



BHARAT HEAVY ELECTRICALS LTD

**(A Government of India Undertaking)
Corporate Systems and Information Technology,
BHEL House, Sirifort ,
New Delhi -110049**

**Ref: AA/CIT/DLP
Date: 29th March 2013**

Sub: Expression of Interest (EOI) for a comprehensive enterprise Data Leakage Prevention security solution including Securing Data at Rest, Securing Data over Network, Securing Shared Data within and outside BHEL & Data Lifecycle Management.

Dear Sir/Madam,

BHEL proposes to implement comprehensive enterprise security solution for Endpoint Data security solutions across company starting with Engineering function to protect its intellectual assets in the form of Drawings, Engineering data, IPR information etc when the same is at rest, in use and in Motion and when shared with outside agencies. Initially, the same is intended to be implemented at BHEL HPBP Trichy, EDN Bangalore, HEEP Hardwar, PEM Noida, HPEP Hyderabad, HEP Bhopal, Corp (R&D) Hyderabad to start with.

In view of this, EOI proposals are invited from experienced firms offering services as detailed in the Technology requirements (under Clause-2) to understand the solutions available. The interested firms satisfying the Pre-Requisite Requirements and accepting the terms & conditions are invited to submit their EOI proposal.

Any clarifications / queries from the interested firms shall be given in the specified format to BHEL on or before **17/4/2013**.

Any corrigendum / notification issued by BHEL, subsequent to invitation of EOI, shall only be available / hosted at www.bhel.com.

The interested firms are expected to do a comprehensive study of BHEL and understand its requirements before submitting the response. Interested firms may visit BHEL establishments, at their own cost, to have a firsthand knowledge on the business activities of the enterprise, available infrastructure, work culture and Engineering & IT systems, prior to submission of the response. Interested firms will not be given any additional time for under taking such visits.

Please ensure that your response complete in all respect in requisite format with necessary enclosures is delivered on or before the due date & time i.e. **23/4/2013 at 2.00 PM**. All the envelopes should be indicating “(EOI) for Expression of Interest for a comprehensive enterprise Data Leakage Prevention security solution including Securing Data at Rest, Securing Data over Network, Securing Shared Data within and outside BHEL & Data Lifecycle Management” or in short “Eol for Data Protection” shall be addressed to:

**Sr.DGM (CSIT)
Bharat Heavy Electricals Limited,
BHEL House, Sirifort ,
New Delhi -110049**

Thanking you,
Yours faithfully,
For and on behalf of BHEL



**Sr.DGM (CSIT)
BHEL**

Enclosures:

- Annexure-1 : Format of technology Requirements (to be filled by interested firm)
- Annexure-2 : Address and contact details of persons at Units

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Annexure - 1 Format of Technology Requirement

Annexure -2 Address & Contact Details of Persons At Units

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1. Introduction

Need for Endpoint Data security solutions

BHEL is the largest engineering and manufacturing enterprise in India in the energy related/infrastructure sector today. The company has grown in stature over the years with continued inflow of orders and manufacturing prowess. The business landscape in front of BHEL is full of challenges warranting faster in the response.

To meet the current business challenges for sustaining competitiveness in the market and maintain its leadership position BHEL has to continuously encourage innovation and development of new technology. As a result of these innovations, other in-house developments and technology developed in collaboration with leading organizations, a huge amount of critical data is stored and is in continuous flow across the organization. To enhance its core competency through innovation and development/assimilation of technologies, BHEL need to protect its critical information from theft, unintended sharing, unauthorized disclosure, leakage and unauthorized use.

To meet such enhanced goal of data protection and data leakage prevention a **comprehensive enterprise Data Leakage Prevention security solution including Securing Data at Rest, Securing Data over Network, Securing Shared Data within and outside BHEL & Data Lifecycle Management** is needed.

Firms willing to participate to showcase their capability and strength to meet these requirements and fulfilling conditions are invited to submit their EOI Proposals.

1.1 Purpose of EOI

The purpose of EOI is to invite firms for providing Expression of Interest on **comprehensive enterprise Data Leakage Prevention security solution including Securing Data at Rest, Securing Data over Network, Securing Shared Data within and outside BHEL & Data Lifecycle Management**. Based on the response and solutions to this, BHEL may come out with detailed RFP in future for implementation of DLP solutions as per BHEL policies of procurement.

1.2 Information Provided

The Expression of Interest (EOI) document contains statements derived from information that is believed to be relevant as of now, but does not purport to provide all of the information. A representative "Lifecycle of a typical Project" as per Clause-6 may be used to assess the security requirements of data from leakage



perspective at data in rest, data in use and data in motion.

1.3 Costs to be borne by firm submitting Eoi

All costs and expenses incurred by Respondents in any way associated with the development, feasibility, preparation, and submission of responses, including but not limited to; the attendance at meetings, discussions, demonstrations, etc. and providing any additional information required by **BHEL**, will be borne entirely and exclusively by the firm willing to participate in this Eoi. There is no cost to Eoi document.

1.4 No Legal Relationship

No binding legal relationship will exist between any of the respondents and **BHEL** until execution of a contractual agreement, if any.

1.5 Firm Obligation to Inform Itself

The Firm must conduct its own investigation and analysis regarding any information contained in the EOI document and the meaning and impact of that information

1.6 Errors and Omissions

Each firm should notify **BHEL** of error (if any) omission, or discrepancy found in this EOI document

1.7 Acceptance of Terms

A Firm by responding to **BHEL** for EOI will be deemed to have accepted the terms & condition of this introduction.

1.8 Requests for Expression of Interest Proposal

Firms are required to communicate any discussion related to this EOI, through the nominated Point of Contact person:

Name	: Gaurav Chopra
Designation	: Engineer
Department	: CSIT
Contact details	: 011-66337556
Email	: gauravchopra@bhel.in



BHEL may, in its absolute discretion, seek additional information or material from any respondents after the EOI closes and all such information and material provided must be taken into consideration to form part of that firm(s) response/feedback

Firm(s) should provide details of their contact person, telephone, fax, email and full address(s) to ensure that replies to EOI will be conveyed promptly .If **BHEL**, in its absolute discretion, deems that the originator of the question will gain an advantage by a response to a question, then **BHEL** reserves the right to communicate such response to all respondents.

Amir

2 Technology Requirements

(Kindly fill format of technology requirement (Annexure 1) for clause 2.1 , 2.2 , 2.3.1 , 2.3.2 , 2.3.3 , 2.3.4)

And detailed solution as per clause 2.4

2.1 General and License Requirements:-

1. Licenses should be available for a minimum term of five years. Initial procurement will be spread across various divisions/units of BHEL. The same licenses should be reusable, when the IT infrastructure of these units is consolidated on implementation of One-BHEL ERP solution / PLM / Knowledge Based Engineering.
2. Licenses should also be available on subscription basis.
3. Effort required/capabilities for rolling out of the solution to other modules/verticals data & documents beyond initial implementation.
4. Solution to be user friendly and also it should work in background for effective Surveillance W/o business/ work disruption prior to "Go live" stabilization.
5. Support 32 and 64 bit(Virtual/Physical) Windows desktop/Server OS, Linux/Unix and mobile devices
6. Detailed Solution applicability in Disaster Recovery.
7. To Provide access control with proper activity logs such as –
 1. WHO can access the information
 2. WHAT can each user do with the information
 3. WHEN can each user access the information
 4. WHERE can the information be used while document is at rest/in motion/in use

2.2 Technical Requirements :

1. Have pre-defined policy templates for engineering industry.
2. Have centralized interface for policy creation and policy management, across all components.
3. Have the ability to integrate directly with directory based systems and/or like AD to create user or group based rules/policies. Possibility of 2 factor authentication should also be looked into.
4. Should secure the sensitive content based on the following:
 - a) Content
 - b) Sender
 - c) Recipient
 - d) File characteristics



- e) Communications protocol etc.
5. Agent installed at the endpoint should be able to detect end-user tampering and restart itself if it's stopped
 6. All defined policies should be locally available across all components and must enforce the policy even in the absence of a network connection. The activity logs must be reported back once the network connection is reestablished.
 7. Solution should detect, prevent and notify/create alarms when user attempts to copy confidential data to removable storage devices (e.g. USB drives, floppy, CD/DVD, etc.)
 8. Create separate roles for technical administration of servers, user administration, policy creation and editing, incident remediation, incident viewing etc.,
 9. Detailed activity audit logs of database transactions and policy modifications should be available.
 10. All system related Data and system passwords stored in the database must be encrypted.
 11. Have a browser-based user interface accessible via IE.
 12. Should provide single user interface for all incidents (storage, network, and endpoint)
 13. Ability to group, filter, and sort reports by different parameters, including department or business unit.
 14. All relevant incident details must be on a single page to allow quick user decision making and action.
 15. No. of people required to manage the solution.

2.3 Specific Requirements

- Securing data at Rest (End point /storage)
- Securing data in motion
- Securing data in use
- Securing data outside the perimeter

2.3.1 Securing data at Rest (End point /storage)

Do you :-

- 1) Provide two factor authentication mechanism for accessing the data at rest (End point storage)
- 2) Provide Encryption of data at rest.
- 3) Provide Granular access control based on users/group identity.



- 4) Provide fingerprinting of sensitive data content in structured(Database) and unstructured data(Microsoft office Documents, PDF, Drawing files etc.), in large volumes.
- 5) Provide configuration to specify which columns should be fingerprinted in a database.
- 6) Support fingerprinting of sensitive data content in SharePoint servers and other document repository
- 7) Support Live fingerprinting of database (Oracle , SQL etc)
- 8) Provide discovery/fingerprinting capabilities for any new file type developed over time (Also mention current file types supported)
- 9) Provide fingerprinting/discovery capability for " maximum file size "of atleast 20 mb
- 10) Migrate/delete sensitive content from unauthorized location (Endpoint/storage). Also kindly mention if any notification will be provided to users in this scenario
- 11) Scan for sensitive content in Windows file systems, Linux/Unix file systems, NAS filers, Databases, SharePoint servers, Microsoft Exchange servers etc..
- 12) Analyze textual content inside image files such as jpg, images in PDF files etc.,
- 13) Integrate with leading IRM solutions to enforce IRM policies on documents containing sensitive data as identified by a predefined policy.
- 14) Provide any Classification capability (High, Med, Low) based on sensitivity and risk associated with each data & doc.Possibility of achieving the classification based on template provided by BHEL.
- 15) Should support detection of sensitive data content in unstructured data(Microsoft office Documents, PDF, Drawing files etc.,).

If any of above things you do not provide kindly mention Deviations, if any, wrt above to be explicitly mentioned and any alternatives/integration with other solution to achieve these functionalities.

2.3.2 Securing data in motion

Do you :-

- 1) Integrate with leading Web Proxies(IWSS , ISA ,IRON port, Websense, Squid etc.,) and Mail gateways (Postfix, Sendmail, Exchange etc.,) to enforce polices over the data traffic flowing through these components.
- 2) Inspect HTTPS traffic by integrating with leading Web proxies(IWSS , ISA ,IRON port, Websense, Squid etc.,)
- 3) Detect any malicious threat/spyware (APT) present in network.



2.3.3 Securing data in use

Do You -:

- 1) Provide configuration for use of Organization approved storage devices only.
- 2) Provide any Classification capability (High, Med, Low) based on sensitivity and risk associated with each data & doc. possibility of achieving the classification based on user input/template.
- 3) Control devices in use while data & doc. is in use/ motion/rest including its storage at various points.
- 4) Solution should be able to provide a mechanism for users to provide justification for actions that violate policy.

2.3.4 Securing data outside the perimeter

Do You -:

- 1) Provide controls when laptop with relevant files & data accessibility taken outside campus.
- 2) Provide accessibility controls for documents related to Web based tenders for vendors.
- 3) Provide configuration for who can use the information i.e. people / groups within or outside of the enterprise.
- 4) Provide configuration of WHAT can each person do with the information i.e. read/ edit / print / distribute copy / Save / Save As / Screen Shot.
- 5) Provide configuration of WHEN can each person access the information i.e. within certain dates, within a timespan.
- 6) Provide configuration of WHERE can the information be accessed from i.e. within the office/outside.
- 7) Retrieving information rights control after a person leaves the organization Or as deemed necessary as per organizational requirement on any device in his custody remotely.



2.4 Implementation Methodology

Proposing Firm has to give point by point support available of their solution to above requirements along with.

- a) Detailed Implementation methodology.
- b) Resources (its own skill set people of various level & No. of and IT s/w / development etc tools) which shall be deployed with its periodicity.
- c) time period required from development -> go live -> satisfaction of BHEL

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3 Instructions to Firm

The Firm is expected to examine all instructions, forms, terms and specifications in the Proposal documents. Failure to furnish all information required by the Proposal documents may result in the rejection of its Proposal.

3.1 Amendment to the Proposal

1. At any time prior to the deadline for submission of Proposal, the firm, for any reason, may modify the Proposal by amendment
2. All firms must ensure that such clarifications have been considered by them before submitting the Proposal **BHEL** will not have any responsibility in case some omission is done by any Bidder
3. In order to allow prospective Firms reasonable time in which to take the amendment into account in preparing their Proposal, **BHEL**, at its discretion, may extend the deadline for the submission of Proposals with suitable communication thereof.

3.2 Deadline for submission of Eol Proposals

1. The Eol Proposals must be received by **BHEL** at the addressed specified, no later than 23/04/2013 time 2.00 PM.
2. In the event of the specified date for the submission of proposals, being declared a holiday for the company, the proposals will be received up to the appointed time on the next working day
3. **BHEL** may, at its discretion, extend the deadline for submission of Proposals by amending the Eol invitation, in which case, all rights and obligations of **BHEL** and Firm previously subject to the deadline will thereafter be subject to the deadline as extended and communicated accordingly.

3.3 Modification and/or Withdrawal of Proposals

1. The Firm may withdraw its Eol Proposal after the submission, provided that written notice of the withdrawal of the Eol Proposal is received by **BHEL**, prior to the deadline prescribed for opening of commercial Eol Proposal
2. A withdrawal notice may be sent by email not later than the receiving date for proposal.

3.4 Clarification of Proposals

During scrutiny of Proposals, **BHEL**, at its discretion, may ask the Firm for clarification of its Proposal. The request for clarification and the response shall



be in writing or e-mail, and no change in the substance of the Proposal shall be sought, offered or permitted

4. Terms and Conditions

4.1 Submission of EOI

Your profile/proposal should be complete in all respects. Profile/Proposals should be preferably typed or neatly handwritten in English. Alterations/overwriting, if any, in the profile/proposal should be attested by the person signing the profile/proposal. Profile/Proposals with alterations etc. not authenticated as above are liable to be rejected by BHEL.

4.2 Arbitration

Any dispute or difference, whatsoever arising between the firms out of or relating to the EOI shall be referred to the sole arbitration of the GM (CSIT) Corporate Office, BHEL whose decision shall be final, conclusive and binding. The arbitrator shall give reason(s) for the award. Subject to the above, the provisions of Arbitration Act, 1996 and the Rules made there under shall be deemed to apply to the arbitration proceedings under this clause. The venue of arbitration shall be in New Delhi. Language of the arbitration shall be English.

4.3 Effect and Jurisdiction

The law applicable to this EOI shall be the laws in force in India. The courts in Delhi, India, shall have exclusive jurisdiction in all matters arising under and on account of this EOI.

4.4 Incomplete EOI

Incomplete EOIs, which do not contain all the information called for, are liable to be rejected.

4.5 Cancelling the EOI

BHEL reserves the right to cancel/scrap the EOI without assigning any reason whatsoever.



5 Major Engineering Software used in BHEL

Major Engineering softwares deployed in BHEL environment along with MS Office, Adobe, Sharepoint software, winzip , winrar, Mail Systems and Proxies etc.
ALTERA Quartus (V 8.1)
Ansys Blade Modeler
Ansys CFD Post
Ansys CFX Parallel
Ansys CFX Solver
Ansys ICEM Hexa
Ansys ICEM Tetra
Ansys Turbogrid
Autocad 2012
BOM System
CADSTAR -10
Code Composer studio for Texas DSP's(V 3.3)
Corel Draw Graphics Suite X5
Data I/O programmer version 9.01
Design Automation Software Version 1.0
Design Programs
Elecdes
ELECTRO (ELECTROSTATIC ANALYSIS)
FLUX 2D/3D (V 10.3), INCA 3D(V 2.1), Portunus (V 4.1), Speed (V 8.5)
Gerb-Tool Communicator-15
High Speed Router XR5000 version 1.7AB
ISAGRAF for VCU (V 5.2.1)
LabView ver. 2009
MATLAB ver. 2011 b
maxStation Version 4.2.1 -SP4
Metso DNA Collection 2011
NI Labview (V 8.0)
Online Drawing Archival system
Promis
PSCAD (SYSTEM ANALYSIS)
Solid works
UG NX 7.5
Visual CAM release 1 version 15
Visual Studio-2008, Visual Source Safe (2005),Codewright (V7.5),Gimpel PC lint (V 9)
Wrench
PDMS
CreO/ MathCAD

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6 Life Cycle of Typical Project in BHEL

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 EoI Proposal 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:

EoI Proposal evaluation – The EoI Proposals from registered vendors are obtained and evaluated for the purchase.

Issuing Tender – The purchase department issues tender for material 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/Customer site.

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.

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

Outstanding 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/Defense 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 Tons 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, 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 totaling 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:

Design Review – Various teams are formed by PEM for design review and verification.



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 commissioning and procurement of Balance of Plant (BOP).

Power Sector – Regions and Site Teams

Receipt and Storage – The material dispatched by the various Units of BHEL is received and securely stored by the site teams.

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 Site teams.

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

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

Receipt & Storage: Receipt and storage of BoughtoutItems (BOI)

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.

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

Customer Billing

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

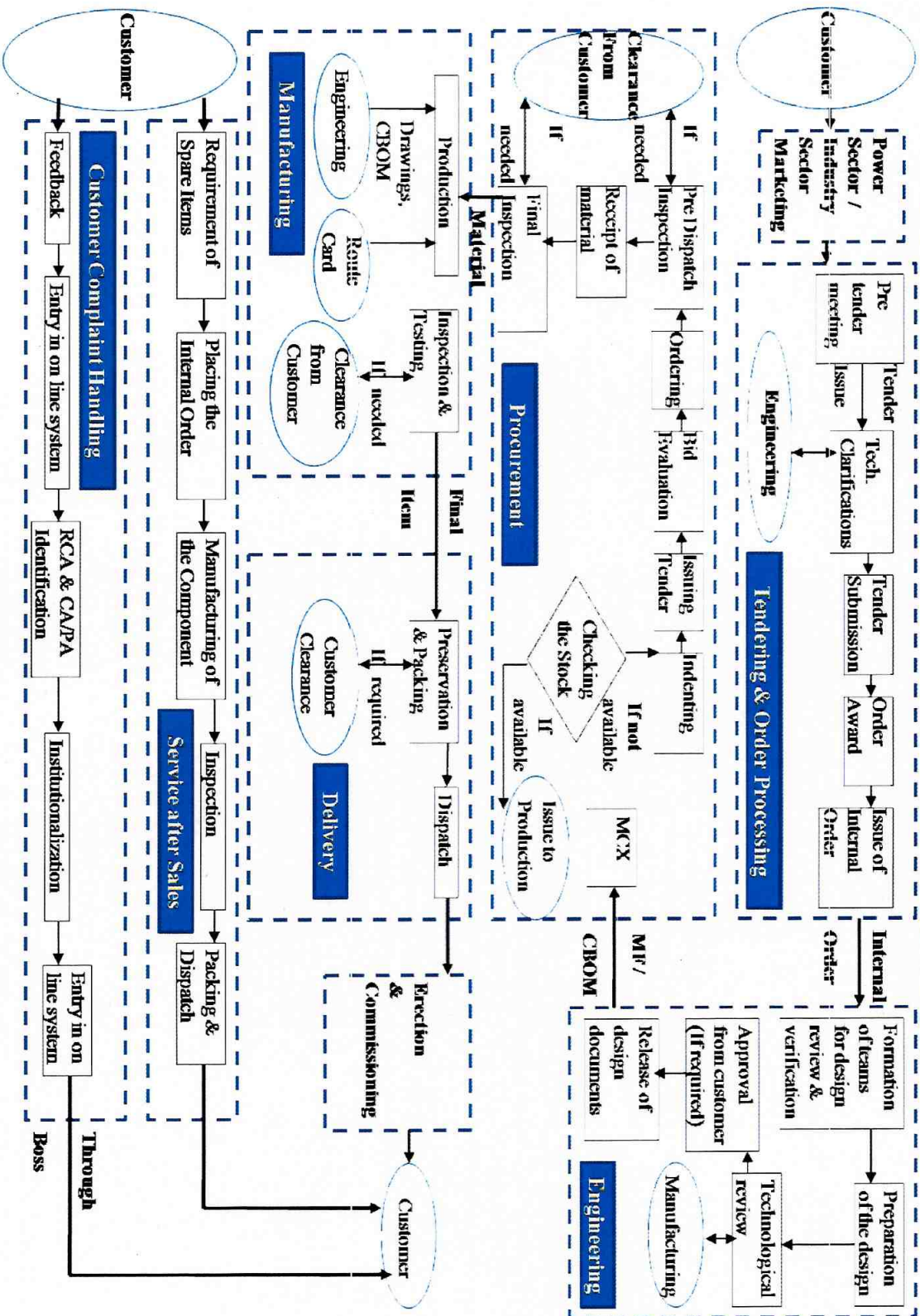
- a. EPC – Civil work is handled by a partner
- b. Electro Mechanical – Turbine, Generator

Thermal

- a. BTG – Boiler, Turbine and Generator
- b. EPC – Civil work is handled by a partner



END TO END PROCESS MAPPING



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7 Pre-Requisites for Firms participating in Eol to provide following information

7.1 Organizational Parameters

- a) A national or International Interested firm registered in India under the Indian Companies act 1956. Copy of Certificate of Incorporation or Registration in India is to be furnished.
- b) Address of offices in India.
- c) At least 3 years Experience in consulting and implementing data Security solutions at enterprise level. Must have implemented at least 2 such projects in manufacturing companies. PO value and date of completion of such projects and scope of work to be provided.
- d) Name of OEMs of which you are partner for such security solutions.
- e) Strength of Experienced and qualified professionals permanently employed on company's roll with in depth knowledge security products protecting information from leakage at Enterprise level.

7.2 Contact Details

Provide names, address, contacts and details of all the major clients within India and globally wherein such Security solutions have been implemented.

7.3 Financial Perspective

- a) Provide last three years Annual turnover in India.
- b) Should be profit making for last 3 years. Net Profit of the firm for last three years.



8 Procedure for Submission of EOI

The EOI may be submitted in the following manner in sealed envelopes :-

- a) Pre-requisite for participating in Eoi with requisite documents
- b) Technical requirements filled in complete respect
- c) The envelope should clearly super scribe the following:
 - Due Date and Time of submission of EOI
 - Name and address of the firm
 - BHEL address as mentioned in the covering letter



9 . Pre-Eoi Proposal Query Format

S.No.	Reference of the Clause No. of the EOI	Query / Clarification

Signed By:

Name: _____

Designation: _____

Organization: _____

Date & Place: _____

Phone/Fax/Mobile/Email: _____

Stamp & Seal: _____



Annexure 2

Address & Contact details of persons at units

Name	UNIT	e-mail Id	Phone No
Sh. R Prabhu, AGM/ CE Engineering	EDN, BHEL-Electronics Division, P.O. Box 2606, Mysore Road, Bangalore-560 026	prabhu@bheledn.co.in	944986964
Sh. TSN Bhargav ,AGM (HE Engg)	R C Puram, Vikasnagar, Hyderabad-500 093	bhargav@bhelhyd.co.in	949016573
Sh. Kathirvelu C ,AGM/ Product Engg (FB)	High pressure boiler plant and Seamless Steel Tube Plant Tiruchirappalli	ckv@bheltry.co.in	0431-257-5271
Sh.G Nagaraju, Engineer, Standards Deptt	Standards Deptt, Vikasnagar, Hyderabad-500 093 R&D, Hyderabad	nagaraju@bhelrnd.co.in	888691444
Sh. Gopal Maheshwari, Manager/HGE	HEAVY ELECTRICAL PLANT, Piplani, Bhopal-462 022	mgopal@bhelbpl.co.in	942560495
Sh Pradeep Kumar, Engineer, EDN	EDN BHEL-Electronics Division, P.O. Box 2606, Mysore Road, Bangalore-560 026	pradeepkumars@bheledn.co.in	984448782
Smt. Ranjana Shukla Engineer (CAE)	CAE, Ranipur, Haridwar-249 403 (Uttarakhand)	ranjanas@bhelhwr.co.in	897966536
Sh Gaurav Chopra,Engineer	CS&IT, Corp Office BHEL House, Siri Fort, New Delhi-110 049	gauravchopra@bhel.in	999940464
Smt. Avantika , Engineer ,PEM Noida	PEM, HRDI & ESI Complex, Plot No. 25, Sector-16A, Noida-201 301 (U.P.)	avantika@bhelpem.co.in	921257700
Sh.Manish Garg, Sr. DGM (CSIT)	CS&IT, Corporate Office BHEL House, Siri Fort, New Delhi-110 049	manish@bhel.in	011-66337475

Manish