8. Project Management Group, New Delhi.
9. Power Sector - HQ, New Delhi.
10. Power Sector – Marketing, New Delhi.
11. Industry Sector, New Delhi.
12. Spares & Services Business Group, New Delhi.
13. International Operation, New Delhi.
14. Transmissions Business Group, New Delhi.
15. CMG, New Delhi.
16. ROD (Chennai, Guwahati, Jabalpur, Jaipur, Kolkata, Lucknow, Mumbai, New Delhi, Raipur, Ranchi, Secunderabad, Vadodara).
17. BAP, Ranipet.
18. ISG, Bangalore.

19. Jhansi.
20. Power Sector – Eastern Region, Kolkata (including sites in India & overseas).
21. Power Sector – Western Region, Nagpur (including sites in India & overseas).
22. Power Sector – Southern Region, Chennai (including sites in India & overseas).
23. Power Sector – Northern Region, Noida (including sites in India & overseas).
24. PS-TS, Noida.
25. Power Sector – PEM, Noida.
26. HRDI, Noida.
27. HERP, Varanasi.
28. CFP, Rudrapur.
29. IP, Jagdishpur.
30. Central Stamping Unit, Jagdishpur.
31. Electrical Machines Repair Plant, Mumbai.
32. Corporate R&D, Hyderabad.
33. HPEP, Hyderabad.
34. PE&SD Hyderabad.
35. EDN, Bangalore.
36. EPD, Bangalore.
37. BHPV, Visakhapatnam.
38. PEFP, Bandhara

Currently, implementation scope covers only the stated and defined offices and operations of BHEL businesses within the territorial boundaries of India and does not cover offices and operations overseas.

Each phase shall commence after successful completion of previous phase. All functionalities as in the Phase-I implementation shall be implemented across the remaining locations.

Implementation and roll out locations may change during final discussions with the successful Bidder depending on the ease of roll out and geographical constraints.

9.6 Supply and Installation of Software & Application Licenses

All ERP Licenses & Add-on engines shall be supplied by the ERP Product OEM (**refer section 7.2**).

All 3rd Party software & licenses shall be supplied by the Bidder on the basis of written requisition of the Owner. The Bidder shall provide the 3rd party licenses to the Owner within 4 weeks of requisition by the Owner. In case of delay in supply of licenses the payment is liable for deduction @0.5% of the total contract price for delay of each week or part thereof (**refer Annexure #22**).

The Bidder shall supply:

- 3rd party products software & licenses (Latest version) part of the 'ONE-BHEL' solution.
- Supply tools, accessories, documentation and provide a list of the same. Tools and accessories shall be part of the offered solution.
- Product Documentation: Two sets of Product Documentation in hard copy and one soft copy to be supplied along with licenses and shall include but not limited to following:
 - Technical manuals
 - Installation guides
 - User manuals
 - System administrator manuals

- Toolkit guides and Troubleshooting guides

All the above documents mentioned or any other standard documentation for the product included in the cost of the license. All the tools, accessories, software and media supplied under the contract shall be original copies and warranted, against damages or not working, for 90 days from the date of installation and will be replaced without any cost to the Owner.

Third Party software should have sufficient provision to meet the functionality & business requirement keeping the ERP user licenses (**as mentioned in section 7.2**). The breakup of Third Party software shall be provided as per **Annexure #17 (#17.1 for SAP Bids OR #17.2 for non-SAP Bids)**.

Owner reserves the right of procuring the 3rd party software licenses as per the actual project progress. No payment shall be due on the Owner without receipt of licenses, based on Owner's written requisition, at any stage.

** The ERP product OEM shall certify the entire 'ONE-BHEL' solution BOM with explicit confirmation regarding non-availability of standard ERP functionalities wherever 3rd Party software is included in the solution (as also captured in FRS responses).

Special Tools and Accessories – The bidder's proposal shall include the list of tools and accessories, which shall be supplied with the solution. The prices of these special tools and accessories shall be included in the bid price.

Installation, Configuration, upgrade & maintenance of all software (ERP software, Add-on Engines, 3rd party software etc.) supplied for 'ONE-BHEL' solution is in scope of work of the Bidder till the end of the 'ONE-BHEL' project.

- For all 3rd party products, the Bidder shall mention total cost (quoted as per Annexure #17), ATS(%) and ATS Price as lump sum. The payment for 3rd Party software & ATS shall be as per the Percentage of licenses of total ERP licenses acquired by the Owner at different points. (Eg. At start of Realization phase: Licenses requirement is 3.75% of total license requirement for non-SAP ERP product, hence, the 3rd party software cost payable at start of Realization phase shall not be more than 3.75% of total 3rd party software cost)
- All 3rd party software licenses shall be in the name of the Owner.
- The ATS cost for all 3rd party software shall be quoted as per **Annexure #17(#17.1 for SAP Bids OR #17.2 for non-SAP Bids)** and shall be valid for **7 (seven) years** from the date of First Licensing agreement.

9.7 Hardware/Infrastructure Sizing

The successful bidder will be responsible for server, storage and network sizing for the 'ONE-BHEL' Integrated Solution. The successful Bidder would have to identify infrastructure requirement specification including requirement for Business Continuity & Disaster Recovery site. The sizing needs to be done keeping in mind the Owner's requirement for performance, response time and scalability, latest state-of-the-art, virtualisation & guaranteed uptime during its entire lifespan with uninterrupted spares & services. Such lifespan shall not be less than 8 (eight) years. The successful bidder would be responsible to conduct necessary site visits to prepare bill of material and all specifications for required IT / Non-IT infrastructure and Data Centre (DC) and Disaster Recovery (DR) site after studying the existing hardware inventory across owner's premises for reuse / economical solution, as feasible. The Bidder should review the network already laid out as well as additional network laying as required for connecting all the relevant units of the Owner with redundant connectivity including the Owner plants, offices and all other the Owner locations that would be using

the Integrated Solution. The Bidder also needs to provide proposed N/W architecture. The Bidder will provide necessary inputs and support for the preparation of the RFP for H/W and N/W infrastructure to enable the Owner to procure all the required IT/ non-IT infrastructure and services. The RFP for H/W and N/W infrastructure would capture requirements for all three phases of the implementation. However, staggered delivery of hardware/ network components may be suggested based on phase wise implementation. Bidder will be involved with the Owner in checking the goods during delivery of the same.

All the recommendations of the Bidder have to be duly reviewed by the ERP Product OEM (**ref. section 7.5.7**) before submitting to the Owner.

9.8 System administration

The Bidder shall perform system administration activities for 'ONE-BHEL' Solution landscape:

- Installation, Configuration, administration, trouble shooting and performance tuning of all servers (database, applications etc.)
- Database software installation, memory allocation and usage monitoring
- Backup, recovery and all other DBA related activities
- Providing access to users as per the assigned roles
- Installation of applications and related tools
- OS/DB/ERP/3rd Party Software patch/services updation

The successful bidder would also ensure the following:-

- All authorization related activities till the Integrated Solution stabilizes
- Assimilating knowledge through a proper knowledge transfer methodology, ensuring that the Owner's team can take care of system administration tasks.
- Prepare system administration manual
- Prepare end user manuals for all employees accessing the Integrated Solution production environment
- Prepare system configuration that takes into account disaster recovery scenario

The Successful bidder is responsible to identify and inform the Owner about pre cutover requirements like database setup, application patching techniques, operating system patching, database tuning and database synchronization etc.

The system administration responsibility would be with the Bidder till the end of 'ONE-BHEL' project.

9.9 Configuration, Customization & Bespoke (Custom Developments)

The bidder shall ensure that the Functional requirements forming part of the standard ERP product features (**as claimed by the Bidder during technical evaluation i.e. FRS of bids prior award**) are implemented.

The Owner prefers to have product standard functionalities in the 'ONE-BHEL' Solution. Wherever customization is required and undertaken, the bidder will hand over the source code and all documentation to the owner. The title, rights and IPR (Intellectual Property Rights) over such customization will be passed on to the Owner.

Preferably, changes should be kept as minimal as possible to the ERP core modules. This is important to ensure that future upgrades, enhancements and bug fixes are not impacted. Any customization as may be necessary should be done only after confirmation from ERP Product OEM of non-availability of standard functionality and obtaining prior written approval from the Owner. Every custom development must be documented in detail and the script ownership should be passed on to the Owner.

Given the complexity of the implementation and the cross functional requirements across business units, the bidder may be required to customize critical and complex screens, reports, interfaces and other developments across all components of the Integrated Solution. The specific distribution of reports to be customized amongst various modules will be finalized during the implementation stage.

** Any Bespoke/Custom development required for meeting the functional requirements of the Owner shall be taken up with the ERP Product OEM's R&D center in India for doing the development and possible inclusion in the standard ERP/Add-on engines in subsequent ERP product releases.

Development of custom bolt-ons over ERP must follow well-defined methodology. A brief description of the methodology employed when developing custom applications/ reports should be included in the response to the Tender Document. At minimum, every request for development of custom development must be documented in a pre-defined format and supported by a business case prepared by the process owner while requesting for development. Every custom development must be documented in terms of the person developing, the reference request in response to which it is being developed, the script and other technical specifications. Basic guidelines with respect to all custom developments, naming convention etc. must be agreed with the Owner well in advance of commencing any customization effort.

In addition, the bidder is required to train the Owner Core/ Technical Team members on the methodology of building custom bolt-on, so that the Owner can take up the additional development as and when required.

The bidder should endeavour to have minimal use of third party bolt-on applications. This should be done if the functionalities covered by such applications are not available in the core ERP product.

** The ERP product OEM shall certify the entire 'ONE-BHEL' solution BOM with explicit confirmation regarding non-availability of standard ERP functionalities wherever 3rd Party software is included in the solution (as also captured in FRS responses).

However, where use of such applications becomes unavoidable, the same will be implemented without changing any code in ERP software. The Bidder should provide a detailed Bolt-on application usage report.

The Bidder shall identify, design and develop components / functionalities that are not covered within the specified solution. The Bidder shall provide the design of the bespoke component along with schedule for development. The development & implementation of the bespoke component will however be under taken only after it is approved by the ERP Product OEM and subsequently by the Owner.

The Bidder shall supply the following documents for all third party bolt-on applications and bespoke components:

- Business process guides;

- Program flow descriptions;
- Data model descriptions;
- Sample reports;
- Screen formats;
- Frequently asked question (FAQ) guides;
- Any other documentation required for usage of implemented solution

All developments should be part of Business blueprint as gaps.

9.10 Reports & Business Intelligence

After identification of the reports for development, the bidder shall verify whether standard reports or its variants shall meet the requirement. It is expected that custom reports need to be developed if the standard reports & its variants available in the Integrated Solution does not meet the Owner's specific requirements. These reports would include those, which would extract and present information already in the database in a specified format or could require some intelligence/ calculations built into it. The successful bidder may be required to customize critical and complex reports across all components of the Integrated Solution. The specific distribution of reports to be customized amongst various modules will be finalized during the implementation stage.

Development of custom reports must follow well-defined methodology. A brief description of the methodology employed when developing custom applications/ reports should be included in the response to the Tender Document. At minimum, every request for development of custom report must be documented in a pre-defined format and supported by a business case prepared by the process owner while requesting for development. Every custom report development must be documented in terms of the person developing the report, the reference request in response to which the report is being developed, the report script and other technical specifications. Basic guidelines with respect to all custom report formats, naming convention etc. must be agreed with the Owner well in advance of commencing any customization effort.

In addition, the successful bidder is required to train the Owner's Core/ Technical Team members on the methodology of building custom reports, so that the Owner can take up the additional development as and when required.

Implementation of Unit MIRs on Business Intelligence shall be carried out from the start of Realization phase. Corporate MIRs shall be taken up after Unit MIRs.

For Units & Corporate MIRs, the necessary data has to be identified with provision for incremental data movement from the ERP system to Business Intelligence platform. While doing any custom developments, the change date of the record has to be necessarily maintained in the ERP system.

9.11 Training

Bidder shall organize the following trainings for the Owner's manpower. Cost towards travel expenses, boarding, lodging etc. for the Owner's personnel shall be borne by the Owner and for Bidder's personnel shall be borne by the Bidder. Such trainings shall be conducted concurrently, if required by owner, at owner's different premises (other than certification trainings which shall be conducted at ERP Product Vendor's own or authorised training centres) as per pre-agreed plan.

9.11.1 Owner teams to be trained

The bidder must provide training to the following teams of the Owner:

- **Central Functional Core Team:** Functional Core Team members at the Owner represent different functions within the scope of the project. They bring with them knowledge of existing processes, critical requirements, constraints, relevant management policies, information requirements etc. They will assist/ participate in various activities during implementation such as business process study, blueprint, solution design, testing, etc. and also in help desk activities post go-live. To be able to assist in these activities, it is necessary to train them adequately on the ERP product functionalities including configuration steps and the impact each step has on the solution. Since the Functional Core Team members will drive the effectiveness of the ERP implementation within the Owner, it is essential that requisite knowledge and skills are transferred to them by the Bidder.
- **Central Technical Core Team:** Technical Core Team at the Owner comprises of officials from IT department. These representatives bring with them knowledge of existing applications, interfaces, constraints, information requirements etc. ERP training needs of these team members will be in areas such as technical configuration, interfaces, report customization, operating system, database administration, access control, helpdesk etc.
- **Central Project Management Core Team:** Project Management Core Team comprises of Program Director / Project Manager, Change Manager, Training Manager, Centre of Excellence (CoE) Manager, Roll-out Managers, and Central Process Owners.
- **Unit Functional Team:** The Unit Functional Team members represent different functions within the scope of the project at each Unit. They will assist/ participate in various activities during implementation, roll-out, and also in post go-live activities.
- **Unit Technical Team:** The Unit Technical Team comprises of officials from IT department.
- **Unit Power Users:** Users that will represent different modules/processes to be covered under the solution.
- **End Users:** End Users at the Owner will represent different functions to be covered under the solution. These users will actually use the system in different functional areas. These users will need to be trained on how to use the solution before going live. Comprehensive guidelines on how to accomplish tasks in the solution in specific context of the Owner processes must be provided to the end users as part of the end-user training.
- **Internal/ Statutory Auditors:** This team comprises of the Internal Auditors of the Owner.

9.11.2 Type of Training

Adequate training of the Owner employees is a key success factor for the ERP implementation and usage. Out of the overall owner's team envisaged to be trained, the number of participants to be trained for either product would be decided at the time of planning phase of the project. The training would cover broadly the following aspects:

- **Certification Training for Central Core Team (Functional, Technical):** Each member shall be trained in relevant function/module of ERP product. The training will be required to be given to approximately 150 team members to each member as per the ERP Product Vendor Curriculum. Bidder should get this training imparted by ERP product Vendor or authorized and certified training/education partners of ERP product Vendor only (subject to approval of the Owner). The Certification Training should be conducted at ERP product Vendor's own or certified training centre. Standard curriculum, ERP product study material leading to ERP product certification should be used. Vendor shall submit a detailed training plan and quote the per person training rate as per **Annexure #19** (including certification examination fees). Payments shall be made based on actual number of persons trained & certified. The invoices

from the Bidder should be annexed by corresponding invoices from ERP Product OEM/ Authorized Training Partner.

- **Functional Training for Unit Functional Team** (lecture & hands-on mode): business processes and features of ERP product in respective modules which have been included in the scope for the Owner. Both transactional data entry and module setup / configuration aspects should be covered. The bidder should share appropriate training materials and practice exercises for the team. The bidder should obtain training feedback after each session and address inadequacies if any. This training should be conducted by a certified trainer.
- **Technical Training for Unit Technical Team** (lecture & hands-on mode): should cover aspects of development of reports, interfaces, customization, forms, and workflows etc. using ERP tools as applicable. It should also cover ERP product system administration aspects. The bidder should share appropriate training materials and practice exercises for the team. The bidder should obtain training feedback after each session and address inadequacies if any. This training should be conducted by a certified trainer.
- **Power Users Training**(lecture & hands-on mode): Training on Processes/Modules.
- **Training for End Users** (lecture & hands-on mode): end-user training to be delivered a select set of end users. Training should cover specific functional / process aspects of the system relevant for different end-user segments. Training should enable end-users to know which are the relevant reports / MIS in his/ her respective area of work. The end-user trainings would be conducted in the 'Train the Trainer' mode. Here the bidder would train key core and power end-users of the system directly who will further be the trainers. Bidder shall submit a detailed training plan and quote the per batch training rate. Payments shall be made based on actual number of persons trained. The training will be required to be given to approximately 2000 end users for at least 2 days each. The training would be conducted at the Owners locations as specified in the **Section 9.5 Geographical Scope**.
- **Helpdesk Training** (lecture & hands-on mode): training to chosen helpdesk team (resources of the Owner and the bidder) on maintaining and managing an ERP helpdesk with the aid of appropriate tools during post go-live support

The Bidder will be responsible for preparation & submission to owner in adequate bound volumes of the training material and end user manuals. End user manuals should cover “how to use” concepts for all modules of the solution being implemented.

The cost of the trainings, other than certification training are the part of the Implementation cost.

9.11.3 Training Plan

The training plan as required and envisaged by the Owner is provided below.

Type of training	Participants & Number	When	Minimum Duration per batch	Delivery location	Delivery mode
Induction Training for Central Core Team	Central Core Team (150 members)	During Project Preparation Phase	2 Days	Owner's Central Project Location	Class Room Lecture
Certification Training for Central Core	Central Core Team (150)	During Realization Phase	As per the ERP Product Vendor	ERP Product Vendor's	Class room

Type of training	Participants & Number	When	Minimum Duration per batch	Delivery location	Delivery mode
Team	members)		Curriculum	own or certified training center	Lecture
Training for Unit Functional Team	Unit Functional Team (Approx. 350 members)	<ul style="list-style-type: none"> •Phase-I Locations: During Realization Phase •Phase-II Locations: During Implementation Support period of Phase-I •Phase-III Locations: During Stabilization Period of Phase II 	4 Days	Owner's Units	Lecture & hands-on mode
Training for Unit Technical Team	Unit Technical Team (Approx. 100 members)	<ul style="list-style-type: none"> •Phase-I Locations: During Realization Phase •Phase-II Locations: During Implementation Support period of Phase-I •Phase-III Locations: During Stabilization Period of Phase II 	4 Days	Owner's Units	Lecture & hands-on mode
Training for Power Users	1000 Users	<ul style="list-style-type: none"> •Phase-I Locations: During Realization Phase •Phase-II Locations: During Implementation Support period of Phase-I •Phase-III Locations: During Stabilization Period of Phase II 	4 Days	Owner's Units	Lecture & hands-on mode
Training for End Users	Selected End Users (approx. 2000 users). These people will further	Before Go-Live of each Unit	2 Days	Owner Units	Lecture & hands-on mode

Type of training	Participants & Number	When	Minimum Duration per batch	Delivery location	Delivery mode
	train other employees.				

9.12 Implementation of 'ONE-BHEL' solution

The Bidder will be responsible for providing a full range of services in implementation of ERP Product / Software covering 'ONE-BHEL' Solution including integration and supporting the operation of the proposed solution during and post implementation.

The Bidder should use the best implementation methodology approved by ERP Product OEM for implementation. The responsibilities of the bidder during implementation of ERP over the broad project phases are outlined in the subsequent sub-sections. The Bidder must have sufficient prior experience in using this methodology, tools and formats on sustained basis in implementing the Integrated Solution. The Bidder must be open to improvisations to the same based on the Owner's specific requirements. The successful Bidder should undertake quality review of its work from its Quality Group during the course of implementation and also from ERP Product OEM. The on-going responsibilities of Bidder during the project are also outlined below.

9.12.1 Project Preparation Phase

During the first phase of project, the Bidder should setup the project office and prepare the project charter. The Bidder should mobilize his project team to the project site within a week's time from project launch and agree with Owner, a detailed project plan.

The Bidder should also provide assistance in outlining the solution deployment architecture with details of hardware and Operating system platform and disaster recovery architecture.

Some of the important activities / deliverables during this phase would be

9.12.1.1 Project Charter

The Bidder should prepare the project charter, which outlines the project objectives, timelines, project procedures and project organization and submit it to Owner for approval.

The Project charter should include but not limited to the following:

9.12.1.1.1 Training Server

Bidder shall establish on-premise training server of the ERP product for the owner to have hands-on experience of the configured standard processes of the product.

9.12.1.1.2 Training Strategy

BHEL believes that key to successful implementation will be the Bidder's ability to train Owner's staff in the operation of the proposed business solutions.

As a part of the training strategy the Bidder should provide the following information:

- The facilities, support materials and program including mode of training (standard/ self-paced) provided for training the users in using the system
- List of training areas for training to be provided to Core team, end users and technical users
- Training infrastructure required and expectations from Owner, if any.
- Duration and frequency of training.

The training strategy should be designed to provide ERP training to the personnel identified by Owner at various locations site on the various Transactions, Workflows, Project Technical Design & Implementation, Data Base Design, Application Design, Program Libraries and System Configuration. Owner will measure the effectiveness after the completion of the training through training feedback forms. Detailed training scope is mentioned in **section 9.11**.

Cost towards travel expenses, boarding, lodging etc. for the Owner's personnel shall be borne by the Owner and for Bidder's personnel shall be borne by the Bidder.

9.12.1.2 Central Knowledge Management portal

The Bidder shall establish an on-site central knowledge management portal for storing 'ONE-BHEL' project related documents like processes and their structures, configuration details, development code, test plans, test cases, outputs, queries & resolution. This should help in easy roll-out during different phases and locations.

9.12.1.3 First level Central core team training

The Bidder should train the core team members with the aim to provide an overview of ERP and understand, in detail, the capabilities of modules. The training by the Bidder should cover at least following areas for Owner's team.

- ERP application overview
- System functionalities (for each module) and basic configuration
- System Security features
- Articulation of KPI's to the core team
- Key Transactions and its usages

9.12.1.4 Project Plan

The Bidder shall develop a detailed Project Plan in standard Project management software. The Project Plan shall amongst other functions, detail all tasks including but not limited to the task / person in charge for the execution of the task/ effort resource allocation. This information shall be provided in the form of a detailed Gantt chart. The Project Plan shall also detail all milestones and indicate when the required deliverable documentation will be available to Owner. This plan will be discussed with Owner and finalized during the project preparation stage.

9.12.1.5 Phase Deliverables

The deliverables for this phase will include signed off documents covering but not limited to the following

SI. No.	Project Deliverables
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1	<p>Project Charter outlining:</p> <ul style="list-style-type: none"> • Project Implementation Methodology document. • Project Scope, Goals and Objectives. • Project Organization chart. • Detailed Project Plan / Schedule. • Project Quality Management Plan. • Project Risk Management Plan. • Project Escalation Procedures. • Project Change Management Plan. • Training Plan. • Document standards. • Deliverable approval (from Owner) procedures. • Center of Excellence (CoE) creation Plan • Bidder's resources & deployment plan and mobilization
2	<p>Project infrastructure requirements:</p> <ul style="list-style-type: none"> • Hardware, software, LAN and WAN requirements during all the project phases. • Sizing & System landscape design.
3	<p>Training Plan for the Core team members outlining:</p> <ul style="list-style-type: none"> • Training courses, mode of training, venue of training and schedule of training. • List of participants. • Trainer details.

9.12.2 Business Blueprint Phase

The Bidder's team should study the existing processes of Owner and identify the opportunities for improvement and define the "To-Be Processes" of Owner. The Bidder should define reporting requirements for each of Owner's department with details of formats and frequency of report generation.

Some of the important activities / deliverables during this phase would be

9.12.2.1 Business Process Re-alignment (BPR)

The AS-IS processes, as compiled by the Owner, would be shared with the successful Bidder. The Bidder will identify the processes which are not mentioned in the shared AS-IS process but are required for completeness of the Integrated Solution.

After understanding the AS-IS process, the Bidder has to realign the activities of the processes in-line with the ERP product's standard processes.

The Owner expects the 'ONE-BHEL' project to impact the realization of a number of business objectives around project delivery efficiency, cost and quality, along with internal efficiencies and financial performance. Owner understands that these business objectives can only be realized by targeted action plans which are monitored by task groups, driven by the Owner with due technology enablement inputs from the successful bidder. This may result in process modifications, rethink on existing ways of conducting certain activities, system enabled efficiencies in reduction in cycle times and workflows, easier tracking of process measures, etc.

A dedicated "Business Process Re-alignment" phase has been maintained wherein such activities would be focussed. There would be a KPI owner assigned by Owner for each KPI, who would drive the necessary BPR initiatives across the organization. The bidder would work in close conjunction with the identified KPI owner of each KPI to identify improvements that could be brought about through the solution.

The bidder should take note of the indicative KPIs noted in the table below. The bidder shall also recommend KPIs, other than those stated, herein, realisable from 'ONE-BHEL' ERP solution & shall do all necessary works to realise and demonstrate same, once approved by owner. The Bidder shall record the baseline for all the KPIs which will be used for comparisons with the help of Owner.

Sl. No.	KPI Description	Formula	A	B	Responsibility	Baseline Level
1	Order Conversion ratio (Market Share)	A/B	No of Orders won	Total No of tenders floated in market	Marketing	Business Sectors
2	Issuance of Work Orders at Manufacturing Unit / Region Level (on the basis of internal order)	A	Average Time taken to issue work order at MU / Region after Internal Work Order issue		Commercial	Manufacturing Units / Regions/ Project Engineering Management/ Project Engineering & Systems Division
3	Release of Engineering Documents for manufacturing and Material Procurement	A/B	Actual No of approved documents released as per L2 schedule	Planned No of Documents for release as per L2 schedule	Engineering	Manufacturing Units/ Project Engineering Management/ Project Engineering & Systems Division

Sl. No.	KPI Description	Formula	A	B	Responsibility	Baseline Level
4	Material Procurement Requisitions	A/B	Total No of Indents actually issued as per L2 schedule	Total No of Indents planned for issue as per L2 schedule	Manufacturing/ Engineering	Manufacturing Units/ Project Engineering Management/ Project Engineering & Systems Division
5	Sub-Contracting	A/B	Total No of Dispatchable Units/ Components actually issued as per L2 schedule	Total No of Dispatchable Units/ Components planned for issue as per L2 schedule	Materials Management	Manufacturing Units/ Sites
6	Quality Improvement	A/B	Average No of quality checks which result in rework/ rejection per Work Order	Total no of Quality checks performed per Work Order	Quality Control	Manufacturing Units / Regions
7	Improvement in Inventory Management	A	Reduction in Inventory in no of days		Stores	Manufacturing Units
8	Debtors Management	A	summation (days from generation of invoice to approval, approval to despatch, despatch to receipt by customer, receipt to payment)		Finance / Commercial / Site	Manufacturing Units / Regions
9	Project Execution	A/B	Actual Completion date	Contractual Scheduled date as defined for LD	Erection & commissioning / Sub Contracting	Project Management groups / Regions

The Bidder would provide the following as part of the Business Process Re-Alignment scope:

- Work with identified KPI task owners to identify action plans for realizing efficiencies/ improvements across identified/ impacted projects
- Provide inputs on technology enablement to realize the benefits

- Provide subject matter experts across the key KPI areas across which benefits need to be realized
- Review go/ no-go decisions and ensure linkage of the same with the global business template preparation stage
- List the Business processes in 'ONE-BHEL' project
- Create Process charts / Flow diagrams of each of the above processes considering existing processes and perceived expectations from the processes

The Business Process Study will enable the Project Team of the Bidder to get first hand understanding of the business processes that will be implemented at the Owner through the Integrated Solution. It would also help them understand the specific role played by each legacy module / system and identify legacy systems, which would be retained after implementation of the Integrated Solution.

9.12.2.2 Global Business Template

Global Business Template shall cover the following:

- Overall Organization structure design mapped to the Integrated Solution.
- Mapping of To-Be Business processes with Integrated Solution capabilities with details of variations / deviations for each of the unit processes.
- Definition of parameters for system configuration.
- Identification of Customizations to be done.
- Identification of Custom objects (New development) to be developed.
- Identifications of reports - standard and customized.
- Identify data conversion elements for each business process.
- Identify the legacy systems that may be retained.
- Involve Subject Matter Experts of the relevant business units during the design phase.

The Business Blue Print Phase will enable the Project Team to see the system in operation, collect sample transactions / reports and get a better understanding of the business process. The bidder will detail all the possible direct support by ERP Product OEM, customization/development need and work around in this document. This will form the baseline for testing the system.

Bidder shall suggest optimum strategy for rolling out Global Business Template which will be jointly decided by bidder and owner during Business Blueprint.

The bidder shall prepare & submit the entire end-to-end integrated business process & workflow chart with granular activities & integration of the proposed 'ONE-BHEL' ERP solution.

9.12.2.3 Interface/ Integration with Existing Applications

The Bidder shall carry out the following:

Interface 'ONE-BHEL' ERP solution with the latest version of AutoCAD is required to be created to achieve 'ONE-BHEL' objectives. Bidder shall build necessary interfaces (on both sides) for integrating with AutoCAD using Industry standard tools/technologies.

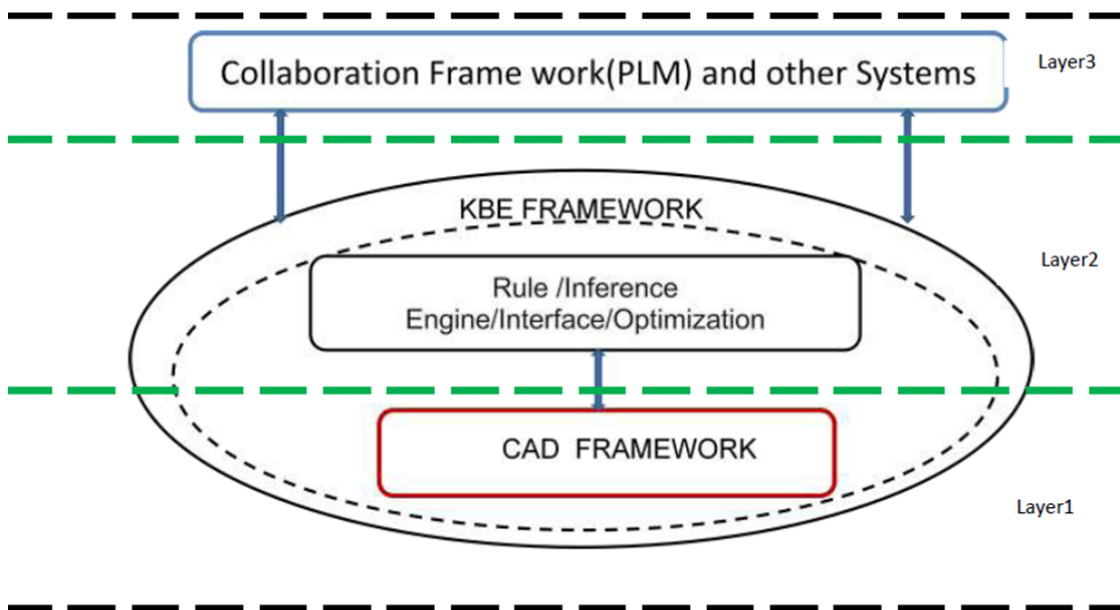
Integration with SAP-HCM: SAP-HCM is implemented at the corporate level for the entire organization and its integration with 'ONE-BHEL' ERP solution is required to be created to achieve 'ONE-BHEL' objectives using Industry standard tools/technologies. Work related to fulfilling of any data requirement from SAP-HCM but which is not available in SAP-HCM, but required to achieve 'ONE-BHEL' objectives, is also within the scope of work of the bidder.

Interfacing with legacy applications to achieve 'ONE-BHEL' objectives: Over the years, BHEL has developed systems to support its business. These systems provide certain business benefits to BHEL, which BHEL intends to improve from 'ONE-BHEL' solution or else with integration of such legacy system with 'ONE-BHEL' solution, to either limit change management or wherever proposed solution does not cover critical functions / processes & benefits. However, every effort shall be made by bidder to improve prevailing processes. Indicative list of applications (subject to review and mutual agreement at Business Blueprint phase) which the Owner might want to retain along with the Integrated Solution is:

1. Hospital / Medical system
2. Knowledge management
3. Unit/Corporate Portals
4. Estate Management
5. Attendance Recording System

BHEL's Engineering Vertical has three distinct layers shown below:

- Layer1 will comprise of GENERIC CAD models
- Layer2 will comprise of Rule engine, inference engine, interface with CAD platform / data base/ optimization tools.
- Layer3 comprises of Collaboration framework (PLM and other systems).



The topmost layer (Layer-3) which enables Engineering collaboration can be called as the PLM layer. The Integrated Solution should have the capability to interface with the PLM at

appropriate points in the work flow with the help of out of the box connectors or custom built connectors. The probable PLM platforms can be one of the standard and proven PLM platforms which integrate our Engineering processes and facilitate required collaboration among the stakeholders.

9.12.2.4 Business Blueprint

The Bidder should study the existing processes (As-Is) of Owner and identify the opportunities for improvement and define the “To-Be Processes”. The Bidder should prepare the Business Blueprints and System configuration documents outlining the configuration requirements for each of the ERP modules. The Bidder should also identify gaps where standard ERP processes are not available.

Owner expects the Bidder to propose workflows based on the best practices followed globally in the form of blueprints or workflows. These workflows shall be shared with the key officials in the concerned departments through a series of workshops and their views taken into consideration during design of the final workflows. In case this has a significant impact on the duration of the assignment, the Steering Committee appointed by Owner to oversee this project will arbitrate. The customization will also include all mandatory and required reports and various analytics.

The Business blue prints will be based on best practices and Owner’s practices. The formats and contents of the blueprint would be finalized at the start of the blueprint stage with the program office.

The AS-IS process activities should be updated with the action taken as per the Business Blueprints.

9.12.2.5 Development Environment

- The Bidder shall establish the environment (hardware & associated software) for experimenting Owner’s processes.
- The bidder shall install and maintain development environment for the entire team. The location of the development premises shall not be moved from the nominated location as per the agreement, without the approval of Owner. The bidder shall maintain the technical administration of the servers. The bidder shall be responsible for taking backups and ensuring security of backup media.

On availability of servers for the above functionalities by Owner, the Bidder shall replicate the existing development servers to the new development servers.

9.12.2.6 Central Core Team Certification Trainings

The Bidder shall provide certificate training to Owner’s Central Core team (**ref. section 9.11**), catering to all functional/technical modules.

9.12.2.7 Phase Deliverables

The deliverables for this phase will include signed off documents covering but not limited to the following

Sl. No.	Project Deliverables
1	<p>“To-Be” process design document covering:</p> <ul style="list-style-type: none"> • Overall Organization design • Process charts / flow diagrams outlining broad processes and sub-processes for each function • Key objects structure definition (eg. Project No. X---XX-XXXX) • Procedure for key structure allocation • Checks and controls for processes • Roles and responsibilities for processes • Business process improvement planned through new process design • Targeted KPI improvement in “To-Be process” scenario
2	<p>Technology configuration document outlining:</p> <ul style="list-style-type: none"> • Detailed Technical architecture of solution • Operating System environment and hardware platform • Interface with external systems • System operating procedures
3	<p>System configuration document outlining</p> <ul style="list-style-type: none"> • Definition of user profile for all functional areas • Definition of Master / Transaction data structures • Definition of parameters for system configuration for all application modules and reporting tool(s) • Standard reports for each function / module • Customization areas with details of customization scope and effort estimate
4	<p>Data migration strategy</p> <ul style="list-style-type: none"> • Master Data preparation strategy
5	<p>Project KPI's for each business function and KPI monitoring plan:</p> <ul style="list-style-type: none"> • The Bidder should define the Key performance indicators, which will assist in evaluating the success of project. • KPI Monitoring Plan document.

9.12.3 Realization Phase

During this phase of project, the Bidder will configure the application as per the System configuration document prepared in the previous phase of the project. The Bidder team will carry out the required customization of application to meet the requirements as per the “To-Be Process” document. Once the system is configured, Bidder should pass the configured system through its own internal quality processes and provide the compliance reports to the Owner team. The Bidder should populate sample master data in the system and configure the data integration and interfaces.

Some of the important activities / deliverables during this phase would be:

9.12.3.1 Interface / Integration development

Bidder shall develop all the identified Interfaces/Integration as per the Business Blueprint cutting across the functions and do sample testing.

9.12.3.2 Custom developments

Bidder shall develop all the identified Custom developments as per the Business Blueprint gaps and do sample testing. Any changes necessitated w.r.t. cross-functional requirements need to be incorporated.

9.12.3.3 Blueprinted process testing

Bidder shall test the process after creating the necessary configuration requirements along with the Owner's team within the respective modules and record the necessary test data, testing plan and the output. Wherever a process has interface with other functions, the process needs to be discussed and revised accordingly and testing has to be repeated.

9.12.3.4 Unit Testing

Bidder should test the realized processes along with the Owner's team within the functional domain and record the necessary test data, testing plan and the output. Any developments that are part of functional domain process activities also need to be tested and recorded. Any changes necessitated shall be corrected and retested.

9.12.3.5 Integration Testing

- The Bidder should define the Integration test scripts along with the Owner's team. These test scripts will be used for testing based on review and approval of Owner's project team.
- The Bidder should populate sample master data in the system along with the Owner's team.
- The Bidder shall undertake the testing of the data conversion and migration to the new system, as part of system integration testing along with the Owner's team.
- The Integration testing will be done jointly by the bidder's team and the Owner's core team and record the test plans, test data and outputs for each activity. Any changes necessitated shall be corrected and retested.

9.12.3.6 Power Users Training

The Bidder shall provide training to Owner's Power Users (**ref. section 9.11**), catering to all modules related processes realized in this phase.

9.12.3.7 Master Data Preparation

Bidder shall carry out the following activities related to Data migration strategy along with Owner's team:

- Mapping existing data with ERP system data structures
- List of data to be migrated with details of granularity (transaction level or consolidated)
- Data conversion procedures (manual, tool based)

9.12.3.8 Cut-over data migration strategy

Bidder shall carry out activities related to cut-over data migration strategy along with Owner's team:

9.12.3.9 Phase Deliverables

The deliverables for this phase will include signed off documents covering but not limited to the following:

Sl. No.	Project Deliverables
1	Customization development report <ul style="list-style-type: none"> • Functional requirements met through customization • Standards followed for customization • Version control mechanism and current version information
2	<ul style="list-style-type: none"> • Updated Business Blueprint documents (available in central knowledge management portal).
3	Internal (to Bidder) test result reports for system tests
4	Test Plans / Scripts and Test procedures for unit testing and integration testing
5	Test result reports for unit testing and Integration testing
6	Issue closure report indicating compliance to the issues identified during Unit Test and Integration test
7	System acceptance report with sign-off from Core team members
8	<ul style="list-style-type: none"> • End-user documentation / manuals • System user manuals • Process charts with roles and responsibilities
9	Plan for stress / volume testing <ul style="list-style-type: none"> • Modules for stress / volume testing • Scripts for stress / volume testing • Data population strategy • Tools to be used for testing • Parameters (e.g. response times) to be monitored and target values to be achieved during stress / volume testing
10	Stress / volume testing results (to be conducted till the desired parameters / results are achieved)
11	Cut-Over Data migration strategy document.

9.12.4 Final preparation Phase

This “Final Preparation Phase” shall be carried out for each Unit that shall Go-Live in all the Implementation Phases – I, II & III (as per Owner’s Go-Live plan as mentioned in section 3.3).

Bidder should prepare and agree with Owner, the detailed plan for Go-Live with details of locations **(in-line with Owner’s Go-Live plan as mentioned in section 3.3)**, modules and user profile. The Go-Live plan should identify the training requirements and schedule for training the end-users at different locations and different user departments. The Bidder should define and agree with Owner, the criteria for Go-Live and the timelines for the same.

The Bidder shall undertake data migration from the legacy systems to ‘ONE-BHEL’ ERP solution. The Bidder along with Owner’s team shall undertake conversion and migration of transaction data, master data and cut-over data from the legacy systems.

Some of the important activities / deliverables during this phase would be

9.12.4.1 Master Data Conversion and Migration

The Data conversion activity typically includes five elements:

- Strategy for unification of code across the Owner organization as appropriate
- Extraction of existing data from legacy systems,
- Cleansing and formatting of data extracted from legacy systems as per the strategy provided,
- Uploading of the data to new system,
- Creating of new/additional data mandatory in new system.

To ensure adequate time is available to prepare the data for conversion & cleaning, activities of data conversion & cleaning should commence during early stages of the project to avoid any interruption & idling.

The Bidder should submit a high level Data Conversion Strategy Document during the Global Business Template stage of the project describing the broad data elements to be converted, source of the same, target ERP module and the detailed form in which the same will be converted (i.e. both at transaction level or at balance level and the coverage period). A time frame for activities such as data collection, cleansing and mapping, developing the necessary scripts, data migration, testing the same and eventual execution on the Production environment should also be indicated.

This activity should begin with the Bidder clearly mentioning in their Data Conversion Strategy Document what is the change in codification system is getting implemented along with the format in which data is to be prepared for uploading in the Integrated Solution. The Bidder should be able to assist the Owner in understanding the data collection templates and check the progress of data preparation for all modules on a regular basis. The Bidder should also help in ensuring that data integrity is maintained for data elements which are cross-functional / data elements which are required by the Integrated Solution and not a business need. The tasks to be performed by the Bidder / the Owner are tabulated below:

Tasks	Description
Data Identification and Preparation	<p>The Bidder should obtain complete understanding of the data which has to be migrated. The possibility and extent of summarized historical data which has to be migrated to ERP should also be assessed. This phase will consist of two steps:</p> <ol style="list-style-type: none"> 1. Data Profiling - involves studying the source data thoroughly to understand its content, structure, quality and integrity. The Owner would assist the bidder to gain functional knowledge in carrying out

	<p>this activity.</p> <p>2. Data Mapping - Once the data has been profiled, an accurate set of mapping specifications can be developed based on this profile considering the data requirements and new codification standard to be maintained in ERP. This activity will be done by the bidder.</p> <p>The combination of data profiling and mapping will essentially be the first step of the data conversion exercise.</p> <p>Summarized historical data that needs to be migrated should be clearly identified which would be uploaded in ERP in a consolidated manner and would be separated from the open transactional and opening balance data.</p>
Data Cleansing	<p>After the data profiling and mapping is done, bidder needs to prepare & provide guidelines to identify duplicate / abnormal entries in database. Based on this, a checklist is prepared and handed over to the Owner for cleaning data.</p> <p>After the first round checks, the Owner takes responsibility for data sanitization before this can be migrated to new database. Bidder to do the data conversion/migration after receiving approval from respective authority.</p> <p>Data correctness / integrity would be ensured by the Owner while providing the data in the templates</p>
Developing data conversion scripts	<p>The Bidder will develop scripts as may be required for data conversion activity.</p>
Data Extraction	<p>This task includes pulling data from operational and external data sources in order to prepare the source data for Integrated Solution during the migration exercise. This step involves creation of data into the format required by ERP from data which is currently stored in the electronic / non – electronic format (hard copies).</p> <p>This task would be done by the Owner but may include certain manual data entry activities by the Bidder after extraction to comply with ERP format.</p> <p>The Owner will validate and sign off the data extracted prior to loading into ERP.</p>
Data Loading	<p>The extracted data shall be loaded by the Bidder to the ERP pre-production server of ERP database and after error corrections to the ERP production database using the utilities or programs developed (Data Conversion Scripts).</p>
Testing and Verification	<p>The Bidder is responsible for testing and verifying the accuracy of data which is loaded to ERP in terms of the following:</p> <ul style="list-style-type: none"> • Number of records created • Value of the data • Duplicate data

	<ul style="list-style-type: none"> • Translation of data from legacy to ERP <p>The Owner will validate and sign off the final data which is loaded in ERP.</p>
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9.12.4.2 **Cut-Over Data Conversion and Migration**

The Data conversion activity typically includes five elements:

- Strategy for unification of code across the Owner as appropriate
- Extraction of existing data from legacy systems,
- Cleansing and formatting of data extracted from legacy systems as per the strategy provided,
- Uploading of the data to new system,
- Creating of new/additional data mandatory in new system.

To ensure adequate time is available to prepare the data for conversion & cleaning, activities of data conversion & cleaning should commence during early stages of the project to avoid any interruption & idling.

The Bidder should submit a high level Data Conversion Strategy Document during the Global Business Template stage of the project describing the broad data elements to be converted, source of the same, target ERP module and the detailed form in which the same will be converted (i.e. both at transaction level or at balance level and the coverage period). A time frame for activities such as data collection, cleansing and mapping, developing the necessary scripts, data migration, testing the same and eventual execution on the Production environment should also be indicated.

This activity should begin with the Bidder clearly mentioning in their Data Conversion Strategy Document what is the change in codification system is getting implemented along with the format in which data is to be prepared for uploading in the Integrated Solution. The Bidder should be able to assist the Owner in understanding the data collection templates and check the progress of data preparation for all modules on a regular basis. The Bidder should also help in ensuring that data integrity is maintained for data elements which are cross-functional / data elements which are required by the Integrated Solution and not a business need. The tasks to be performed by the Bidder / the Owner are tabulated below:

Tasks	Description
Data Identification and Preparation	<p>The Bidder should obtain complete understanding of the data which has to be migrated. The possibility and extent of summarized historical data which has to be migrated to ERP should also be assessed. This phase will consist of two steps:</p> <ol style="list-style-type: none"> 3. Data Profiling - involves studying the source data thoroughly to understand its content, structure, quality and integrity. The Owner would assist the bidder to gain functional knowledge in carrying out this activity. 4. Data Mapping - Once the data has been profiled, an accurate set of mapping specifications can be developed based on this profile considering the data requirements and new codification standard to be maintained in ERP. This activity will be done by the bidder.

	<p>The combination of data profiling and mapping will essentially be the first step of the data conversion exercise.</p> <p>Summarized historical data that needs to be migrated should be clearly identified which would be uploaded in ERP in a consolidated manner and would be separated from the open transactional and opening balance data.</p>
Data Cleansing	<p>After the data profiling and mapping is done, bidder needs to prepare & provide guidelines to identify duplicate / abnormal entries in database. Based on this, a checklist is prepared and handed over to the Owner for cleaning data.</p> <p>After the first round checks, the Owner takes responsibility for data sanitization before this can be migrated to new database. Bidder to do the data conversion/migration after receiving approval from respective authority.</p> <p>Data correctness / integrity would be ensured by the Owner while providing the data in the templates</p>
Developing data conversion scripts	<p>The Bidder will develop scripts as may be required for data conversion activity.</p>
Data Extraction	<p>This task includes pulling data from operational and external data sources in order to prepare the source data for Integrated Solution during the migration exercise. This step involves creation of data into the format required by ERP from data which is currently stored in the electronic / non – electronic format (hard copies).</p> <p>This task would be done by the Owner but may include certain manual data entry activities by the Bidder after extraction to comply with ERP format.</p> <p>The Owner will validate and sign off the data extracted prior to loading into ERP.</p>
Data Loading	<p>The extracted data shall be loaded by the Bidder to the ERP pre-production server of ERP database and after error corrections to the ERP production database using the utilities or programs developed (Data Conversion Scripts).</p>
Testing and Verification	<p>The Bidder is responsible for testing and verifying the accuracy of data which is loaded to ERP in terms of the following:</p> <ul style="list-style-type: none"> • Number of records created • Value of the data • Duplicate data • Translation of data from legacy to ERP <p>The Owner will validate and sign off the final data which is loaded in</p>

	ERP.
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9.12.4.3 Users creation & authorizations

The Bidder shall create all Users as per functional requirement with proper authorizations. The user authorization matrix need to be prepared and the be given to administration group for creating the same

9.12.4.4 End User Training

The Bidder shall also provide hands on training to the end users as per the User Training Plan (**ref. section 9.11.3**). The training should be role based so that the users are confident of executing their responsibilities post implementation.

9.12.4.5 Black-out Period

The Bidder shall plan that black-out is as minimum as possible as it will hamper the Owner's operations which are very critical. The entire data to be transferred to the new System should be kept ready before start of black-out period.

The Bidder shall ensure that ERP Product OEM does the health check before each Go-Live of Phase locations and give a status report.

9.12.4.6 Phase Deliverables

The deliverables for this phase will include signed off documents covering but not limited to the following

Sl. No.	Project Deliverables
1	Communication plan for end-user communication during Go-Live <ul style="list-style-type: none"> • Target end-users • Areas of communication (e.g. support system, revised process details, etc.) • Channel of access for communication (e.g. contact person, phone number, e-mail ID, etc.)
2	End-user Training plan <ul style="list-style-type: none"> • Training courses, mode of training, venue of training and schedule of training • List of participants • Trainer details
3	Report on establishment of Helpdesk infrastructure outlining details of <ul style="list-style-type: none"> • Help desk infrastructure deployed • Helpdesk staff / contact details • Helpdesk service delivery processes
4	Schedule and Criteria for Go-Live (for each module / functional area) <ul style="list-style-type: none"> • Parameters to be considered for Go-Live • Sign-offs required for Go-Live • KPI target values and KPI monitoring plan
5	Definition of cutover strategy and plan
6	Data migration report indicating conclusion of data migration as per the plan <ul style="list-style-type: none"> • Data extraction carried out • Data cleansing undertaken

	<ul style="list-style-type: none"> • Data posting on ERP application • The schedule of data loading (master & cut-over data).
7	<ul style="list-style-type: none"> • System administration document • Data management and backup procedures • Security procedures • User responsibilities • Disaster recovery plan

9.12.5 Go-Live and Support Phase

This “Go-Live and Support Phase” shall be carried out for each location that shall Go-Live in all the Implementation Phases – I, II & III.

9.12.5.1 Go-Live

The Bidder shall ensure that all the data to be transferred is done during the black-out period and new System is released for the operations to the Owner. The transactions that are carried manually during the black-out period shall be ensured by the Bidder for smooth transition to the new System.

The status document of Trial Balance line items of company code where balance sheet is prepared.

9.12.5.2 Implementation Support

Bidder shall provide post Go-Live Implementation support for a period of two months for all locations at respective locations. The end users should be made aware of the support infrastructure and support access methodology. The post Go-Live Implementation support should be through deployment of support staff that can register and resolve the queries and issues.

The changes that arise during the implementation of phases shall be carried out to the Global Business Template and the latest version to be rolled-out to the subsequent roll-out phases and location.

It is assumed that during this phase, the entire system would be stabilized at the end of Implementation support.

9.12.5.3 Performance Testing & Tuning

Performance Testing will take place at Owner’s site as per the approved Performance Testing plan. At the beginning of this phase, the performance testing benchmark environment, the performance requirements and the method of conducting the performance testing to determine system performance against the response time targets will be specified by the Bidder in consultation with the Owner.

If as a result of performance testing, Owner determines that one or more system performance requirements have not been satisfied, then each of these requirements will be recorded as a defect with a severity classification of “High”. The cost incurred for the fixing of the Problem shall be borne solely by the Bidder and such cost shall not be reimbursed by Owner.

The Bidder has to perform stress testing and load testing, as well assist Owner in performing the same. The bidder should use a tool to simulate post-go live environment for the same.

Indicative Response Time Performance Criteria
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User Activity to be guaranteed by the vendor	All ERP Users	
	LAN Users	WAN Users
Menu Navigation – Displaying the appropriate menu as per defined user role and profile	< 1 sec	< 2 sec
Screen Opening – Display of the selected data entry screen from the menu	< 2 sec	< 5 sec
Field Navigation – Navigation between different data entry fields in the Screen	< 1 sec	< 3 sec
Look up response – Display of items from a List of Values	< 1 sec	< 10 sec
Look up response – To display items from table	<5 sec	< 15 sec
Screen Navigation – Navigation between different data entry screens (from one to another)	< 1 sec	< 13 sec
Transaction Commit – Transaction saving after completing the data entry	< 2 sec	< 20 sec
Query retrieval – Online query entered by the user		
Simple query (data from single table/ view)	< 5 sec	< 12 sec
Medium Complexity query (data from two tables/ views)	< 8 sec	< 15 sec
High Complexity query (data from more than two tables/ views)	< 15 sec	< 20 sec
Reports response – Report fired by the user from the Report Generator		
Simple Report (report spooled from single table/ view)	< 10 sec	< 20 sec
Medium Complexity report (report spooled from two tables/ views)	< 30 sec	< 45 sec
High Complexity report (report spooled from more than two tables/ views)	< 1 min	< 3 min

9.12.5.4 Help Desk Support

Bidder is required to create and maintain a dedicated onsite Help Desk / hotline that will resolve problems and answer questions that arise from the use of the ERP solution as it is implemented. This will come into existence from end of Realization phase till the end of support period.

The help desk support to users shall be provided for all Owner working days from 6:00 AM to 10.00 PM. The details regarding telephonic support will be carefully considered, as this will have effect on the support response to Owner system end-users. The Bidders response and resolution time will be the basis for end-user support time in Owner's service level agreements with the Bidder.

Below is the Indicative response & resolution time matrix and shall be finalized by the Bidder and Owner:

Support Category	Criteria	Maximum Response	Resolution
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		Time	
Critical	The system cannot be used for normal business activities. There is certainty of financial loss to Owner.	30 Minutes	90 Minutes
Urgent	There is a problem with part of the system, which impacts on Owner's decision making. No viable workaround is available. There is a likelihood of financial loss.	1 Hour	4 Hours
High	The efficiency of users is being impacted, but has a viable workaround.	4 Hours	2 days
Medium	A low impact problem that affects the efficiency of users but has a simple workaround.	5 Hours	5 days
Low	A fault, which has no particular impact on processing of normal business activities.	8 Hours	10 days

SLA Exclusions:

The time lost due to any of the following causes shall not be included in calculating "Resolution Time":

- Time lost due to power or environmental failures
- Time taken to recover the equipment because of power or environmental failures.
- Time taken for scheduled maintenance/troubleshooting (including backup and restore times) either for preventive purposes or improvement in function or other purposes.
- Time taken for reconfiguration or other planned downtime situations.
- Scheduled shutdowns as required by Owner. The Bidder may also request Owner for a shutdown for maintenance purpose, which request will not be denied unreasonably by Owner.
- Time taken for booting the systems.
- Time taken to get approval from all stakeholders for the exclusive availability of system for support activities where the prospective solutions can be tested prior to promotion into production.
- Time taken for Owner to approve the work around or fix.
- Time taken by the third-party vendors and service providers for fixing a product related fault/ defect, replacement of part(s), or responding to clarifications.

In the event Owner's users are not defining the severities, the Bidder's team will analyze the problem and will set appropriate severity to the problem. In case if the Bidders support team does not agree with severity defined by Owner's user then all such disagreements will be discussed with Project Manager from Owner.

Other key factors to be addressed will be as follows:

- The escalation procedure for handing significant issues.
- The channels for contacting the help desk (telephone, toll-free number, email, etc.).
- Depth and breadth of help desk personnel (as well as 2nd and 3rd level support) knowledge and skills.
- Stability of help desk staffing.

- Quality and responsiveness of help desk personnel (this may be ascertained from client satisfaction survey data from the bidder's existing client base if available or through direct conversations with reference customers).

If the owner feels that the help-desk is not suitably staffed, the owner reserves the right of securing additional consultants for Help Desk. Owner also reserves the right of altering the composition of the help desk team, if required.

9.12.5.5 *Sustenance Support*

After 2 months Implementation support, the Bidder shall provide on-site Sustenance support from Owner's central location (**refer Implementation Plan section 3.3**). In exigency cases, as Owner decides, the Bidder shall visit the Owner's location for attending and resolving issues. The end users should be made aware of the support infrastructure and support access methodology. The Sustenance support should be through deployment of support staff that can register and resolve the queries and issues.

The changes that arise during the implementation of phases shall be carried out to the Global Business Template and the latest version to be rolled-out to the subsequent roll-out phases and location.

9.12.5.6 *Phase Deliverables*

The deliverables for this phase will include signed off documents covering but not limited to the following

Sl. No.	Project Deliverables
1	Issue log and issue resolution during the Go-Live
2	Go-Live sign-off document as per the criteria set for Go-Live
3	Issue log and resolution with details of <ul style="list-style-type: none"> • Time of issue registering and resolution • Owner's personnel who raised the issue • Category of calls (system query / process query / system issue)
4	KPI achievement report <ul style="list-style-type: none"> • KPI planned vs. achieved • Actions required to achieve the KPI's
5	Sign-off from end users for closure of all issues raised during the post implementation Period
6	Final submission of documents (after incorporating the changes undertaken during the entire project) <ul style="list-style-type: none"> • "To-Be" process design • Technology configuration document • System configuration document • End user documentation • System administration document

9.13 Business Intelligence & Dashboards - CORPORATE MIRs

The Bidder shall establish the Business Intelligence (BI) landscape during the realization phase of the project. All the data of Owner's location going Live shall be moved to the BI platform. The total integrated Corporate MIRs and dashboards shall be realized and released for working.

BI database updation shall be at pre-defined frequencies automatically. The bidder has to keep provisions of incremental changes in BI from ERP data whenever required.

The solution should have capability of providing on-line information to facilitate tactical and operational decision-making. It should be possible for the Owner to configure a Business Intelligence Dashboard visually representing the key organizational performance data in a user-friendly manner.

Successful bidder shall create a portal for BI dashboards, scope not limited to:

- Development and deployment of well-designed interface which includes user administration, security and development features to create and maintain reports, charts, etc.
- Sharing of reports/queries, through portal, across the enterprise based on role based access.
- Creating a Business Intelligence dashboard personalized by job role.
- Development of charts and/or reports representing key performance indicators (KPI's)
- Ability to access the reports on Mobile Devices (Device Independent).
- Access to dashboard applications to users based on predefined criteria.

9.14 Center of Excellence (CoE)

The Bidder shall take necessary steps to create the Center of Excellence (CoE) from the Business Blueprint Phase, as per the CoE creation plan submitted during Project preparation phase. ERP Product OEM shall also be responsible for creation of CoE (**ref. section 7.8**).

The Bidder shall impart all the necessary trainings, knowledge transfer on the processes and methodologies to the Owner's personnel continuously throughout the Project period. The Bidder shall also conduct random tests intermittently to assess if sufficient knowledge is transferred to Owner's personnel.

The Bidder shall guide and maintain the CoE till the end of Support period and subsequent hand over the responsibility of the CoE maintenance to the Owner.

9.15 Implementation of Audit/review findings

The Changes arising out of ERP Product OEM reviews (**ref. section 7.5**) or any 3rd Party Audits conducted directly by the Owner, in order to bring execution in line with original proposal, at any stage of the project have to be incorporated after discussion of ERP Product OEM, Bidder and Owner without additional cost to the Owner.

10 Key Deliverables & Payment Schedule

10.1 Payment Schedule for License Cost

10.1.1 ERP Licenses & Add-on Engines Cost (incl. ATS)

Owner's ERP licenses requirement is specified in **Section 7.2** and payments for the Licenses shall be made progressively as the licenses are acquired.

The Bidder shall make provision for creation of End User License agreement (EULA) between Owner & ERP Product OEM and Owner shall make the payments to the ERP Product OEM based on the invoices raised by Bidder's ERP Product OEM.

- Payment for ERP Licenses & Add-on Engines shall be made as the licenses are acquired by the owner as per the plan specified in **Section 7.2**.
- ATS payment will be released at the Start of the Realization Phase (for the licenses acquired at start of realization phase) and subsequently after each 12 months period.
- The payments for ATS shall be done progressively as per the licenses being acquired by the Owner.
- For every stage, for those licenses which have not completed 12 months from its procurement date, ATS will be on proportionate basis.

10.1.2 Other Software Cost (incl. ATS)

Payment for all other 3rd party software supplied by the Bidder shall be made to the Bidder based on the invoices raised by the Bidder (**ref. section 9.6**).

- For all 3rd party products, the Bidder shall mention total cost (quoted as per Annexure #17), ATS(%) and ATS Price as lump sum. The payment for 3rd Party software & ATS shall be as per the Percentage of licenses of total ERP licenses acquired by the Owner at different points. (Eg. At start of Realization phase: Licenses requirement is 3.75% of total license requirement for non-SAP ERP product, hence, the 3rd party software cost payable at start of Realization phase shall not be more than 3.75% of total 3rd party software cost and total ATS cost).

10.2 Payment Schedule for Implementation Cost

The payment for 'ONE-BHEL' project Implementation shall be made to the Bidder based on invoices raised. The payments shall be made by the owner as per the schedule mentioned in **Annexure #28**.

10.3 Payment Schedule for Manpower Cost

10.3.1 Solution Expert Consulting manpower cost

Payment for ERP Product OEM's manpower for Solution expert consulting services (**ref. section 7.7**) shall be made as per the actual no. of solution expert consulting mandays consumed by the owner. The payments will be made directly to the ERP Product OEM, based on the invoices raised by Bidder's ERP Product OEM.

10.3.2 Bidder's manpower cost

Payment for Bidder's manpower shall be made to the Bidder based on the invoices raised by the Bidder.

10.4 Payment Schedule for Training Cost

The payments for certification training (**ref. section 9.11**) shall be made to the Bidder based on actual trainings imparted and invoices raised. Bidder's such invoices should be suitably supported by ERP product OEM's invoices/document and satisfactory training completion certificate from Owner's participants.

The payment for certification cost shall be made to the Bidder based on invoices raised by the Bidder and Owner's personnel acquiring certificate Bidder's such invoices should be suitably supported by ERP product OEM's invoices/document.

Training & certification cost is payable after completion of training & certification of Owner's entire central core team.

10.5 Payment Schedule for Post Go-Live Support

The payment for 'ONE-BHEL' project post go-live support cost (**ref section 8.8.2**) shall be made to the Bidder based on invoices raised after completion of 6 months and 12 months of Go-Live support since its commencement.

11 General Conditions of Contract

11.1 Deviations

Bids shall be submitted strictly in accordance with the requirements and terms & conditions of the RFP. The Bidder shall submit a No Deviation Certificate as per **Annexure #11 No Deviation Certificate**. The bids with deviation(s) are liable for rejection.

11.2 Acceptance / Rejection of Bids

- Owner reserves the right to reject in full or part, any or all bids without assigning any reason thereof. Owner reserves the right to assess the Bidder's capabilities and capacity. The decision of the Owner shall be final and binding.
- Bid should be free of over writing. All erasures, correction or addition must be clearly written both in words and figures and attested.
- Offers not submitted in prescribed manner or submitted after due date and time are liable to rejection.
- Both delayed as well as late tenders are liable for rejection. Hence, offers reaching within the due date & time in the tender box only will be accepted.
- In the event of any assumptions, presumptions, key points of discussion, recommendation or any points of similar nature submitted along with the Bid, the Owner reserves the right to reject the Bid and forfeit the EMD.
- If there is any discrepancy in the price bid, it will be dealt as per the following:
 - If, in the price structure quoted for the required goods/ services/ works, there is discrepancy between the unit price and total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly.

- 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 words and figures, the amount in words shall prevail.
- If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date up to which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the Owner, the bid is liable to be ignored.
- Any single criteria of Bid Pre-Qualification if not met by any Bidder, the bidder shall be disqualified & rejected.

11.3 Information Security Management System (ISMS)

Owner has implemented Information Security Management System (ISMS) and has taken certificate for the same based on ISO 27001 standard.

Owner's Information Security Policy is as follows: "BHEL is committed to ensure Integrity, Confidentiality, Availability and Security of its information at all times for serving the needs of the organization in line with its Vision, Mission & Values while meeting all regulatory requirements."

To mitigate the security risks, Operating Systems and all software including database & application software shall be configured as per "Best Practices" recommended by respective OEMs, initially and during the entire contract period. As per ISMS policy, various security requirements like password policies, backup policies etc are to be implemented in the system in consultation with the Owner.

Owner shall arrange to conduct the Vulnerability analysis / Penetration testing of database and application software on annual basis through agency certified to carry out such work. Report to be submitted to owner and relevant corrective / preventive measures to be taken by bidder based on report outcome.

In line with the ISMS requirements, bidder and its staff shall ensure the protection of owner's information assets / information processing facilities at all times with respect to confidentiality, integrity and availability.

The Bidder / personnel deputed by bidder shall comply with following requirements:

- Personnel shall follow the ISMS system requirements.
- Personnel shall present his / her identity proof to owner for getting proper authorization from owner. He/she shall not enter into owner's premises without proper authorization.
- Bidder / personnel deputed by bidder shall sign Non-Disclosure Agreement (NDA) in the specified format of owner.
- Bidder / personnel deputed by bidder shall maintain confidentiality of all information related to owner like server data, configuration, software, drawings, documents, manuals, processes etc. which was revealed during discussion or implementation.
- When allowed by proper authority, he / she shall work in secure area only in the presence of owner's staff.
- He / she shall maintain and service only those equipment which comes under his /her scope of contract.

- Bidder / personnel deputed by bidder shall ensure the return or destruction of information / data at the end of contract period and as and when required.
- Access to information assets, which is not explicitly authorized, shall be treated as forbidden.
- Any information security incident and / or security breaches shall be immediately reported to owner.
- In case of any violation of the above, it will amount to non-fulfilment of terms & conditions of the contract.

11.4 Confidentiality of Information

All the material / information sent to the Bidder shall be treated as confidential and should not be disclosed in any matter to any unauthorized person under any circumstances. The successful bidder and their employees deployed on the project have to furnish a Non-Disclosure Agreement (NDA) as per **Annexure #21 Non-Disclosure Agreement** in line with the Owner's Information Security Management System (ISMS).

11.5 Arbitration and Jurisdiction

- Any arbitration shall be under the 'Arbitration and Conciliation act 1996' and the rules there under as amended from time to time. Centre of arbitration shall be in New Delhi.
- The contract shall be governed by the Indian law. The suits/claims in respect of this contract shall be in the courts having jurisdiction at New Delhi.

11.6 Sub-Contracting

The Bidder shall not assign this Contract or sub-contract any portion or portions of the Contract without Owner's prior written consent, however, it shall not absolve the Bidder of the responsibility of fulfilling Owner's requirements.

11.7 Risk Purchase

In case the bidder withdraws the offer submitted by him/ her after it is accepted by the Owner and fails to supply the goods and services as per the Terms & Conditions of the Contract, or at any time repudiated the contract wholly or in part, the Owner shall be at liberty to cancel the Purchase Order and to recover from the Bidder the extra cost and the other loss incidentals to the breach of Contract on the part of the Bidder apart from other legal recourses.

11.8 Adjustment of Recovery

Any amount payable by the Bidder under any of the condition of this contract shall be liable to be adjusted against any amount payable to the Bidder under any other works / contract awarded to him by any of the Owner's unit. This is without prejudice to any other action as may be deemed fit by the Owner.

11.9 Force Majeure

"Force Majeure" means an event beyond the control of the Owner and the Bidder which makes it impossible or illegal for a party to perform the Contract, which is not attributable to the fault or negligence of the party affected and/or its Sub-Bidders and which could not have been foreseen or prevented by that party when exercising reasonable diligence, including but not limited to:

- earthquakes, landslides;

- explosion and fire, unless as a direct result of the Bidder or of his Sub Bidder's negligence or acts or omissions;
- riot, commotion, sabotage or civil disorder, unless solely restricted to employees of the Bidder or of its Sub-Bidders;
- contamination by radio-activity from any nuclear fuel, nuclear waste or radio-active toxic explosion;
- war, hostilities (whether or not war is declared), invasion, act of foreign enemies or embargo; and.
- rebellion, revolution, insurrection, or military or usurped power or civil war.

In the event of Force Majeure

- Neither the Owner nor the Bidder shall be responsible for any failure to fulfil its obligations under the Contract if and to the extent that fulfilment has been delayed, hindered or prevented by Force Majeure, provided that the Bidder shall have the benefit of this provision only if it takes all reasonable steps to protect the Work and minimise the effects of any Force Majeure event on the Work and the progress thereof.
- Should the Bidder be delayed by Force Majeure in performing any of its obligations under the Contract, that party shall notify the other party immediately giving the full particulars thereof along with tangible proof thereof submitted and intimated within 3 (three) days of the onset of such event, in writing and shall use its best efforts to minimise the effect of the Force Majeure on the Work and to take remedial measures.
- In the event of Force Majeure, the obligations affected by Force Majeure shall be suspended, as will any payment in respect of the suspended obligations, and the parties shall consult together with the view to determining mutually acceptable measures to overcome the difficulties arising there from. Under no circumstances shall the Contract Price be increased for the financial impact on either party of any Force Majeure.

11.10 Commencement

- Effective date of Contract: This Contract shall come in to effect on the date of issue of Owner's signed Purchase. Such Purchase Order shall be accepted by the Implementation Partner within 7 Calendar days, from date of Purchase Order and shall be signed & sealed by bidder stating "Purchase Order Accepted" and return certified duplicate copy of owner.. If no such formal confirmation is received within the stipulated time of 7 Calendar days, then the contract is deemed to be accepted.
- The Bidder shall begin carrying out the services with installation of required hardware, software & services within one month after the date the Contract becomes effective.

11.11 Completion

The Project will have deemed to be completed at the end of Post Go-Live Support period when all the Deliverables have been met, verified, certified and accepted by the Owner.

11.12 Modification

Modifications of the terms and conditions of this contract, including any modification of the scope of the services or of the Contract price may only be made by written agreement between the Owner and the Bidder.

11.13 Termination and Suspension

Suspension of the Work

The Owner may, by a written order, instruct the Bidder to suspend the Work or any part of the Work for the period and in the manner which the Owner considers necessary. The Bidder shall cease work on said part of the Work on the effective date of suspension, but shall continue to perform any unsuspended part of the Work. During the suspension the Bidder shall properly protect and secure the Work so far as is necessary in the opinion of Owner.

The Owner shall not pay any costs incurred by the Bidder in giving effect to the suspension order, including under the following:

- necessary because of Force Majeure; or
- necessary for the proper execution of the Work, or any part thereof; or
- necessary because of some negligence, error or other default on the part of the Bidder; or
- necessary for the health or safety of Owner and/or Bidder Personnel, third parties or for the protection of the Work, Owner property or environment; or
- otherwise provided for in the Contract.

If the suspension of the Work is not attributable to any negligence, error or default of the Bidder, in the opinion of the Owner, and should be of such duration as to entitle the Bidder in the Owner's reasonable judgement to an extension of the Completion Date, the parties shall negotiate such extension.

The Owner may, at any time, authorise resumption of the suspended part of the Work by notifying the Bidder of the part of the Work to be resumed and the effective date of withdrawal of the suspension. The Work shall be promptly resumed by the Bidder after receipt of such notification.

Termination of the Contract

The Contract shall terminate on the date of the issuance of the certificate of Final Completion of the Work by operation of law without any notice being required, unless terminated earlier in accordance with the provisions of this Article or unless otherwise explicitly provided for in the Contract.

The Owner shall have the right at any time and at its absolute discretion to terminate the Contract by giving the Bidder notice of termination. Such notice shall become effective immediately after delivery to the Bidder or on such later date or after completion of such work in progress as specified by the Owner in the notice served one month in advance.

Default by Bidder

In the event of the failure, refusal or inability of the Bidder to perform any part of the Work in accordance with the Contract, the Owner may give notice of default to the Bidder stating the details of such failure. If the Bidder within five (5) calendar days after receipt of such notice does not commence, or having commenced does not continuously proceed with action satisfactory to the Owner to remedy such failure, the Owner may issue a notice of termination, without prejudice to any other rights or remedies which the Owner may have under the Contract.

Effect of Termination Notice

In the event of a notice of termination being given by the Owner, the Bidder shall immediately, or upon such other date as is specified in such notice, terminate its performance of the Work and shall

assign to the Owner, or its nominee, all rights and titles relating to the Work which the Bidder may directly or indirectly have acquired vis-à-vis third parties. In addition the Bidder shall take all such further steps as are necessary to enable the Owner, or its nominee, to take over the Bidder's position in the performance of the Work with the least possible disruption, all in accordance with the Owner's instructions.

Bidder's bankruptcy

In the event of the Bidder being adjudged bankrupt, applying for a legal moratorium of payments (surseance) or any similar form of legal action and in the event of any other factual or legal measures to the effect that the Bidder should lose at any time the facility of freely controlling, or of freely disposing of any substantial part of its assets or other facilities, or if, in the opinion of the Owner, the Bidder is likely to be subject to such type of action then the Owner may terminate the Contract, without prejudice to any rights or remedies which the Owner may have under the Contract.

Improper business conduct

The Owner shall be entitled to terminate the Contract and to recover from the Bidder the amount of any loss or damage resulting from such a termination if the Bidder, any Sub-Bidder, Bidder Personnel or representative of the Bidder or any Sub-Bidder, with the intention of obtaining an improper business advantage, either, enters into any business arrangements, or, pays any commissions or fees, or grants any rebates to, or gives any gifts or entertainment to, any officers, employees or agents of the Owner, or, commits any other act with such an intention.

Amounts payable on Termination

If the Owner terminates the Contract then, provided the termination is not in consequence of Force Majeure, bankruptcy etc., or improper business conduct, or the Owner exercising a specific right to terminate the Contract the Bidder shall be paid the following:

the value of the Work completed in accordance with the Contract up to the effective date of termination less any part of the Contract Price previously paid by the Owner to the Bidder, if any, and less any amounts due or owing by the Bidder to the Owner less any monies deductible due to reason of penalties and/or damages as applicable.

The total payment made to the Bidder under this Article shall in no event exceed the Contract Price.

If the Owner terminates the Contract, then the Bidder shall be entitled to payment for the value of Work completed in accordance with the Contract prior to the date of notification of termination by the Owner, or, the amounts actually paid under the Contract for such part of the Work, whichever is the lower. No further payments shall be due to the Bidder under the Contract.

The Bidder shall not be entitled to any costs, loss or damage sustained by the Bidder from discontinuance of part of the Work or from termination of the Contract.

If it is provided in the Contract that the Bidder shall pay a certain sum per day as penalties for delay in completing the Work, the Owner shall, in addition to such penalties, have the right to terminate the Contract under application of Articles to the above if Substantial Completion has not been achieved within the maximum number of days in respect of which penalties shall be payable.

If upon termination of the Contract the part of the Contract Price previously paid to the Bidder exceeds the total amount to which the Bidder is entitled, as calculated in accordance with this Article and after deduction of any amounts due to the Owner, then the Bidder shall repay the excess to the Owner within 45 days of receipt of a specified invoice, failing which the Owner may call on the performance bond.

Survival of terms and conditions

Termination of the Contract shall not relieve the parties of any continuing rights, obligations and liabilities under the Contract, including but not limited to the Articles headed “Right to audit”, “Performance bond”, “Warranty for the Work”, “Liabilities and indemnification”, “Ownership patents and other proprietary rights and “Confidentiality.”

11.14 Negligence

If Bidder neglects to execute the scope of work with due diligence or expedition or refuses or neglects to comply with any reasonable orders given to him in writing by the Owner in connection with the scope of work or contravenes the provisions of contract, Owner may give notice in writing to the Bidder calling upon him to make good the failure, neglect or contravention complained of within such time as may be deemed reasonable and in default of the compliance with the said notice, Owner may rescind or cancel the contract.

11.15 Integrity Pact

The Owner has signed a Memorandum of Understanding (MoU) with ‘Transparency India International’ on Adoption of Integrity Pact by the Owner for all major tenders/contracts. Independent external monitor will be appointed by the Owner if this contract is sought to be covered in Integrity Pact and conformance to Integrity Pact will be submitted by the bidder. The Integrity Pact, as mentioned in **Annexure #27 Integrity Pact**, will form part of this contract.

11.16 Reverse Auction

The Owner reserves the right to finalize the Price Bids based on Reverse Auction procedure for the technically qualified Bidders. If the Owner decides not to go for Reverse Auction, the Sealed Price Bids will be opened for tender evaluation in respect of technically qualified Bidders only. In the event a qualified bidder refuses to participate in Reverse Auction, Owner reserves the right to reject the offer.

11.17 Delivery Period

Delivery period is 36 months as mentioned in **Section 3.3 Implementation Plan** which has to be complied.

11.18 Payment Terms

Payment terms are linked to major milestone activities identified and percentage as stipulated in Payment Schedule for Implementation Effort. For the avoidance of doubt no payments shall be made unless the services rendered are proven to be tangible and beneficial to Owner.

11.18.1 Sufficiency of Contract Price

- The Bidder shall be deemed to have satisfied itself on and taken due account in the Contract Price of:
 - all the conditions and circumstances affecting the Contract Price;
 - carrying out the Work as described in the Contract & instructions issued by the owner time to time;
 - general circumstances at field sites;
 - general personnel requirements and restrictions; and
 - the incidental costs to be borne by the Bidder.

- The Contract Price shall cover the completion of the Work and all other obligations of the Bidder and all costs direct, indirect & consequential, incurred by the Bidder for and in connection with the Work and shall be fixed for the duration of the Contract.

11.18.2 Payments Due

In consideration of the Bidder's performance of the Work, the Owner shall pay the Bidder the Contract Price in accordance with the Contract, except where it is explicitly provided that the Owner shall carry out an obligation under the Contract at its own cost, all things required to be supplied, temporary and permanent or performed by the Bidder under the Contract shall be at the Bidder's cost and deemed to be included in the Contract Price.

11.18.3 Submission of invoice

1. All invoices along with Owner's authorised signatory work done certificate, and other applications for payment shall be submitted in accordance with the requirements of Procedures detailed in this Contract.
2. If the Owner disputes any item on any invoice in whole or in part and or charges claimed for uncertified works or if the invoice is prepared or submitted incorrectly in any respect, the Owner shall pay only the undisputed portion of a disputed invoice.
3. Neither the presentation nor payment of an individual invoice shall be irrevocable or constitute a settlement of a dispute, or otherwise waive or affect the rights of the parties hereunder.
4. Along with the invoice for payment against a milestone, all the necessary documents linked to the milestone with proper certifications by the designated officer assigned by the Owner should be submitted by the Bidder.

11.18.4 Form of Payment

1. Within forty five (45) days of receipt of the correctly prepared and adequately required documentary supported invoice duly certified by the Owner for fulfilling the criteria for payment, the Owner shall pay the amount of such invoice into a nominated bank account of the Bidder, provided the Bidder has submitted such invoice in accordance with the provisions of this clause/Article.
2. All payments made by the Owner to the Bidder shall be made by bank transfer to the latter's nominated bank account. The nominated account shall be in the name of and solely owned by the Bidder.

11.18.5 Right to offset

- Notwithstanding anything herein contained, the Owner shall always have the right to set off against any payment which may be due or become due to the Bidder any moneys which may be owing or payable by the latter to the Owner or recoverable by the Owner from the Bidder.
- If the Owner at any time incurs costs for works which are under the provisions of the Contract of the Bidder, the Owner shall recover the same with handling charges from the invoices of the Bidder.
- If a dispute connected with the Contract exists between the parties, the Owner may hold from any money which becomes payable either the equivalent of the Owner's estimated value of the portion of the Work which is under dispute or the amount which is the subject of the dispute.

11.18.6 Final Completion

The issue of a Final Completion certificate shall not absolve the Bidder from the obligation to remedy, or indemnify the Owner for the cost of remedying, latent defects which transpire within ten years from the issue of the Final Completion certificate and which are attributable to the Bidder, a Sub-Bidder or Bidder Personnel. In this Article, the term "latent defect" shall mean a defect which produces no readily observable effects prior to the issue of the Final Completion certificate and which is attributable to an unfit for purpose design, or to poor or faulty engineering or workmanship, or to Materials which do not conform to the Contractual specifications or are unfit-for-purpose

12 Special Conditions of Contract

12.1 Resource Deployment

- Bidder shall deploy the minimum resources as mentioned in this document. Failure to deploy minimum number of resources & concurrently will attract penalty as mentioned in **Annexure #22 Penalty**.
- The team members of the Bidder should be permanent staff of the Bidder.
- All Project Managers, Functional Leads, Technical Leads working on the project must be ERP Product OEM certified on their respective deployment area.
- During the project implementation period and for a period of one year thereafter,
 - The project team member of neither the Owner nor the Bidder will directly recruit, hire, employ, engage, or discuss employment with the project team members of the other party without prior written approval of the other party.
 - The Bidder shall not employ the Owner's project team member/retired employee in an advisory role.

12.2 Resource Replacement

- The Bidder must not replace any personnel of the Project Team unless the personnel has resigned from the Bidder's Organization. If for any reason beyond the control of the Bidder, there arises a need to replace any personnel, the bidder shall provide a replacement person of equal or better qualification and experience, subject to written approval of the CV(s) by Owner.
- The Owner, by notice to the Bidder, may object to any representative or person employed by the Bidder in the execution of the contract who, in reasonable opinion of the Owner, may have behaved inappropriately, be incompetent, or be negligent. The Bidder shall remove such person from work on the contract and promptly appoint a replacement person of equal or better qualification and experience, subject to written approval of the owner.

12.3 Jointly and severally responsibility

- Owner's ERP Consultant (PwC) and Consortium members (participating as consortium in this RFP response) shall be **jointly and severally responsible** for the performance of the Integrated Solution.

12.4 Go-Live deferment

- The Owner reserves the right to defer the Go-Live for any/ multiple location.
- In case of such deferments, Owner is not liable to make any further payments for Licenses & Implementation activities and no penalties shall be imposed on the bidder.

12.5 Expected operational performance

The 'ONE-BHEL' project is service oriented and the expected performance is in the form of Service Level agreement (SLA) between the Bidder and the Owner. The SLA specifies the expected levels of service to be provided by the Bidder to the Owner. This expected level is also called the baseline. Any degradation in the performance of the solution and services is subject to levying penalties as specified in **Annexure #22 Penalty**.