



## **Bharat Heavy Electricals Limited**

**High Pressure Boiler Plant  
Works Contracts Management  
Tiruchirapalli 620 014, India**

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**Enquiry No.:BHE:QC:OLI:AIA:OSB:01**

**Date: 16.03.2015**

**Enquiry For Inspection Services For Out Sourcing of Boiler Non-  
Pressure Part Components with BHEL MATERIAL**

**Tender Submission Last Date:16.04.2015 up to 14-00Hrs.**

**Tender Opening Date & Time: 16.04.2015 at 14.30Hrs.**

**Address For Communication:**

**SENIOR MANAGER  
WORKS CONTRACTS MANAGEMENT  
GROUND FLOOR, 24 BLDG,  
BHEL,  
TIRUCHIRAPPALLI-620014  
TAMIL NADU.**

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# INDEX

<b>Section</b>	<b>Contents</b>
<b>Part - A</b>	<b>Technical Bid</b>
<b>Section I</b>	<b>General</b>
<b>Section II</b>	<b>Type Of Products, Sub-Contractors, Quantum Of Work and Location</b>
<b>Section III</b>	<b>Procedure for inspection</b>
<b>Section IV</b>	<b>Terms &amp; conditions</b>
<b>Section V</b>	<b>Technical Bid Criteria</b>
<b>Part – B</b>	<b>Price Bid</b>

**Part-A**  
**Section – I**

EnquiryRef.BHE:QC:OLI:AIA:OSB:01

Date:16.03.2015

<b>1.0</b>	<b>General Requirements.</b>
<b>1.1</b>	BHEL units are ISO 9001 accredited companies and our system and procedures are oriented towards complying with ISO requirements. The inspection agency shall be an ISO accredited company.
<b>1.2</b>	The Inspection Agency should have a minimum of 5 years <b>continuous</b> experience in Industrial Inspection related activities in Fabrication of Boiler components at manufacturing shop/site <b>such as Ceiling Girder ,column , Auto welded Beam, Ducts, HFO &amp; LFO Assembly, Skid assembly &amp; Valves etc., with min 500MW capacity Boiler. Documentary evidence to be submitted for last five years.</b>
<b>1.3</b>	Inspection Engineers employed by the Inspection agency shall have the following qualification creteria. <ol style="list-style-type: none"> <li>1) Minimum qualification of Diploma in Mechanical/Metallurgy/Production Engg</li> <li>2) Minimum Three years of Inspection experience on structural fabrication.</li> <li>3) Level II qualification in NDE -RT, UT, MT, PT duly approved by competent agencies.</li> <li>4) Shall have adequate knowledge on ASME/ AWS code requirements.</li> <li>5) All inspection engineer shall have certification on blasting and painting Inspection</li> <li>6) All inspection engineer shall have knowledge on English (Read, Write, speak) &amp; Hindi (Spoken)</li> <li>7) All inspection engineer shall be conversant with the use of measuring instruments and possess working knowledge on Computer</li> </ol>
<b>1.4</b>	The Inspection Agency shall submit the Technical Bid with document evidence of <ol style="list-style-type: none"> <li>1) Organisation Chart and details of technical persons with qualification and experience on roll and other details as per <b>Annexure-B</b></li> <li>2) Performance certificate from the customer.</li> <li>3) Previous experience in Industrial Inspection related activities in Fabrication of components such as Ceiling Girder ,column , Auto welded Beam, Ducts, HFO &amp; LFO Assembly, Skid assembly &amp; Valves machining with min 500MW capacity Boiler. Documentary evidence to be submitted.</li> <li>4) Copies of PAN card, Service Tax, Provident Fund and ESI Registration certificate,</li> <li>5) Technical Bid Criteria as given in Section V duly signed by authorized signatory and</li> <li>6) Annual Turnover on Inspection Fees received by Agency (Minimum 1Crore) in last 3 years. Proof of document to be submitted.</li> <li>7) Audited Profit and Loss account &amp; Balance Sheet for the above 3 years.</li> <li>8) All pages of the documents shall have original seal and signature of the Authorized persons.</li> <li>9) Failure to meet all the above, the agency will be disqualified from Technical bid and become not eligible for price bid opening.</li> </ol>
<b>1.5</b>	The inspection agencies shall own the responsibility to ensure that the components are inspected at appropriate stages and at final stage as per the scope of purchase order and guidelines of BHEL <b>Quality Management instruction</b> (copy of <b>QMI-26</b> is given as enclosure) and applicable <b>Quality Work Instructions such as QCP,SQP,SIP,CQP etc.,</b>
<b>1.6</b>	The Inspection Agency shall have adequate experienced inspection personnel to maintain the required strength of Inspectors by suitable immediate substitute for the Inspectors who resign / on long leave and the Inspection Agency has to take all necessary steps to ensure the Inspection services without any delay/obstruction or interruptions.

1.7	The bidder shall have adequate strength and resources to train and retrain their personal on theoretical and practical aspects of boiler structure inspection requirements as and when required.
1.8	In addition, a separate document is issued for Non-Pressure parts Outsourcing Inspection detailing the sequence of inspection activities including verification and witness stages as per the enclosure <b>Annexure A</b>
1.9	Inspection records shall be maintained separately by inspection Agencies and Daily Inspection Reports to be sent to BHEL / QC / OLI.
1.10	The inspection agencies shall evaluate the quality performance of the sub-Contractors as per the relevant guidelines issued by M/s BHEL and send the reports as specified in QMI-26(Latest). Gross inadequacies/deviations shall be brought to the notice of BHEL/QC/OLI immediately for necessary follow up action.
1.11	The Inspection Agencies shall verify and ensure the availability of Qualification procedures etc., and wherever necessary conduct personnel qualification test, procedure qualification test, review of qualification records and surveillance audit check in connection with processes like welding, heat treatment, blasting & painting etc. Also, the consumables used in welding, NDE and painting shall be checked for its suitability as per BHEL approved list/standards & recorded.
1.12	The Inspection Agencies shall ensure only calibrated instruments & gauges are being used for inspection activities.
1.13	The inspection agencies shall respond immediately for the feedback with regard to any discrepancies on the inspected components / urgencies from shop and site.
1.14	The Inspection Agencies shall coordinate with customer's representative for the inspection stages identified in the contract Quality Plan / communication issued by BHEL QC/OLI.
1.15	The Inspectors posted for inspection shall be available in the neatly dressed in the Inspection Agency's Uniform and with safety shoes, all to be furnished by the Inspection Agency. All inspectors are to be issued with photo ID card by concerned inspection agency.
1.16	Vehicle for the movement from residence to work place and back to residence for the Inspectors posted has to be arranged by the respective Inspection Agency to perform inspection services at Vendor works.
1.17	The Inspection Agency / the inspector shall not off-load any part of the work, assigned by BHEL. If found contract shall be immediately terminated.
1.18	The information regarding addition/deletion/ change of manpower shall be furnished to QC/OLI, BHEL.Trichy ,on every six months, Additional manpower shall be got qualified /approved by QC/OLI,BHEL.Trichy during changes.
1.19	If any discrepancy is found during checking /audits of inspected items received at Unit / Site or feedback received from customer on aesthetic appearance, mismatching or malfunctioning etc. (during use in the Shop, Erection, Testing or Commissioning) and / or records and it is established that the discrepancy is on account of inaccurate/ inadequate inspection, the inspection charges of the concerned item shall be deducted from pending bills and /or security deposit amounts.
1.20	The performance of Inspection Agency shall be monitored on aspects of response time to attend the call, timely submission of inspection report, deficiency in inspection and reporting from BHEL units/ sites, feedback of suppliers, Surveillance/Audit report of QC/OLI, BHEL. Trichy and feedback from Customers. BHEL reserves the right to regulate the load based on performance and response of the agencies as per guidelines given in the QMI-26 (Attached)

1.21	Inspection Agencies shall transact communications through network for faster and accurate communication
1.22	All Inspection Engineers shall be trained at BHEL and shall be qualified through written/ oral /practical test conducted on the completion of training.

**SECTION – II**

**2.0 TYPE OF PRODUCTS, LOCATION AND APPROXIMATE LOADING ON NON PRESSURE PARTS FIRMS (INDICATIVE)**

**2.1 Type of Products:**

2.1.0	<b>List of items likely to be subcontracted by BHEL but not limited to the list below:</b>
2.1.1	<b>General Fabrication:</b> Boiler structures columns, ceiling girders, welded beams, rolled beams, bracings, floor grills, ducting items, expansion bellows, ash and coal hoppers, dampers and gates, coal feeders, part process items like static parts of fans, air heaters, wind box, drum internals, wind mill components, CW piping mitre bends, pipes with attachments, welded tees and beams, tanks and vessels, clamps and hanger components, pipe supports, tie rods, turn buckle, pipe clamp, feed pipes, punching & pressing components, heat exchanger components, pressure vessel components etc. this includes final assembly inspection, hydro test, performance/functional test. <b>Machining Components:</b> BHEL also off loads various components which need precision machining and assembly like Valve, Boiler, Feeder components and other Jobbing items.
2.1.2	Inspection of Shot Blasting & painting ,Nitriding, heat treatment and All surface treatment for Boilers and Boiler house auxiliaries components
2.1.3	Inspection Of Jigs, Fixtures And Other Tooling Jobs Ordered By BHEL Against BHEL Drawing And The Materials Under The Scope Of Vendor.
2.1.4	BHEL furnishes applicable drawings to the sub-contractors.
2.1.5	Raw materials are supplied either by BHEL (or) procured by sub-contracting vendors from BHEL approved suppliers.
2.1.6	All raw materials shall be verified with documents/test reports as per quality work instructions to ensure its correctness and suitability.

**2.2 SUB CONTRACTORS LOCATION**

2.2.1	The sub-contractors/vendors are small scale or medium scale entrepreneurs with an average work force of 50 or above workmen.
2.2.2	The sub-contractors are fairly equipped with suitable facilities for the type of jobs loaded on them and they are selected and approved by a vendor selection committee of BHEL.
2.2.3	The sub-contractors are located in Chennai, Bangalore, Coimbatore, Udumalai pettai, Tuticorin, Salem, Ranipet, Mathur, Pudukottai, Pudhukudi, Valavanthankottai, Thanjavur, Kumbakonam, Madurai, Dindugul, Tiruchirappalli Town, Tiruverumbur, Thuvakudi and other Pheriperal areas of Tamilnadu and other vendors outside Tamilnadu.
ii	Bangalore: Approximate no of firms is about 10

iii	Coimbatore & Udumalaipettai: approximate no of firms is about <b>30</b>
iv	Salem: Approximate no of firms is about <b>8</b>
v	Mathur/Pudukottai: Approximate no of firms is about <b>70</b> .
vi	Thanjavur/Kumbakonam: Approximate no of firms is about <b>10</b>
vii	Madurai: Approximate no of firms is about <b>8</b>
viii	Tiruchirappalli town and Ariyamangalam: Approximate no of firms are about <b>60</b>
ix	Thiruverumbur/ <b>Kattur</b> : Approximate no of firms is about <b>80</b> .
x	Thuvakudi: Approximate no of firms is about <b>100</b> .
xi	Pudukudi & Valavanthankottai : Approximate no of firms are about <b>67</b> .
xii	Tuticorin(Nazereth) :Approximate no of firms is about <b>3</b>
xiii	Viralimalai & Dindugal : Approximate no of firms is about <b>10</b>
xiv	Vendors from rest of tamilnadu about <b>15</b>

**Locations may be added as and when new vendors are approved.**

### **2.3 Quantum of work**

<b>Category</b>	<b>Activity /Description</b>	<b>Estimated Quantum / Year</b>
I	Inspection of Fabricated structural Components like Ceiling Girder, Wind Box, Hangers and Supports, Skid assemblies (Fuel system) with Bought out Items, Machined components for Boiler , VALVES, pressure parts attachment and punching/shearing components for Boiler & its Auxiliaries where complete drawings are supplied by BHEL and materials will be either fully supplied by BHEL or procured by the vendor partly..	25000 Lakhs worth of PO value with +/-10% of change in Every year
II	Inspection of Shot Blasting & painting ,Nitriding, heat treatment and All surface treatment for Boilers and Boiler house auxiliaries components	500 Lakhs Worth of P.O Value With +/-10% of change in Every year
III	Inspection Of Jigs, Fixtures And Other Tooling Jobs Ordered By BHEL Against BHEL Drawing And The Materials Under The Scope Of Vendor.	400 Lakhs Worth Of P.O Value With +/-10% of change in Every year

**Enquiry Ref. BHEL:QC:OLI:AIA:OSB:01 dated 16.03.2015**

**SECTION- III**

**3.0 Procedure For Inspection:**

3.1	All inspection activities shall be carried out as stipulated in quality management instruction (QMI 26) latest. in addition to the engineering drawing which details the products and inspection requirements, BHEL gives quality work instructions (QWI) like quality <b>document for inspection stages as in Annexure A</b> . Quality control procedures (QCP), standard quality plans (SQP), standard inspection procedure (SIP), contract quality plan (CQP) as applicable for each product. Most of the components of assemblies / sub-assemblies require stage inspections including raw material inspection, verification of process parameters, surface preparation and painting. All components require final inspection including Identification marks.
3.2	Wherever customer inspection is envisaged the same has to be coordinated by the inspection personnel at the subcontractor's works. Quality plan or separate communication or both will be given to notify the requirement at the appropriate time.
3.3	Sub-contractors located in different zones will submit inspection calls by hard copies, oral communication in case of urgency, e-mail, and online call booking in B2B at the nodal points identified by the inspection agency.
3.4	Inspection agencies are expected to attend all the inspection calls within <b>4 hours</b> from the time of inspection calls. Inspection calls not attended within <b>24 hours</b> will be viewed seriously and lead for reduction of load/ cancellation of contract without notice period.
3.5	Due to urgency of work, other agencies of BHEL / customer, if authorized by BHEL/QC/OLI, may also issue instruction to Inspection Agency.
3.6	Inspection Agencies shall carry out inspection activities such as raw material inspection in-process inspection, nondestructive, destructive examination as applicable, hydro test, performance /functional test and final inspection up to dispatch and documentation as specified in quality documents.
3.7	Inspection agency shall carryout Inspection at various BHEL approved vendor works , if Vendor Po contain the scope of work for Heat treatment, Surface treatment , blasting and painting works etc.,
3.8	Inspection agencies are expected to execute and provide quality services in a professional manner & commensurate with the available facilities. They also shall educate and guide the vendor for proper process control.

3.9	Inspection agencies have to arrange their own transporting arrangements to reach the vendor's/subcontractor's site for inspection. Residence of inspectors shall be within 20kms for easy accessibility to vendor works
3.10	Inspection Agencies have to ensure every finished component accepted by inspector shall bear the metallic seal of inspector in a prominent place. Whenever small components are involved, the inspection agency shall ensure that the components are bundled or put in a box and sent along with a metallic tag which will bear the seal of inspector and follow traceability as per QWI.
3.11	The components inspected and found satisfactory for dispatch shall be accepted by raising Inspection Reports (IR). The Inspection Reports shall be processed through Online Inspection Call & IR Generation system in B2B
3.12	Workload fluctuation is in cyclic nature from month to month maximum depending upon the availability of load capacity. It is therefore requested that this cyclic nature of work load should be kept in mind while arranging inspection against this contract.
3.13	The performance of inspectors will be monitored continuously by BHEL and Performance rating will be communicated separately. In case of Unsatisfactory performance, inspection agencies are expected to take appropriate time bound corrective actions to improve the quality of service and feedback shall be given to BHEL on the corrective actions taken.
3.14	In emergencies / exceptional cases, inspectors posted by the Inspection Agency have to provide the services at short notice, in extended working hours, Sundays, holidays and in odd hours to the requirement of BHEL.
3.15	The components, which are inspected and cleared by the Inspectors posted by Inspection Agency, may be subjected to re-inspection by BHEL Quality Control Personnel or Customer Inspector. Wherever any extra expenditure incurred either by BHEL or by its customers, either during fabrication or erection at site, towards Rectification of defects in the components cleared by inspectors and if the cause of this rectification is due to faulty inspection clearance, the rework and inspection Charges incurred will be recovered from the current/existing bills and decision of BHEL Quality will be final in this regard.

**SECTION-IV**

**4.0 Terms & condition**

4.1	Tenders received late, shall be rejected.
4.2	<p><b><u>NUMBER OF INSPECTION AGENCIES TO BE EMPANELLED:</u></b></p> <p>BHEL reserves the right to enter into contract with more than one Inspection Agency by sharing the work centre depending upon the capability of mobilizing manpower by the Inspection agency and total quantum of work load. The lowest Bidder shall be awarded the highest percentage of the load. The business is intended to be shared in the ratio to match the rate of lowest bidder. The probable number of agencies and the approximate percentage of load sharing in each category if required based on the response shall be as follows</p> <p>A) If the no. of agencies is 5 and above , percentage sharing shall be 40%(L1),20%(L2), 20%(L3), and 20% (L4)..</p> <p>B) If the no. of agencies is 4 , percentage sharing shall be 50%(L1),25%(L2), 25%(L3)</p> <p>C) If the no. of agencies is 3, percentage sharing shall be 60%(L1),40%(L2).</p> <p>If the next (L2) Inspection agency, who is offered share of the business, fail to accept the offer, the same will be offered to next lower bidder in sequential order.</p> <p>In case, none of the other bidders ie, L2,L3, who are offered business share fail to accept , BHEL reserves the right to give entire business to L1 bidder.</p> <p>However , H1 offer will be eliminated</p>
4.3	Any effort by a bidder to influence or pressurize BHEL officials or otherwise to gain undue favour by any means during the entire process of award of contract may result in rejection of bid.

**5.0 CONTRACT PERIOD:**

5.1	Contract is valid for a period of <b>Two years</b> from the date of award of contract issue. Termination of contract can be made with 3 months notice from either side.
5.2	The contract can be extended further if necessitates based on mutual agreement between BHEL and inspection agencies.

## 6.0 PAYMENT:

6.1	The inspection Agency has to furnish inspection report and vendor performance evaluation report in the stipulated format to BHEL in every month.
6.2	Inspection Agencies invoices together with the Inspection report shall be submitted once in a month for the period from 25th to 24th of every month along with copy of previous month service Tax paid certificate and payment to inspection agency shall be made after 45 days.

## 7.0 PERSONNEL WELFARE:

7.1	<ol style="list-style-type: none"><li>1) The Inspection Agency shall comply with all labour regulation laws like PF, ESI , Safety etc., applicable to the employees of the inspection agency. BHEL is not responsible for Safety, Provident fund, ESI, Insurance and all statutory requirements.</li><li>2) BHEL safety rules and regulations are to be taken care by Agency.</li><li>3) BHEL is not responsible for any injury or damage that is caused during the course of inspection or otherwise.</li></ol>
7.2	Separate PF code and ESI code are to be obtained and a copy of the same are to be furnished along with the offer.

## 8.0 INCOME TAX:

8.1	Income tax, as applicable, will be deducted at source at the rate applicable in accordance with statutory guidelines. <b>PAN number shall be furnished.</b>
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**Enquiry Ref. BHEL:QC:OLI:AIA:OSB:01 dated 16.03.2015**

**SECTION – V**

S. NO	TECHNICAL BID CRITERIA	Accepted
		Not Accepted
1	Quotation to be submitted in Two Parts in separate sealed covers. Part A – Technical Bid and Part B – Price Bid.	
2	An Earnest Money Deposit (EMD) amount of <b>Rs.200000/-</b> (Rupees Two Lakhs only) to be sent along with offer.	
2A	Security Deposit: Security deposit will be collected from the successful bidder before start of the work. The rate of security deposit will be as below <ul style="list-style-type: none"> <li>• Up to Rs.10 Lakhs: 10% of order value.</li> <li>• Above Rs10 Lakhs up to 50 Lakhs : Rs1 Lakh+7.5 %of the amount exceeding Rs.10Lakhs.</li> <li>• Above Rs50 Lakhs : Rs 4 Lakh+5 %of the amount exceeding Rs.50Lakhs.</li> </ul>	
3	Inspection Charges ONLY SINGLE RATE in the % of purchase order value of finished goods. Rate should be quoted without any conditions on distribution of workload. No escalation of rate is admissible during the contract period. The rate should be exclusive of service tax.	
4	The Inspection Agency should have a minimum of <b>5 years continuous</b> experience in Industrial Inspection related activities in Fabrication of Boiler components or Boiler construction site <b>like Ceiling Girder ,column , Auto welded Beam, Ducts, Machining of valves etc. with min 500MW capacity Boiler. Documentry evidence to be submitted</b>	
5.1	Inspection agency should have valid ISO 9000 certification . Proof shall be submitted.	
5	Inspection Engineers shall have the following qualification. <ol style="list-style-type: none"> <li>1. Minimum qualification of Diploma in Mechanical / Metallurgy Engg .Production Engg</li> <li>2. Minimum Three years of experience on structural fabrication.</li> <li>3. Level II qualification in NDE -RT, UT, MT, PT duly approved by competent agencies</li> <li>4. Shall have adequate knowledge on ASME/ AWS code requirements.</li> <li>5. All inspection engineer shall have knowledge on English (Read, Write, speak) &amp; Hindi (speak-Preferable)</li> <li>6. All inspection engineer shall be conversant with the use of measuring instruments and possess working knowledge on computers</li> <li>7. All inspection engineers shall have Training &amp; certification on blasting and painting.</li> </ol>	
6	All Inspection Engineers shall be trained at BHEL and shall be qualified through written/ oral /practical test conducted on the completion of training.	
7	All the inspection calls have to be completed within <b>4</b> hrs from the time of inspection calls. Inspection calls not attended within 24 hrs will be viewed seriously and lead for reduction of load/cancellation of contract without notice period.	
8	In emergencies / exceptional cases, Inspection has to be carried out round the clock including Sundays and holidays & in odd hours also by employing adequate Inspection Engineers to the requirement of BHEL.	
9	Required Inspection Engineers have to be posted at different places on permanent basis to meet the requirement of BHEL. Only Experienced Inspector shall be substituted to take care of leave post.	
10	Inspection Agency has to own the responsibility to ensure that the components are inspected at appropriate stages and at final stage as per the BHEL Quality Management Instruction (QMI) and Quality Work Instructions (QWI) and records shall be maintained.	
11	Inspecting Agency has to own the responsibility to ensure the safety and security of their respective Inspecting Officials while carrying out Inspection activities.	

12	Inspection Agency has to take all necessary steps to ensure the Inspection services without any obstruction or interruptions.	
13	Inspection Agency has to perform the Inspection activities with the existing facilities at sub-contracting firms and no additional facility can be provided.	
14	Necessary Transportation facility for Inspection Engineers has to be arranged by the respective Inspection agency to perform Inspection services at different Sub-Contracting firms.	
15	The inspectors posted for Inspection shall be in the position of neatly dressed with Inspection Agency's Uniform (for easy identification in Shops) and with all safety Personal Protective Equipments (PPE) , all to be furnished by the Inspection Agency.	
16	The Inspection Agency shall have adequate experienced Inspection personnel to maintain the required strength of Inspectors by suitable immediate substitute for the Inspectors who resign / on long leave and the Inspection agency has to take all necessary steps to ensure the Inspection services without any obstruction or interruptions.	
17	All inspection personnel being offered to BHEL shall be regular employees or shall have at least two years of running contract with bidder. No consultant or freelancer is allowed for BHEL inspections. All inspection personnel shall carry photo identity card issued by respective TPIA.	
18	Safety, Provident fund, ESI, Insurance and all statutory requirements and BHEL safety rules and regulations are to be taken care by you. BHEL is not responsible for any injury or damage that is caused to your staff during the course of inspection or otherwise	
19	All inspection Agencies shall have regional office in India in Tamil Nadu and local offices at Trichy and the Head/ co-ordinator at Trichy shall possess adequate Technical & communication skills for easy understanding and technical communication. The Heads shall be capable and qualified enough to conduct audit at the vendor works where problems will be reported by QC/OLI and also he shall have adequate control over the inspectors engaged in different places pertaining to this contract.	
20	The period of contract will be <b>Two years</b> from the date of execution of Inspection contract. The contract can be extended for further period based on mutual agreement between BHEL and inspection agency	
21	<p>BHEL reserves the right to enter into contract with one or more Inspection Agency by sharing the work centre depending upon the capability of mobilizing manpower by the Inspection agency and total quantum of work load. The probable number of agencies and percentage of load sharing based on the response shall be as follows</p> <p>A) If the no. of agencies is 5 and above , percentage sharing shall be 40%(L1),20%(L2), 20%(L3), and 20% (L4)..</p> <p>B) If the no. of agencies is 4, percentage sharing shall be 50%(L1),25%(L2), 25%(L3)</p> <p>C) If the no. of agencies is 3, percentage sharing shall be 60%(L1),40%(L2).</p> <p>If the next (L2) Inspection agency, who is offered share of the business, fail to accept the offer the same will be offered to next lower bidder in sequential order. In case, none of the other bidders ie, L2, L3, who are offered business share fail to accept , BHEL reserves the right to give entire business to L1 bidder.</p> <p>However , H1 offer will be eliminated</p>	
22	As per policy guidelines of BHEL, Shuffling will take place every year between Inspection Agencies to different sub-contracting firms. BHEL reserves the right to regulate the load based on performance and response of the agencies as and when required	
23	Payment for the accepted Invoices towards Inspection services will be paid within 45 days from the date of submission of the relevant accepted invoices.	
24	Dispute if any on the Inspection services or by any other means with BHEL shall be dealt with Arbitration, ONLY at Tiruchirapalli.	
25	The bidder shall fill the format for "particulars of inspection agency" Enclosed in annexure B and submitted along with Technical Bid.	

26	<p>The Inspection Agency shall submit the document evidence of the following</p> <ol style="list-style-type: none"> <li>1) Organisation Chart and details of technical persons with qualification and experience on roll.</li> <li>2) Performance certificate from the customer. Previous experience in Industrial Inspection related activities in Fabrication of Boiler components or Boiler construction site for Five years</li> <li>3) Copies of PAN card, Service Tax, Provident Fund and ESI Registration certificate,</li> <li>4) Technical Bid Criteria as given in <b>Section V</b> duly signed by authorized signatory and</li> <li>5) Annual Turnover, Audited Profit and Loss account &amp; Balance Sheet for the last 3 years.</li> <li>6) Valid ISO 9000 certificate</li> </ol> <p>Without full details of any one of the above. The agency will be disqualified from Technical bid and become not eligible for price bid opening and all pages shall have original seal and signature of the Authorized persons.</p>	
27	No other pre conditions along with your offer will be entertained by BHEL.	
28	BHEL reserves the right to reject any offer without assigning any reason.	
29	BHEL reserves the right to summarily terminate the contract during service on integrity related issues.	
30	All original documents are to be shown for verification on demand for conformations.	
31	No deviation certificate shall be submitted as given in Annexure-C	

**Signature with Seal of**  
Authorized signatory

**Part – B**  
**PRICE BID**

<b>Non Pressure Parts</b>				
<b>Category</b>	<b>Activity /Description</b>	<b>Estimated Quantum / Year</b>	<b>Basis For Rate</b>	<b>Quoted Rate In Rupees/in %</b>
I	Inspection of Fabricated structural Components like Ceiling Girder, Wind Box, Hangers and Supports, Skid assemblies (Fuel system) with Bought out Items, Machined components for Boiler , VALVES, pressure parts attachment and punching/shearing components for Boiler & its Auxiliaries where complete drawings are supplied by BHEL and materials will be either fully supplied by BHEL or procured by the vendor partly..	25000 Lakhs worth of PO value with +/-10% change of Every year	The Inspection Charges Shall Be in % of PO value	Rate in % age of PO value
II	Inspection of Shot Blasting & painting ,Nitriding, heat treatment and All surface treatment for Boilers and Boiler house auxiliaries components	500 Lakhs Worth of P.O Value with +/-10% change of Every year.	The Inspection Charges Shall be a Percentage of Purchase Order Value.	Rate in % age of PO value
III	Inspection Of Jigs, Fixtures And Other Tooling Jobs Ordered By BHEL Against BHEL Drawing And The Materials Under The Scope Of Vendor.	400 Lakhs Worth Of P.O Value with +/-10% change of Every year.	Inspection Charges Shall be a Percentage of Purchase Order Value.	Rate in % age of PO value

The Quoted Rates Are Exclusive Of Service Taxes And Duties.

**Signature with Seal Of  
Authorized Signatory**

**Enquiry Ref. BHEL:QC:OLI:AIA:OSB:01 dated 16.03.2015**

**ANNEXURE-A.**

<b>BHARAT HEAVY ELECTRICALS LIMITED</b>			
<b>TIRUCHIRAPALLI QUALITY CONTROL OFF LOADING INSPECTION</b>			
STAGES OF INSPECTION AT OUT SOURCING VENDOR WORKS			
<b>1) PRODUCT : ALL CUT TO SIZES</b>		<b>VENDOR</b>	<b>AIA</b>
<b>NUMBER OF INSPECTION STAGES: 4</b>		<input type="checkbox"/>	<input type="checkbox"/>
1	Dimension Check	√	√
2	Power Tool cleaning	√	√
3	Measurement of Painting thickness and verification of Painting schedule	√	√
4	Final Inspection (W.O.Identification/ Stenciling, Match marks punching )	√	√
<b>2) PRODUCT : STRAIGHT DUCTS</b>		<b>VENDOR</b>	<b>AIA</b>
<b>NUMBER OF STAGES: 8</b>		<input type="checkbox"/>	<input type="checkbox"/>
1	BG LPI	√	√
2	Stiffener side welding & Dimension check of Individual walls	√	√
3	Trial Assembly	√	√
4	Inside Power Tool cleaning	√	√
5	Measurement of Painting thickness and verification of Painting schedule	√	√
6	Outside Power Tool cleaning	√	√
7	Measurement of Painting thickness and verification of Painting schedule	√	√
8	Final Inspection (W.O.Identification/ Stenciling, Match marks punching )	√	√
<b>3) PRODUCT : PROFILED DUCTS</b>		<b>VENDOR</b>	<b>AIA</b>
<b>NUMBER OF STAGES: 9</b>		<input type="checkbox"/>	<input type="checkbox"/>
1	BG LPI	√	√
2	Checking of wall layout & Dimension check of Individual walls	√	√
3	Stiffener side welding ( Top & Bottom, Dimension check)	√	√
4	Trial assembly	√	√
5	Inside Power Tool cleaning	√	√
6	Measurement of Painting thickness and verification of Painting schedule	√	√
7	Outside Power Tool cleaning	√	√
8	Measurement of Painting thickness and verification of Painting schedule	√	√
9	Final Inspection (W.O.Identification/ Stenciling, Match marks punching )	√	√

<b>4) PRODUCT : WELDED BEAMS</b>		<b>VENDOR</b>	<b>AIA</b>
<b>NUMBER OF STAGES:8</b>		<input type="checkbox"/>	<input type="checkbox"/>
1	BG LPI	√	√
2	Forwarding RT	√	√
3	Section Fit up	√	√
4	MPI of Auto welding A&B Sides	√	√
5	Dimension check	√	√
6	Surface Preparation for Painting as the Painting schedule	√	√
7	Measurement of Painting thickness and verification of Painting schedule	√	√
8	Final Inspection (W.O.Identification/ Stenciling, Match marks punching )	√	√
<b>5) PRODUCT : BRACINGS &amp; BUCK STAY ASSEMBLY</b>		<b>VENDOR</b>	<b>AIA</b>
<b>NUMBER OF STAGES: 9</b>		<input type="checkbox"/>	<input type="checkbox"/>
1	BG LPI	√	√
2	Forwarding RT	√	√
3	Section Fit up	√	√
4	MPI of Auto welding A&B Sides	√	√
5	Dimension check	√	√
6	Trial assy	√	√
7	Surface Preparation as the Painting schedule	√	√
8	Measurement of Painting thickness and verification of Painting schedule	√	√
9	Final Inspection (W.O.Identification/ Stenciling, Match marks punching )	√	√
<b>6) PRODUCT : COLUMN</b>		<b>VENDOR</b>	<b>AIA</b>
<b>NUMBER OF STAGES: 19</b>		<input type="checkbox"/>	<input type="checkbox"/>
1	Butt joint BG LPI	√	√
2	Butt joint RT selection (if percentage involves)	√	√
3	Butt joint , RT report verification	√	√
4	MPI for gas cut edges for plate thickness => 38 mm	√	√
5	" I / T " Fitup	√	√
6	" I / T " Fillet welding MPI	√	√
7	PLUS Beam / Box formation fit up if Groove EP	√	√
8	Individual column peace dimension with diaphragm plate and Edge preparation	√	√
9	Individual column piece dimension (with or) without diaphragm plate / Rest plate and Fillet weld MPI	√	√
10	Base plate all round weld MPI	√	√
11	Bottom piece gusset plate fit up	√	√
12	Bottom piece dimension and MPI after full welding	√	√
13	Top piece cap plate and stiffener fit up/ Gusset plate	√	√
14	Top piece dimension and MPI	√	√
15	Flatness of rest plate checking/Blue matching	√	√
16	Trial assy with cover plate	√	√
17	Surface Preparation as per Painting schedule	√	√

18	Measurement of Painting thickness and verification of Painting schedule	√	√
19	Final Inspection (W.O.Identification/ Stenciling, Match marks punching )	√	√
<b>7) PRODUCT : CEILING GIRDER</b>			

<b>NUMBER OF STAGES: 15</b>			
1	UT on erection butt joint area		<b>NDT</b>
2	Butt joint BG LPI	√	√
3	RT Joint selection	√	√
4	RT report verification		<b>NDT</b>
5	Girder " I " section Fitup	√	√
6	Girder bearing stiffner fitup	√	
7	MPI on fillet welds of Individual girder.	√	√
8	Individual Girder piece dimension in "I" position.	√	√
9	Girder Trial assembly (2 or 3 pieces)	√	√
10	Welded beams dimension & MPI	√	√
11	Compartment trial assembly.	√	√
12	Girder web match drilling with cliet angles, bottom flange hole dimension & surface flatness in "H" position.	√	√
13	Surface preparation by blast cleaning	√	√
14	Measurement of Painting thickness and verification of Painting schedule	√	√
15	Final Inspection	√	√
<b>8) PRODUCT : MACHINING COMPONENTS</b>			
<b>NUMBER OF STAGES: 4</b>			
1	Raw Material	√	√
2	Seal Transfer	√	√
3	Dimension Check as per Drawing	√	√
4	Stamping & Identification	√	√
<b>8) PRODUCT : ASSY</b>			
<b>NUMBER OF STAGES: 9</b>			
1	Raw Material	√	√
2	Fit up	√	√
3	Welding & RT consolidation	√	√
4	Orientation	√	√
5	Assy	√	√
6	Hydro	√	√
7	OAL Dimension	√	√
8	Final Painting	√	√
9	Document package	√	√

Inspection activities are to be carried out for all boiler components at appropriate identified inspection stages as listed below but not limited to and above only sample indicative.

## **A. Fabrication**

1. Raw material verification: Verification of Supplier invoice, Test certificates, mill stenciling/punching on product, surface condition, Size confirmation , Day Book clearance etc.,
2. Raw material stamping/seal transfer and verification of traceability's where ever applicable
3. In process inspection as per QWI/Drg where ever applicable
4. Fit up (including groove angle root gap and mismatch) of all components
5. NDE check as per QWI (LPI,MPI&UT)
6. RT forwarding and verification of NDE reports where ever applicable.
7. Dimensional check of each component and dimension report verification.
8. Heat treatment (HT) forwarding, witnessing of thermocouple fixing, verification of chart / HT completion and signing of all necessary documents.
9. Trial assembly check as per QWI/drg.(including match marking/flatness/blue matching etc.,)
10. Tube bending, expansion, welding and Hydro testing where ever applicable
11. Dimensional/ in process inspection of undefined components (punching, shearing )
12. Performance/operational testing-(tilt test, run test, noise level)
13. Surface preparation (power tool cleaning/blasting), painting and testing as per QWI.
14. Visual inspection – welding, surface imperfection and painting defects
15. Use of template and inspection gauge/instruments with appropriate calibration.
16. Final inspection –dimensional check as per Drg/QWI, identification punching / stenciling, final painting (DFT), other relevant check and shipping structure if any.

## **B. Machining**

1. Raw material verification and stamping for traceability
2. In-process inspection at appropriate stages.
3. Use appropriate calibrated measuring instruments/gauges/optical flat etc.,
4. Follow the quality requirement at appropriate stage as per drg/QWI.
5. Assembly/mating inspection.
6. In process inspection for special coating process (Ex: galvanizing, phosphate etc.,)
7. In process inspection for special surface preparation/ hardening (including grinding lapping, hardness testing)
8. Heat treatment(nitriding carburizing etc.,) and Hydro testing
9. Blasting, painting and final inspection if any.

## **C. Heat treatment and surface treatment:**

1. **Heat Treatment: Verification of component loading in furnace, Confirming thermocouple , Temperature Indicator , Recorder Calibration. Thermocouple fixing as per the requirement. Clearance for starting the HT cycle and monitoring. Final Inspection and document clearance.**
2. **Surface treatment. Verification of Process control and final Inspection**

**D. Tool and Jix and fixure:**

**1. Inspection as per PO and Drawing – Final Inspection**

Over and above said inspection stages could be added/deleted as and when required/warranted /criticalities of product, need to be inspected by authorized inspection agencies.

**Enquiry Ref. BHEL:QC:OLI:AIA:OSB:01 dated 16.03.2015**

**Annexure - B**  
**Particulars Of Inspection Agency**

1.1	<b>Name of company</b>		
1.2	Head office:		
	i)	Address:	
	ii)	Phone no:	Fax no:
	iii)	E-mail:	Website:
1.3	<b>Chief executive:</b>		
	i)	Name:	
	ii)	Designation:	
	iii)	Office address:	
	iv)	Phone no:	Landline: Mobile:
	v)	E-mail:	
	vi)	Qualification	
	vii)	Profile:	
	viii)	Experience	
1.4	<b>Authorized persons to participate in Reverse auction process</b>		
	i)	Name:	
	ii)	Designation:	
	iii)	Office address:	
	iv)	Phone no:	Landline: Mobile:
	v)	E-mail:	
	vi)	Qualification	
	vii)	Profile:	
	viii)	Experience	
1.5	<b>Ownership status:</b>		(please put <input type="checkbox"/> mark in appropriate box)
		Govt.of india undertaking	State Govt.undertaking
		Public limited company	Private limited company
		Partnership/individual firm	Others (please specify)
	(please submit documentary proof ,such as, memorandum & articles of association , company registration certificate, partnership deed, as applicable)		
1.6	i)	Total no. of persons:	
	ii)	No. of persons engaged in inspection	

	iii)	Total no. of branches					
1.7	<b>particulars of branches(add separate sheet if required)</b>						
	i)	Location:					
	ii)	Name of branch manager					
	iii)	Address:					
	iv)	Phone no:	landline:	mobile:			
	v)	Fax no:					
	vi)	Website:					
	vii)	E-mail					
	viii)	Total no. of persons:					
	ix)	No. of persons engaged in inspection					
1.8	<b>Date of incorporation/registration:</b>						
1.9	Turnover of the company from inspection services for the last 3 years:		year	turnover (in rs. crore)	remarks		
			2012-2013				
			2013-2014				
			2014-2015				
			average				
1.10	Audited annual report for the last 3 years (to be enclosed)						
1.11	Income tax certificate for the last 3 years (to be enclosed)						
1.12	Bankers name and address:						
1.13	Registration with statutory bodies:						
	a	Income tax pan no.					
	b	Service tax registration no. (please enclose relevant letter/ certificate)					
1.14	a	Whether company is ISO: 9001 – 2008 certified:	yes / no				
	b	If yes, year of certification					
	c	Certification body & certificate no.					
	d	Whether company is certified for ISO/ IEC :17020:	yes / no				
	e	If yes, year of certification					
	f	Certification body & certificate no.					
1.15	Organization : (please enclose organization chart)						
1.16	<b>List of clients during last five years:</b>						
	Sl. No	Client	Supplier(S)	Item(S)	P.O/ Contract No.	Value	Remarks
	1	2	3	4	5	6	7

1.17	i)	<b>Bio-data of all persons engaged in inspection:</b>						
		Sl. no	Name	Technical Qualification	Additional certification (ndt) no.of years.	Experience in inspection field	Specimen signature (attested)	Remarks
		1	2	3	4	5	6	7
	ii)	Summary:						
		PG/graduate engineers						
		Diploma engineers:						
		Total:						
1.18	Type of services offered							
1.19	Did you provide TPI services to any BHEL unit/division?						yes/no	
	If yes, please give details							
1.20	Whether any litigation/arbitration is pending:						yes/no	
	If yes, please give details							
1.21	No deviation certificates (in the format enclosed in annexure -C):							
1.22	Information regarding banning ,blacklisting from business							
1.23	Any other information: use additional sheet,( if required)							

Signature of Authorized Person  
Name:  
Date:  
Seal:

All the above Technical Bid Criteria along with the requirements prescribed in section I to V are acceptable.

**Signature with Seal of  
Authorized signatory**

**ANNEXURE-C**

**COMPANY LOGO**

**LETTER HEAD**

**BHEL REF : TENDER NOTIFICATION NO .....DTD.....**

**No DEVIATION CERTIFICATE**

**THIS IS TO DECLARE THAT WE DO NOT HAVE ANY DEVIATIONS TO THE TERMS & CONDITIONS IN PART- A SECTION: I-V OF YOUR TENDER SPECIFICATION NO. .... AND ACCORDINGLY ACCEPT ALL THE TERMS & CONDITIONS WITHOUT ANY RESERVATIONS WHAT SO EVER.**

**(Signature & Seal of the Firm)**

**Date.....**

**BHARAT HEAVY ELECTRICALS LIMITED  
TRICHY - 620 014**

**QUALITY CONTROL**

**QMI 26  
REV 00**

**PAGE  
01 OF 12**

**QUALITY MANAGEMENT INSTRUCTIONS  
FOR**

**SUB CONTRACTING INSPECTION**

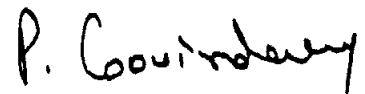
**(REISSUE)**

**EFFECTIVE DATE: 19-04-2002**

**Prepared by**

**Reviewed by**

**Approved by**



**Sr. Manager/QC**

**DGM/QC/V & OLI**

**Addl. General Manager/QC**



## 1.0 SCOPE

1.1 This procedure details the activities to be performed by sub contracting section of Quality control, including Authorised Inspection Agencies.

## 2.0 DOCUMENTS

2.1 The following documents are maintained at QC/Sub contracting {QC (SC)}.

2.1.1 List of Quality Work Instructions (QWI) for pressure parts and non pressure parts area.

2.1.1.1 Relevant Standard Quality Plan (SQP), Contract Quality Plan (CQP), Quality control Procedures (QCP), Standard Inspection Procedure (SIP), customer inspection procedure (CIP) Painting Procedures..

2.1.2 List of approved NDE Vendors

2.1.3 Directory of vendors

2.1.4 List of Authorised Inspection Agency (AIA)

2.1.5 VRC Guidelines issued by AD/FB

## 3.0 SYSTEM

### 3.1 AUTHORISED INSPECTION AGENCY (AIA)

3.1.1 Authorised Inspection Agency (AIA) is appointed and authorised by BHEL for carrying out Quality control activities on behalf of BHEL at their Vendors' works as per Purchase order.

3.1.2 Criteria for evaluation and rating of inspection agencies during initial selection will include but not limited to the following

- a) Past performance with BHEL/other industries
- b) Qualification and experience of personnel employed and the number of such qualified personnel.
- c) Availability of inspection gadgets as applicable
- d) Accreditation such as ISO.

### 3.2 DIMENSION REPORT (DR)

3.2.1 DR shall be maintained by all vendors for each and every DU of Non-IBR components manufactured by them. The DR shall contain the information given in the Annexure-I as a minimum.

3.2.2 QC (SC)/AIA shall carry out inspection and indicate the disposition in the respective DR for all stages as per Quality Plan (QP).

### 3.3 HISTORY CARD (HC)

- 3.3.1 QC/SC shall ensure the contents of Annexure-II in the HC maintained by the firm as a minimum.
- 3.3.2 QC (SC)/AIA shall carry out inspection and indicate the disposition in the respective HC for all stages as per QP.

### 3.4 MATERIAL VERIFICATION

- 3.4.1 QC (SC)/AIA shall verify the material for identity against SMIV/Drg/Group certificate/SFPIR/ Attestation, when the materials are supplied by BHEL. Sample testing shall also have to be carried out whenever required.
- 3.4.2 Attestation/ Product Attest/ Certification shall be carried out as per standard procedure No. SP 2001 & SP2003 as applicable.
- 3.4.3 Materials supplied by Vendor shall have original Mill test Certificates (MTC). QC (SC) / AIA shall verify the original MTC for compliance.
  - 3.4.3.1 In the absence of original MTC, sample testing for chemical and mechanical shall be carried out in BHEL laboratory/ any government approved Laboratory for material conformance to specification.
    - 3.4.3.1.1 The sample for testing shall be identified by QC (SC) / AIA and seal of the inspector shall be affixed. If the samples are identified by AIA the samples shall be sent to QC (SC) for sending to BHEL Lab for testing. The test requisitions in the prescribed format (230-902) shall be forwarded to the BHEL lab by QC (SC) after entering the particulars in a register. If the testing is carried out in an authorised Lab, test shall be witnessed by BHEL.
    - 3.4.3.1.2 In case of rods the sample size shall be 200 mm. long for both mechanical and chemical analyses together.
    - 3.4.3.1.3 In case of plates, the sample size shall be 250 mmx50mm.for mechanical testing and chemical analysis.
  - 3.4.3.2 Structural Rolled sections like Angle, Channel, I-beam etc. need not be tested and can be accepted based on guarantee by vendor except when testing is called for in the P.O.
  - 3.4.3.3. When laboratory test are done at BHEL, QC (SC) shall monitor and forward a copy of the Material Test Report issued by the laboratory to the vendor/ AIA.

### 3.5 PRODUCT VERIFICATION

- 3.5.1 Source inspection at vendor's works shall be carried out for all items by QC (SC)/ AIA in accordance with Purchase order.
- 3.5.2 Inspection requisitions as shown in Annexure-III are received by the individual QC (SC) personnel/ AIA at the location specified by HQS/QC at appropriate stages of manufacture as envisaged in relevant SQP/CQP/QCP/SIP/CIP. These are registered in a log book maintained by the individual Quality personnel for monitoring and clearance.

- 3.5.2.1 The log book shall contain the details given in Annexure III-A.
- 3.5.3 QC (SC) / AIA shall refer the relevant PO/CQP/SQP/SIP/CIP/ Drawing/GMS/ WPS/Welder qualification record/ NDE reports and any other applicable documents in accordance with the requirements, during the inspection of components.
- 3.5.3.1 When called for in the P.O. after satisfactory completion of inspection, the vendor shall make the requisition for customer/Third party inspection Agency and forward to QC (SC) through AIA.
- 3.5.3.2 QC (SC) shall feed the details into the system (telnet 10.1.1.11) and forward to concerned customer/Third party Inspection Agency.
- 3.5.3.3 QC (SC) shall ensure that the required check list/Dimension Reports of the part processed items are forwarded to the concerned agencies as required in PO/CQP/SQP/SIP/CIP.
- 3.5.4 Non-conformance report (NCR) shall be raised by QC (SC)/AIA as per QMI 29 for the components not meeting the requirements.
- 3.5.4.1 QC (SC) shall feed NCRs received from the area QC personnel/ AIA into the system and forward the same to QA/ Engg. for disposal.
- 3.5.4.2 Disposed NCRs as received from the system shall be printed and distributed to the Agency concerned .
- 3.5.4.3 If recommended for rework at S/C works QC(SC)/AIA shall forward the rework completion details to QC(SC) to feed the final comments in the NCR system.
- 3.5.5 QC (SC) shall monitor all NCRs in the system for disposition and maintain hard copies of the records, if required.
- 3.5.6 QC (SC) / AIA shall enter the NCR/DCN details, if any in the DR book/History card,
- 3.5.7 QC(SC)/ AIA shall ensure all the rework suggested by them and customer Inspectors, are completed and indicate the acceptance after completion of all such reworks in the DR/History card.
- 3.5.8 Inspection Status shall be indicated in relevant DR/ History card by QC (SC) /AIA by sign off at all identified stages.

### 3.6 FINAL INSPECTION

- 3.6.1 QC(SC) /AIA shall raise Inspection report for the components inspected and accepted as per SP 1402.
- 3.6.2 In addition to the details printed in IR, DR No., DCN (if any), Attestation/ Special Remarks, if any, shall be indicated in "Remarks" column of the IR. IR copies shall be distributed as per SP 1402.
- 3.6.3 QC(SC)/ AIA shall raise PDO and distribute the same as per SP2102 for the items which are rejected.

**4.0 PERFORMANCE MONITORING OF SUB CONTRACTORS**

- 4.1 Area QC(SC)/ AIA shall prepare monthly quality performance report for each vendor as per the guidelines given in the annexure-IV and forward to QC (SC) office.
- 4.2 In case of multiple evaluation by different inspection agencies severest rating will be taken for monitoring.
- 4.3 QC (SC) shall compile the quality performance report in every month and forward to VRC after incorporating demerit factor (DF). DF is the index assigned based on quality feed back from various end users. Each DF will reduce the quality rating assessed by 10%.
- 4.4 Quality rating shall be arrived as follows.

4.4.1	<u>Marks in percentage</u>	<u>Rating</u>	<u>Remarks</u>
	91 to 100	1	Excellent
	75 to 90	2	Very Good
	61 to 74	3	Good
	41 to 60	4	Fair
	0 to 40	5	Poor

**5.0 PERFORMANCE MONITORING OF AIA**

- 5.1 The performance of the AIA shall be monitored continuously by HOS/QC(SC) formally once in six months, as well as informally. The DF of the sub contractors is also applicable to AIAs and the rating is arrived taking into account the DF on quality of inspection (50 marks) given below.
- 5.2 The performance of AIA shall be rated based on the following.
- 5.2.1 The characteristics and the maximum marks for each as given below.

<u>Characteristics</u>	<u>Marks</u>
1. Availability of Inspector/timely inspection	15
2. Response	15
3. Quality of inspection	50
4. Feed back from loading agencies, shop, Sub-contractors	10
5. Punctuality of sending performance report of sub-contractors	10

- 5.2.2 Marks shall be awarded against each criteria as above and rating shall be as per 4.4.1.
- 5.3 HOS/QC(SC) shall communicate the performance rating to each agency in writing and discuss with the concerned AIA of unsatisfactory performance (fair and poor rating) for necessary course correction and the same shall be reviewed after 3 months. Notwithstanding to the above HOS/QC(SC) shall interact with all AIA on day to day basis on the inspection requirement deployment of QC personnel etc.,
- 5.4 HOS/QC(SC) shall initiate contract termination of AIA with consistent unsatisfactory performance and arrange for immediate deployment of suitable QC personnel in the concerned area till permanent arrangements are made.

## 6.0 RECORDS

- 6.1 QC (SC) /AIA shall ensure the following records are available at vendor's works as applicable.
- |        |   |
|--------|---|
| 6.1.1  | Dimension Report                                |
| 6.1.2  | DCN copy if applicable                          |
| 6.1.3  | NDE Report                                      |
| 6.1.4  | WPS, PQR, WQR.                                  |
| 6.1.5  | HT chart/Extract/ movement sheet as applicable. |
| 6.1.6  | FOT Report                                      |
| 6.1.7  | NCR copy & NCR Register                         |
| 6.1.8  | History card                                    |
| 6.1.9  | IR copy & IR Register                           |
| 6.1.10 | PDO copy & PDO register as applicable.          |

- NOTE: (I) All these shall be maintained for a period of five years for future reference and after they may be scrapped.
- 2) Registers and records may also be maintained in computer in which case suitable pack up shall be available to avoid any loss of data.

- 6.2 QC(SC) shall ensure that the following records are maintained at QC (SC) office in system.

- 6.2.1 NCR  
6.2.2 Vendor Quality Performance Reports.

NOTE: (I) These reports shall be maintained for a period of one year minimum.

(ii) After one year these reports shall be scrapped.

- 6.3 QC (SC) shall ensure that vendors hand over the fully completed statutory documents and Quality records to QC/Documentation for onward transmission to customer.
- 6.4 Performance monitoring records of AIA will be maintained by HOS/QC/ SC till a new contract is finalised.
- 6.5 QC/SC will carry out along with WTC, periodic surveillance of the activities, at the works of the sub contractors, for process monitoring of pressure parts fabrication, once in six months.

**ANNEXURE-I**  
**NAME OF FIRM & FIRM CODE**

P.O.No. &amp; Dt :

W.O.No. :

Dimension Report No.:

Drg.No. :

Date :

DU/Part No. :

Description:

Qty. :

Material Specification:

Weight:

QCP/CQP.SQP/SIP/CIP Nos. :

GMS details :

Gauge Details:

**GENERAL DIMENSIONS**

As given in the drawing	Actual

Welder Name:

Electrode Brand Name:

Electrode batch No. :

Baking &amp; Drying Details:

Preheating temp.:

HT/Plating details:

NDE details :

Surface finish :

DCN No. :

NCR No.:

PDO No. :

WPS . No:

Paint details i) Brush/Spray

ii) Brand Name :

IR No. &amp; Date :

Supervisor  
FirmInspector  
FirmInspector  
BHEL/AIA

**ANNEXURE-II  
HISTORY CARD  
FIRM NAME AND FIRM CODE**

H.C. No:	:	CUST. INSPN:
P.O.No. & Dt.	:	Matl. Specn.:
W.O.No.	:	Colour code:
DU No.	:	Melt No. :
Drg.No.	:	Test Cert.No.:
Customer	:	Manufacturer:
Description	:	Quantity :
DCN No.	:	Weight :

SKETCH:

Matl. Size:

Style:

Date:

S.No.	Part No.	Attestation No./ Group certificate No./Date	Matl.Specn.	Melt No.	TC No./Dt

FOT details :  
 Fix up :  
 NDT X-Ray :  
 - UT :  
 - MT/PT :  
 -Spark test  
 for alloy steel:  
 Final Inspn. :

HT details:  
 (cycle No. & Date)  
 Hydro Test details:

Product Identification:

IR No. & Date :

Remarks :

FIRMS REPRESENTATIVE

BHEL INSPECTOR

CUSTOMER

## ANNEXURE-III

Tel.No:

Firm name with full address

Date:

TO

M/s.IIQA/QUEST/TPL

\*Reference: FC/xx/xxx

## INSPECTION REQUISITION

SI No	WORK ORDER NUMBER	DESCRIPTION	DRG.NO	DR NO.	DU	Qty. in Nos	*JOB STATUS (C-completed: A-Anticipated)
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

FIRM'S LUNCH HRS:

**\*Note:**

- (i) If A is indicated under JOB STATUS, please indicate the expected time of completion.
- (ii) Reference: FC – FIRM CODE  
 xx – YEAR (For Eg. 01 FOR 2001)  
 xxx – RUNNING SERIAL NUMBER

Signature of the firm's QC official

**ANNEXURE-III A**  
**INSPECTION REQUISITION – FOR SUBCONTRACTED ITEMS**

Sl. No.	Date	Firm code / FirmName	WO.No. / PO No.	DU No.	Qty	Description/ Drg.No.	Stage	Status C/W/O	Remarks/ Signature

C – cleared; W- Rework, O- Others such as not ready etc.

ANNEXURE-IV

Format for Performance Rating

	Insp. Call reference	Date of IC	Time of IC	Date of Inspection	Time of Insp.	Delay in Hours (beyond 24 hrs)	PO Number	Stage	No of DUs	Qty. Offered	Qty. Accepted	Accepted with deviation	Rework given	Rejected	Not Ready	Signature	
										Q	Q1	Q2	Q3/1	Q3/2	Q3/3	Firm QC	AIA/ BHEL
Total																	

$$QR(A) = \left\{ \frac{(Q1+0.75x(Q2))+0x(Q3/1+Q3/2+Q3/3)}{Q} \right\} X50 + QSR$$

$$QR = QR(A) X DF$$

\*Inspector shall award the following marks for QSR as applicable for the respective month after ulating QR(A).

Criteria	Marks
1. Calibration	- 2
2. Workmanship	- 2
3. Accuracy of DR	- 3
4. Response	- 2
5. Storage	- 1

- Demerit Factor shall be suitably multiplied by QC/OLI based on the feed back from Shop, Site and PSQS.

**Abbreviations used**  
 QR(A) : Quality Rating with QSR  
 QR : Quality Rating with DF  
 AIA : Approved Inspection Agency  
 DF : Demerit Factor  
 QSR : Quality System Requirement