



BHARAT HEAVY ELECTRICALS LIMITED, RANIPET

NOTICE INVITING TENDER (NIT)

Title: Design Automation of Gates & Dampers using UG-NX & TeamCenter

Pre-Bid Meeting Date: 25.02.2011 (Completed)

Tender Due Date : 09.04.2011

1. This is Notice Inviting Tender for tender notification No. KBE:DA:G&D:001 dt.14.02.2011 for the development of **customized software module for "Knowledge Based Engineering of Design Automation of Gates and Dampers using UG-NX & TeamCenter."** ("hereinafter referred to as Project")
2. Only qualified vendors who have been empanelled by BHEL for Knowledge Based Engineering work, and to whom this enquiry is addressed, are eligible to bid for this tender.
3. The offers should be in two-part bid
 - * Part-I
 - a) Technical bid and
 - b) Un-priced Proforma of Price bid (with applicable **rate** of taxes and duties must be filled.) and
 - * Part-II: Price bid.
4. Bidders shall read carefully the enclosed documents that comprise this Tender:
 - a) Section I-:
 - i) Part A: Instruction to Bidders
 - ii) Part B: Contract
 - b) Section II: Technical Specifications.

The Notice Inviting Tender, Section I (including Parts A and B) and Section II shall hereinafter be referred to collectively as "Tender Documents".

5. Any clarification may be sought by Bidder from the undersigned with due written requests at least ten (10) days prior to Tender Due Date.
6. The sealed tenders will be received by the undersigned at his office at BAP Ranipet EDC- G&D up to 14.00 hrs on the Tender Due Date. The technical Bid (i.e., Part-I of the offer) will be opened on Tender Due Date at 14.30. hrs in presence of the Bidders or their authorized representatives (authorization letter required) who choose to be present.



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7. During the course of finalization of Tender and Award of Contract, the Bidder shall
 - a. promptly and completely respond to all clarifications sought by the undersigned and
 - b. attend any meeting on the date and time called by the undersigned with written intimation to the Bidder.

Bids to be submitted by the Bidders shall be complete in all respects and shall be unconditional and unqualified and the Bidders would be deemed to have accepted all the terms and conditions of the Tender Documents with all its contents including the ITB, Contract and Technical Specifications.

Any conditional or incomplete Bid shall be regarded as non-responsive and would be liable to be rejected.

Bids not in conformity with Section I (including Part A and B) and Section II (Technical Specifications) and/or are not in the prescribed format will not be considered and are liable to be rejected. .

8. Sealed Tenders shall be addressed to the undersigned and the envelope shall be super scribed with Tender Number, signature & stamp of the Bidder and the Tender Due Date.
9. BHEL reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to the award of contract without assigning any reason there for.

Mailing Address:

D. ASHWIN DHINAKAR,
Manager / EDC - G&D
BHEL BAP RANIPET.
PIN : 632406



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**SECTION-I
Part A**

INSTRUCTIONS TO BIDDERS

1. Two-Part Bid

- a) The offer shall be submitted in a sealed envelope which would contain two separate sealed envelopes as (i) Technical bid with Unpriced proforma of Priced Bid with applicable rate of taxes and duties and(ii) Price Bid.
- b) The Technical Bid, in English, shall contain (i) separate sealed envelope containing EMD (hereinafter defined); (ii) confirmation of compliance to all terms & conditions in the Tender Documents; (iii) technical offer in detail for the entire scope of work as given in the Technical Specification; and (iv) Price Schedule (without prices) with applicable rate of taxes and duties.
- c) The technical proposal shall cover, but not be limited to, the following:
 - i) Clear understanding of complete scope of work and deliverables with respect to product information and automation requirements given.
 - ii) Development methodology and all software programs / packages required to be used for the development of the software module.
 - iii) Proposed work schedule with duration so that total duration of the project does not exceed specified delivery period.
 - iv) Clear understanding of the working modalities. Bidder should indicate the computer systems and manpower proposed to be deployed at BHEL for this project.
- d) The price bid shall consist of the Price Schedule format with prices filled in (see ANNEXURE-B).
- e) Each sealed envelope shall be super scribed with the type of bid (Technical or Price), Tender Number and Bidder's name, stamp & signature. Both these envelopes should be submitted through one covering letter in a sealed envelope super scribing the Tender number and bidder's name, stamp & signature.
- f) The sealed Bids shall be submitted on or before the time & date specified and shall be addressed to the official as mentioned in the Notice Inviting Tender. Tenders submitted by post shall be sent preferably as "REGISTERED POST ACKNOWLEDGEMENT DUE / SPEED POST" and shall be posted with due allowance for any postal delay. Tenders received after the due date and time of opening are liable to be rejected.



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- g) Bidder shall fill up all the schedules and furnish all the required information as per the instructions given in various sections of the Tender Documents. Each and every page of the Tender Documents shall be SIGNED, STAMPED AND SUBMITTED ALONG WITH THE OFFER by the Bidder in token of complete acceptance thereof. The information furnished shall be complete in itself.

2. Right to Accept or Reject Bids and Other Rights

- a) Notwithstanding anything contained in the Tender Documents, BHEL reserves the right to accept or reject any Bid and to cancel or withdraw the Bid process and reject all Bids, call for fresh Bids or restart the Bid process, at any time without any liability or any obligation for such acceptance, rejection or annulment, without assigning any reasons.
- b) Deleted.
- c) BHEL reserves the right to not accept the lowest Priced Bid or financial offer or any other offer received and may negotiate and conclude the Contract with any technically qualified party.

3) Scope of Tender

- a) This Tender is for design, development, supply, installation, testing and demonstration of the software modules as per the requirements identified by BHEL in the enclosed Technical Specification (Section II).
- b) The Bidder shall identify areas in which their solutions conform to open standards and areas that are proprietary in nature. Justification about proprietary components in terms of functionality, upgradability and performance shall be given.
- c) The complete Project, any activities during the Warranty Period and Annual Maintenance activities will be carried out on BHEL premises at BHEL Ranipet. BHEL will only provide necessary work place and Five (5) nos. Work stations. No net connection shall be provided.
- d) All the necessary hardware required to carry out the work shall be arranged by BHEL
- e) All the necessary software (including licenses for development packages) required to carry out the work shall be arranged by the Bidder. Use of pirated software is prohibited.
- f) All expenses towards logistics and incidentals, including lodging, boarding, travel, etc., incurred in connection with the execution of the Project shall be borne by the Bidder and shall not be reimbursed by BHEL.
- g) The Bidder shall post an adequate number of qualified and experienced personnel to execute the Contract. The list of personnel proposed to be deployed shall be submitted as



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part of the technical proposal, by name and title. Further, the successful Bidder shall deploy competent and sufficient manpower for Annual Maintenance.

- h) Except as BHEL may otherwise agree, no changes shall be made in the key manpower. If, for any reason beyond the reasonable control of the Bidder, it becomes necessary to replace any of the key manpower, the bidder shall provide as a replacement a person of equivalent or better qualifications and experience, subject to approval of BHEL.

4 Prices

- a) Bidder shall indicate prices for all the items indicated in the Price Schedule. In addition, the total price of the contract shall also be clearly indicated. All Prices should be firm for the duration of the contract. All applicable duties and taxes shall be clearly indicated in the Offer. The tariff rates as applicable on the date of bid shall be specified. Wording like "Extra as applicable" or "as applicable at the time of dispatch", etc., will not be acceptable.

The total price for entire scope of work and Annual Maintenance Charges ("AMC") for three(3) years, together with taxes and duties (but excluding Service Tax) will be considered for bid evaluation purposes.

Bidders shall quote AMC valid for a period of Three (3) years from the date of expiry of the Warranty Period. The order for AMC will be placed on the successful Bidder / Contractor before the expiry of the Warranty period. For scope of AMC, refer Section –I , Part –B.

Rate quoted shall be inclusive of all taxes and duties as applicable within seven (7) days prior to the date of Tender opening except Service Tax, if any. If the Offer is silent then 10.3% (as applicable presently) service tax shall be deemed to have been included and BHEL will proceed to finalize the Tender accordingly. The Vendor is to produce tax invoices as per the provisions of the law to enable BHEL to avail CENVAT Credit if any. Non – compliance of the same will result in deduction of tax amount from the bills.

- b) The Bidder shall quote the PRICES in English Language and international numerals. These rates shall be entered in figures as well as in words.
- c) Bidders shall quote, as part of the price schedule, man month and man day charges at which the additional work will be evaluated. **The Prices for Optional items will not be considered for bid evaluation purpose.**
- d) L1 price will be decided taking the sum of the following charges (cost to BHEL):
- i) Base Price of developed software plus applicable taxes and duties.
 - ii) AMC Charges plus applicable taxes and duties.

Bidder has to mention applicable taxes and duties separately for both base price and



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AMC charges. Offers received with deviation to the above will not be considered for evaluation and will be summarily rejected.

In case any taxes and duties are imposed after submission of Bidder's offer, the Bidder shall convey its impact on the price, duly substantiated by documentary evidence in a sealed cover, before opening the Price Bid. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer

- e) **Difference between Rates in Words and Figures:** In case of difference in rates between words and figures, THE LESSER OF THE TWO will be treated as valid for the purpose of the tender. In case of difference in (i) sum of the items and (ii) total indicated, the former will be considered. The metric system of units shall be used.

5. **Erasures and Corrections:**

All entries in the tender shall either be typed or be written in ink. Erasures and overwriting are not permitted and may render such tenders liable to rejection. The Bidder shall duly attest all cancellations and insertions.

6. **Site Visit:**

- a) The site is located at BHEL Ranipet, Vellore District, Tamil Nadu (hereinafter known as the "Site").
- b) The Bidder is advised to visit and examine the Site and its surroundings and obtain for themselves all information that may be necessary for preparing the Bid and entering into the Contract. The timelines of all such Site visits shall be coordinated by BHEL with the interested Bidders in due course.
- c) The Bidder and any of its personnel or authorised representative will be granted permission by the BHEL to enter upon its premises for the purpose of such inspection, but only upon the explicit condition that the Bidder, their personnel, agents and authorised representatives shall exercise all due care, will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, cost and expenses incurred as a result of such visit and inspection, and that the Bidders, their personnel, agents and authorised representatives hereby undertake to indemnify the BHEL and their personnel, agents and authorized representatives from and against all liability in respect thereof.
- d) Bidders shall have the right to conduct a Site visit only with the prior consent of, and on conditions specified by, the BHEL, and further, the Bidder shall always be accompanied by the BHEL's representative(s) during a Site visit.
- e) Bidders shall, notwithstanding any Site visits, make independent enquiry and satisfy themselves with respect to all the required information, inputs, conditions and circumstances and factors that may have any effect on their Bids. In assessing the Bids, it is deemed that the Bidders have inspected and examined the Site conditions (irrespective of whether the Bidders have actually



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visited the Site or not), its surroundings and weather conditions, determined the BHEL's rights and authority with respect to the Site and the Project, examined all the laws and regulations in force and prepared their Bids by taking into account all relevant conditions and also all the risks, contingencies and other circumstances which may influence or affect the entire Project.

- f) Bidders are advised to familiarize themselves with the applicable legal regime. BHEL shall not entertain any request for clarifications from the Bidders regarding the same.

7. **Incomplete/ Conditional/ Unsigned Tenders:**

Conditional and unsigned tenders, tenders containing absurd or unworkable rates and amounts, tenders which are incomplete or otherwise considered defective and tenders not in accordance with the terms, conditions and specifications, mentioned in the Tender Documents are liable to be rejected.

8. **Mode of Signature**

Tenders shall be signed by persons duly authorized / empowered to do so. Certified copies of such authority and relevant documents shall be submitted along with the tenders. The Declaration (see Annexure A) shall be signed by the duly authorized person.

9. **Change in Legal Status:**

- a) In the event of the Bidder merging with or getting acquired by another company, all obligations under the contract shall automatically get transferred to the acquiring company till the end of the period, including the guarantee period and AMC.
- b) Bidder shall intimate BHEL if there is any change in their legal status, within fifteen days (15) of such change. BHEL shall review the implications and take necessary action.

10. **Compliance with Applicable Laws:**

Bidders are required to comply with the provisions of all statutes, enactments, acts of legislature or parliament, laws, ordinances, rules, bye-laws, regulations, notifications, guidelines, policies, directions, directives, including amendments thereof and orders of any Governmental Authority, statutory authority, tribunal, board, court or recognised stock exchange and, if applicable, international treaties and regulations, and amendments thereof



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11. Earnest Money Deposit (EMD)

- a) The bidders for this Tender have to pay an EMD of Rs. **1,50,000/- (Rupees One lakh fifty thousand only)** along with offer. EMD can be paid in cash (as permissible under the Income Tax Act) at BHEL Cash Office or through DD/ Pay Order in favour of BHEL, Ranipet. payable at Mukundarayapuram (Branch code: 7013). The Demand Draft/ Pay Order issued by a Scheduled Bank shall be submitted along with offer. (The SBI branch in BHEL premises is Mukundarayapuram) Offers without EMD shall be summarily rejected.
- b) EMD given by all unsuccessful tenderers shall be refunded normally within Fifteen (15) days of acceptance of award of work by the successful tenderer.
- c) EMD shall not bear any interest in any manner whatsoever.
- d) EMD by the Bidder will be forfeited if:
 - i) After opening the tender, the Tenderer revokes his tender within the validity period or increases his earlier quoted rates.
 - ii) The tenderer does not commence the work within the period as per the LOI / Contract. Incase the LOI/ Contract is silent in this regard then within Fifteen (15) days after award of the work.

12. Security Deposit (SD)

- a) The **successful Bidder** shall pay Security Deposit (SD) within fifteen (15) days from the notification of the award of the contract (Letter of Intent). The quantum of SD shall be based on the total contract price as per rates given below:
 - i) Upto Rs. 10 lakhs : 10%
 - ii) Above Rs. 10 lakhs upto Rs.50 lakhs: 1 lakh + 7.5% of amount exceeding Rs. 10 lakhs.
 - iii) Above Rs. 50 lakhs : Rs. 4 lakhs + 5% of amount exceeding Rs. 50 lakhs.
- b) EMD of the successful Bidder shall be adjusted against SD.
- (c) Security may be furnished in any one of the following terms:
 - i. Cash, (as permissible under the Income Tax Act)
 - ii. Pay Order, Demand Draft in favour of BHEL.
 - iii. Local cheques of Scheduled Banks, subject to realization.
 - iv. Securities available from Post Office such as National Savings Certificates, Kisan Vikas Patras etc., (Certificates should be held in the name of Contractor furnishing the Security and duly pledged in favour of BHEL and discharged on the back).
 - v. Bank Guarantee from Scheduled Bank / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.



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- vi. Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vii. Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be paid before start of the work and the balance 50% may be recovered from the running bills.

Note : Acceptance of Security Deposit against sl.nos. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith).

- d) SD shall be returned on the satisfactory completion of the warranty period . BHEL shall have the right to adjust any penalties or dues from the SD.
- e) SD shall be forfeited if the contract is abandoned by the bidder during the Contract period.
- f) SD shall not bear any interest in any manner whatsoever.

13. Pre-Bid Meeting:

For a better understanding of the project, a pre-Bid meeting will be held on **25.02.2011** in the office of the undersigned, as otherwise indicated in the Tender Documents or any other place as may be subsequently communicated by the BHEL to the Bidders. BHEL shall not be responsible in case the Bidder does not attend the Pre-Bid Meeting.

14. Bid Clarifications

- a) Any response by BHEL to a Bidder's queries/ request for information, would be furnished as expeditiously as possible to all Bidders who have been issued the Tender Documents. However, BHEL is not under any obligation to respond to any queries, clarification or request for information where so sought by a Bidder or to consider any amendment suggested by the Bidders.
- b) The Bidder shall closely peruse all the clauses, specifications and drawings indicated in the Tender Documents before submission of their bid. Any clarifications on the tender specifications can be sought from the authority inviting the tender, up to 10 (Ten) days before the Tender Due Date.

15. Amendment to Tender Documents

At any time prior to the Tender due date, BHEL may at its sole discretion, suo motu, or in response to a clarification sought by a Bidder, modify the bidding documents and communicate the said modification to all Bidders. For compliance of the requirements by the Bidder owing to the change, BHEL may, at its sole discretion change the Tender Due Date.



16. Validity of Offer and Evaluation

- a) The offer shall be kept open for acceptance for a minimum period of 90 days from the date of opening of Technical Bid (such period shall hereinafter be called as “Bid Validity Period”). Only the Technical Bid will be opened on the due date mentioned in the enquiry.
- b) Notwithstanding the above, BHEL may instruct the Bidder in writing to extend the Bid Validity Period. The Bidder hereby consents to extension of the Bid Validity Period where instructions are given by BHEL.
- c) An extension of the Bid Validity Period, shall not entitle a Bidder to modify its Bid, unless specifically permitted by BHEL to do so.
- d) Not used
- e) Bidders shall not be permitted to make changes in their Technical or Price bids after bid submission, unless asked to do so by BHEL. Unsolicited clarifications are liable to be rejected.
- f) In case of minor changes in scope and/ or technical specifications or commercial terms, having price implications, technically accepted Bidders shall be asked, at BHEL’s sole discretion to submit their revised Price Bids in line with the revised scope and terms & conditions.
- g) Price Bids of only the qualified and technically acceptable Bidders will be opened.
- h) In case BHEL calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer, which shall be binding, on the Bidder. All expenses for attending such negotiations are to be borne by the Bidder.
- i) The entire work covered in this Tender shall be entrusted to a **single Bidder**. The successful Bidder is not permitted to off load part or whole of the work to a sub-vendor, without the prior written consent of BHEL.

17. Award of Contract

The successful Bidder shall attend the office of the Official nominated by BHEL on the date fixed by the Official through a written intimation. The Bidder shall forthwith accept award of the contract and complete the execution of the agreement by signing all documents connected therewith.



18. Execution of Contract

- a) Upon the notification of the award of Contract to the successful Bidder, the Contractor shall execute a formal contract with BHEL as per the form of the Contract specified in Part B of Section I on a non-judicial stamp paper appropriate value. The cost of non-judicial stamp paper and other applicable stamp duty shall be borne by the Contractor.
- b) Till such time as the formal Contract is executed, the terms and conditions mentioned in the Tender Documents together with all and amendments and any modifications thereto and/or there from shall be binding on the parties.

19. Confidentiality

- a) Bidder shall treat all information that is generated in connection with the Project as strictly confidential. All information, analysis, reports and recommendations, both in the form of hard copy or on electronic media, will be the property of BHEL and the Bidders are prohibited from using such information etc for any purpose other than this Project. All Bidders are required to sign a Non-Disclosure Agreement with BHEL as per Annexure C of Part A of Section 1.
- b) Further, the recipients of this Tender Documents, undertake to hold in confidence the Tender Documents, and not disclose the terms and conditions of the transactions contemplated hereby or the transaction itself to third parties

20. Late Bids

Any Bid received by BHEL after the deadline for submission of the Bids including any extension(s) hereof) will be declared "Late" and shall ordinarily be liable to be rejected.

21. Language of the Bid

The Bid prepared by the Bidder and all correspondence and documentation relating to the Bid, as maybe exchanged by the Bidder and BHEL shall be in English language.

22. Cost of Bid Preparation:

The Bidders shall bear all costs associated with the preparation and submission of the bid including any and all costs and expenses related to visits to the Site and any pre-bid meetings. BHEL shall in no case be liable for these costs regardless of the conduct or outcome of the process.

23. Conflict of Interest and Undue Influence

- a) Should a Bidder or, in the case of a Firm or Company, its Partner(s) / major Shareholder(s)/ Director(s) have relation(s) employed in BHEL, BHEL shall be informed of the fact along with the offer. Otherwise, BHEL may, at its sole discretion, reject the tender or cancel the contract at any stage of the Contract without any cost or any other adverse implications to BHEL



- b) Any attempt by a Bidder to exert influence on BHEL during the process of bid evaluation or award of the contract, would make their bid liable for rejection.

24. Reverse Auction (RA) / On –line bidding on internet

- (a) At its option BHEL may choose to conduct a Reverse Auction (R/A) or bidding through the Internet for the price, instead of opening the sealed Price-Bids. This will be decided after technical evaluation and
- b) In case BHEL decides not to go for Reverse Auction procedure for the tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.
- c) BHEL decision regarding this will be final.

The General Terms & Conditions for RA are as below:

- i) For a proposed reverse auction, technically and commercially accepted bidders alone shall be eligible to participate.
- ii) BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- iii) BHEL will inform the Supplier in writing in case of reverse auction, the details of Service Provider to enable them to contact the Service Provider & get trained.
- iv) Business rules like event date, time, start price, bid decrement, extensions etc. also will be communicated through the Service provider for compliance.
- v) Bidders have to fax/ e-mail/ courier the Compliance form in the prescribed format (provided by Service provider) to both BHEL & Service provider before start of Reverse auction. Without this, the vendor will not be eligible to participate in the event.
- vi) BHEL will provide the calculation sheet (e.g., Excel sheet) which will help to arrive at 'Total landed cost to BHEL' like Taxes and Duties, Service Tax for Services, etc. for each of the bidders to enable them to fill-in the price and keep it ready for keying-in during the Auction.
- vii) Reverse auction will be conducted on scheduled date & time.
- viii) At the end of Reverse Auction event, the lowest bidder value will be known on the network and
- ix) The lowest bidder has to Fax the duly signed filled-in prescribed format as provided on case-to-case basis to BHEL through Service provider within 24 hours of Auction without fail. Failure to do so or if there is any variation between the on-line bid value and



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the signed document the same will be considered as sabotaging the tender process and will invite disqualification of Bidder to conduct business with BHEL as per prevailing procedure.

Formats – I & II for Reverse Auction (Applicable to commercially & technically accepted bidders) are enclosed for reference.



FORMAT – I

EVENT INFORMATION

BHEL Ranipet has contracted ----- (Name of Service Provider) to conduct this online bidding event. Service Provider shall answer all questions relating to the bidding process and conduct of the Reverse Auction Event.

1. Scheduled Date & Time of the event :

Date :

Start Time :

Close Time :

Any change in the scheduled time will be duly informed to you in advance.

2. Contact information

“ BHEL Ranipet ”

General Contract related Queries	
Name :	
Designation :	
Tel Nos :	
E-Mail ID :	

“ Service Provider ”

Software Related Queries / Process related Queries	
Name :	
Designation :	
Tel Nos :	
E-Mail ID :	



FORMAT – II

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Process Compliance Form

To

Service Provider,

Sub : Agreement to the Process related Terms and Conditions

Dear Sir,

This has reference to the Terms & Conditions for the Reverse Auction mentioned in the Tender document for Design Automation of Gates & Dampers using UG-NX & Teamcenter against BHEL Tender No : KBE : DA: G&D: 001

This letter is to confirm that :

- 1) The undersigned is authorized official of the company.
- 2) We have studied the Reverse Auction Terms & Conditions and the Business rules governing the Reverse Auction as mentioned in your letter and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the auction tool and have understood the functionality of the same thoroughly.

We, hereby confirm that we will honor the Bids placed by us during the auction process.

With Regards

Signature with company seal

Name : :

Designation :

Company / Organization name :

Address of Company :



FORMAT – II

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Reverse Auction Terms & Conditions

1. **LOG IN NAME & PASSWORD:** Each Bidder is assigned a Unique User Name & Password by Service Provider. The Bidders are requested to change the Password and edit the information in the Registration Page after the receipt of the Initial Password from Service Provider. All bids made from the Login ID given to the bidder will be deemed to have been made by the bidder.
2. **BIDS PLACED BY BIDDER :** The bid of the bidder will be taken to be an offer to contract as per Tender specification. Bids once made by the Bidder cannot be cancelled. The bidder is bound to honor the Tender specification as mentioned above at the price that they bid. Should any bidder back out and not accept the contract as per the rates quoted , BHEL and / or Service Provider shall take action as appropriate.
3. **LOWEST BID OF A BIDDER :** In case the bidder submits more than one bid, the lowest bid will be considered as the bidder's final offer to contract.
4. **AUCTION TYPE:** Standard English Reverse Auction i.e. no two bids can have identical price from two different bidders. That is there can never be a tie in the bids.
5. **VISIBILITY TO BIDDER :** The Bidder shall be able to view the following on his screen along with the necessary fields:
 - Leading Bid in the Auction (only total price – Lowest Bid)
 - Bid Placed by him.
6. **AUCTION WINNER :** At the end of the Reverse Auction, BHEL will evaluate all the bids submitted and will decide upon the winner.
7. **GENERAL TERMS & CONDITIONS:** Bidders are required to read the “ Terms and Conditions” section of the auction site----- using the Login ID and passwords given to them.
8. **OTHER TERMS & CONDITIONS:**
 - The Supplier / Bidder shall not involve himself or any of his representatives in Price manipulation of any kind directly or indirectly by communicating with other vendors/ bidders.
 - The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
 - BHEL's decision on award of Contract shall be final and binding on all the Bidders.
 - BHEL along with Service Provider can decide to extend, reschedule or cancel any



Auction. Any changes made by BHEL and/ or Service Provider after the first posting will have to be accepted if the Bidder continues to access the site after that time.

- Service Provider shall not have any liability to Bidders for any interruption or delay in access to the site irrespective of the cause.
- Service Provider is not responsible for any damages, including damages that result from, but are not limited to negligence. Service Provider will not be held responsible for consequential damages, including but not limited to systems problems, inability to use the system, loss of electronic information etc.

N.B.

- All the Bidders are required to submit the Agreement Form duly signed to Service Provider by ----- (date). After the receipt of the Agreement Form, Login ID & Password shall be allotted to the Bidders.
- After the completion of the Auction event, all the Bidders have to submit the Price Breakup immediately to Service Provider for further proceedings.

FORMAT – II

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Business Rules for Reverse Auction

- 1. Material for Bid :** Design Automation of Gates & Dampers using UG-NX & Teamcenter
- 2. SCHEDULE for Reverse Auction :** The Reverse Auction is scheduled on dd/mm/yy
 - Auction Start Time : _____ hrs
 - Auction Close Time : _____ hrs
- 3. AUCTION EXTENSION TIME :** If a bidder places a Bid in the last __ minutes of closing of the Auction, the auction shall get extended automatically for another 10 minutes. In case, there is no Bid in the last 10 minutes of closing of Auction, the Auction shall get closed automatically without any extension.
- 4. BID PRICE :** The Bidder has to quote the Total cost to BHEL for the Items specified.
(Calculation sheet to arrive at the Total cost to BHEL will be provided by BHEL)
- 5. BIDDING CURRENCY :** Bidding will be conducted in Indian Rupees.
- 6. OPENING PRICE :** Shall be provided before the start of the event.



7. **BID DECREMENT** : Shall be provided before the start of the event.
8. **The technical & commercial terms are as per BHEL Tender No. KBE:DA:G&D:001. / Rev.A. Dt. 16.03.2011 . Vendors technical and commercial bid and subsequent correspondences/ mutual agreement between BHEL and the vendors regarding commercial terms & conditions.**
9. **VALIDITY OF BIDS:** The Bid Price shall be firm for a period of 90 days and shall not be subjected to any change whatsoever.
10. **POST AUCTION PROCEDURE** : BHEL will proceed with the Lowest Bid in the Reverse Auction as per the normal procedure.

25. Miscellaneous Information

Bidder shall fill up Organizational Information (Annexure –D), Filled up Check List (Annexure – E) and CERTIFICATE OF NO DEVIATION (Annexure – F). **If deviated the Offer will be rejected.**



BHARAT HEAVY ELECTRICALS LIMITED, RANIPET

ANNEXURE-A

DECLARATION

I/We, _____ hereby certify that, all the information and data furnished by me with regard to this Tender Notification dated are true and complete to the best of my knowledge. I have gone through the specification, conditions and stipulations in detail and agree to comply with the same.

I/We, further certify that I am / we are the duly authorized representative(s) of the under mentioned tenderer and a valid power of attorney to this effect is also enclosed.

I/We, hereby declare that I/We shall treat the Tender Documents, drawings, specifications and other records connected with the Project as secret/confidential and shall not communicate information / derived there from to any persons other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the same.

Bidder's Name & Address

Name & Signature of the Bidder (Seal)



Engineering Development Centre/Gates & Dampers
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ANNEXURE B

BHARAT HEAVY ELECTRICALS LIMITED, RANIPET

SCHEDULE OF PRICES:

SR. NO	DESCRIPTION	Rate of Taxes	PRICE (In figures Indian Rupees)
1	Software Development Charges		
2	Taxes & duties (other than Service Tax) for above		
3	AMC Charges for three years after Guarantee Period		
4	Taxes & duties (other than Service Tax) for above		
5	Total (In words) of sl.nos. 1 to 4 above		
6	Service Tax (Rate and amount) for sl.no.1		
7	Service Tax (Rate and amount) for sl.no.3		
	Optional Items		
8	Man Month Charges (If there is an increase of scope on account of BHEL)		
9	Man Day Charges (If there is an increase of scope on account of BHEL)		

Bid evaluation will be decided on overall Price Total indicated in sl.no.5 (including sl.nos. 1 to 4 only). BHEL reserves the right to opt for Reverse auction. The conditions of Reverse Auction indicated in Section-I Part-A, Clause 24.

The applicable **rate** of taxes & duties to be indicated in the **Un-priced Schedule of Prices** to be enclosed in the **Technical Bid**. AMC shall be quoted separately in sl.no.3. Otherwise Offer will be rejected.

Bidder's Name & Address

Signature & Office Seal of the Bidder



BHARAT HEAVY ELECTRICALS LIMITED, RANIPET

ANNEXURE-C

THIRD PARTY NON-DISCLOSURE AGREEMENT

I, _____, on behalf of the
(Name of Company), acknowledge that the information received or generated, directly or indirectly, while working with BHEL on contract is confidential and that the nature of the business of the BHEL is such that the following conditions are reasonable, and therefore:

I warrant and agree as follows:

I, or any other personnel employed or engaged by our company, agree not to disclose, directly or indirectly, any information related to BHEL. Without restricting the generality of the foregoing, it is agreed that we will not disclose such information including, but not necessarily limited, to the following, information:

- Technical information: Methods, drawings, processes, formulae, compositions, systems, techniques, inventions, computer programs/data/configuration and research projects.
- Business information: Customer lists, project schedules, pricing data, estimates, financial or marketing data.

I shall not sub-contract/ sub-let the execution of the Project to any other entity, without the permission in writing from BHEL.

On conclusion of contract, I, or any other personnel employed or engaged by our company shall return to BHEL all documents and property of BHEL, including but not necessarily limited to: drawings, blueprints, reports, manuals, computer Programs/data/configuration, and all other materials and all copies thereof relating in any way to BHEL' s business, or in any way obtained by me during the course of contract. I further agree that I, or any others employed or engaged by our company shall not retain copies, notes or abstracts of the foregoing.

This obligation of confidence shall continue after the conclusion of the contract also.

I acknowledge that the aforesaid restrictions are necessary and fundamental to the business of BHEL, and are reasonable given the nature of the business carried on by BHEL. I agree that this agreement shall be governed by and construed in accordance with the laws of country.

I enter into this agreement totally voluntarily, with full knowledge of its meaning, and without duress.

Dated at _____, this _____ day of _____, 2011.

NAME	SIGNATURE	DATE	SEAL OF COMPANY
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ANNEXURE – D

ORGANISATIONAL INFORMATION

1 NAME OF THE BIDDER

TELEPHONE : FAX :
E- MAIL :
WEB SITE :

2 NAME OF THE PROJECT / DIVISION :
ADDRESS :

TELEPHONE :
FAX :
E-MAIL :

3 BRANCH OFFICE ADDRESS (IF ANY) :

TELEPHONE : FAX :
E-MAIL :

4 NAME OF CHIEF EXECUTIVE /
PROPRIETOR / PARTNER :
ADDRESS :

5 OFFICIAL TO BE CONTACTED FOR
CLARIFICATION :

NAME :
DESIGNATION :
ADDRESS :
TELEPHONE : FAX :
E-MAIL :

Tenderer's Name & Address



ANNEXURE - E

CHECK LIST to be filled up & submitted by Bidder.

Bidder has to fill up the following details. No detail in this Check list or any Enclosure / Annexure indicated should be left blank.

Sl.No.	ITEM DESCRIPTION	
1	Notice Inviting Tender (NIT) enclosed duly signed and stamped by Bidder.	YES / NO
2	SECTION –I Part A Instructions to Bidders, Part B Contract, Filled up Annexures – A, B, C, D, E & F enclosed duly signed and stamped by Bidder	YES / NO
3	SECTION – II Technical Specification, Tables – 1 to 4, Input / Output Process diagrams (Annexure – I) 3 pages & KBE Technical Check list (Annexure –II) 2 pages.	YES / NO
4	EMD details	
5	Reverse Auction (R/A) / Bidding through Internet. Terms & Conditions Accepted by vendor	YES / NO
6	Validity of Offer / rates quoted for 90 Days from the date of opening tender	YES / NO

Signature & Seal of Bidder



ANNEXURE - F

CERIFICATE OF NO DEVIATION

I / We of M/s

Here by certify that there is no deviation from the tender conditions either technical or commercial and I am /We are agreeing to all the terms and conditions mentioned in the Tender Specification.

Date:

Signature of the tenderer



SECTION –I

PART - B

CONTRACT

This agreement (hereinafter “Contract”) is this [insert] day of [insert] 2011, at [insert], by and between:

M/s Bharat Heavy Electricals Limited, Unit: Boiler Auxiliaries Plant, Ranipet 632 406 having its Registered Office at BHEL House, Siri Fort, New Delhi-110 049 (hereinafter called BHEL) of the one part and

M/s _____ [insert the registered office of the Contractor] (Hereinafter called the Contractor) of second part.

Each of the BHEL and the Contractor may hereinafter be referred to individually as a “Party” and collectively as the “Parties”.

Recitals:

Whereas:

- A. BHEL had invited tenders for executing Project (as defined hereinafter) pertaining to, associated with, and ancillary to the development of customized software module for "Knowledge Based Engineering of Design Automation of Gates and Dampers."
- B. The Contractor has represented that it has the necessary skilled human resources and technical capabilities and is ready and willing to perform the Project (as defined hereinafter) as per the Tender Documents, Contract and instructions given from time to time by BHEL.
- C. BHEL has agreed to pay the Contractor on the basis of agreed milestones as mentioned in the Contract for the Project.
- D. The Parties have decided to set forth the terms and conditions governing execution of the Project in writing

NOW THEREFORE, the Parties with the intent to be legally bound, hereby agree in good faith as follows:-



Article 1
Definitions

In this Contract, the following terms shall have the meaning hereby assigned to them, except where the context otherwise requires.

a) "Applicable Laws" shall include all statutes, enactments, Acts of legislature or parliament, laws, ordinances, rules, bye-laws, regulations, notifications, guidelines, policies, directions, directives, including amendments thereof and orders of any Governmental Authority, statutory authority, tribunal, board, court or recognised stock exchange and, if applicable, international treaties and regulations.

b) "BHEL Project Leader" shall mean a person nominated by BHEL to discharge the functions of BHEL under this contract. "Approved" or "Directed" shall mean the approval or direction, in writing, of the BHEL Project Leader, or person deputed by him for the particular purposes.

c) "Contract" shall mean this agreement, including any Annexure, and the terms and conditions in the Tender Documents that are not inconsistent with this Contract (including all the Annexure)

d) "Contractor" shall mean the individual, firm or company whether incorporated or not, undertaking the Project and shall include the representatives of such individuals or the firm or Company or their successors of the firm and permitted assigns.

e) NOT USED

f) "Day" means, the day of 24 hours (TWENTY FOUR) irrespective of the number of hours worked or not worked in that day. A reference to 'Day' shall mean a reference to a calendar day

g) NOT USED

h) "Applicable Taxes" means any tax, charge, impost, tariff, duty, fee, cess or levy of any kind or nature (whether Central, State, or Local or otherwise) whatsoever and wherever and whenever charged, imposed or levied, directly or indirectly, by any governmental authority, including but without limitation any income tax, service tax, value added tax, sales tax, (including value added tax on Project contract), stamp duty, import duty, withholding tax (whether on dividends, interest payments, fees, equipment rentals or otherwise), tax on foreign currency loans or foreign exchange transactions, excise duty, property tax, registration fee or license, octroi tax or water tax together with any interest and penalties in relation thereto.

i) Not USED

j) NOT USED

k) "Project" shall mean the work pertaining to, associated with, and ancillary to the work described in the Contract, in individual work-orders as may be issued from time to time to the Contractor by BHEL and includes all notified or additional items of Project and obligations to be carried out as required for the performance of Contract.



Article 2
Interpretation

In this Contract, unless the context otherwise requires:

- a) provisions of this Contract which, either expressly or by their very nature survive termination of the Contract, shall survive termination of the Contract.
- b) any reference to any statute or statutory provision shall include
 - (i) all subordinate legislation made from time to time under that provision (whether or not amended, modified, re-enacted or consolidated);
 - (ii) such provision as from time to time amended, modified, re-enacted or consolidated (whether before or after the date of this Contract) to the extent such amendment, modification, re-enactment or consolidation applies or is capable of applying to any transactions entered into under this Contract and (to the extent liability thereunder may exist or can arise) shall include any past statutory provision (as from time to time amended, modified, re-enacted or consolidated) which the provision referred to has directly or indirectly been replaced;
- c) A reference to any document, agreement, deed or other instrument (including, without limitation, references to this Contract), includes a reference to any document, agreement, deed or other instrument as may be varied, amended, supplemented, restated, novated or replaced, from time to time.
- d) A reference to any statutory body or authority includes a reference to any successor as to such of its functions as are relevant in the context in which the statutory body or authority was referred to.
- e) The words 'include' and 'including', "such as", "comprising" and the like are to be construed without limitation, and they shall be deemed to be completed by the expression "but not limited to", unless a contrary indication is expressly mentioned
- f) In this Contract headings are for the convenience of reference only and are not intended as complete or accurate descriptions of the content thereof and shall not be used to interpret the provisions of this Contract
- g) Where in the Contract, the expressions "require", "request", "submit", "answer", "notify", "instruct", "state", "inform", "agree" and the like or derivatives thereof are encountered, they shall be deemed to be completed by the expression "in writing"



Article 3

Term of Contract

- a) The Project shall be completed and all the deliverables specified handed over within 10 (Ten) months from the date of award of Contract.
- b) Time is of the essence of the Contract

Article 4

Performance of Project

- a) The Contractor shall use all reasonable care and skill in providing the services and shall be responsible for the quality of workmanship and accuracy of the deliverables to the satisfaction of BHEL. The Contractor shall implement in-house quality control and shall carry out 100% quality checks prior to submitting the Project to BHEL for acceptance.
- b) The Contract shall be considered successfully completed upon acceptance by the BHEL Project Leader of deliverables as specified in the Contract. The BHEL Project Leader shall effect the sign-off along with the Contract for closing the Contract.
- c) Contractor shall adhere to the material movement and security procedures of BHEL.
- d) The Contractor shall not utilize services of BHEL employees for carrying out Project in any manner whatsoever. In case of any breach of this condition, the contract shall be terminated forthwith without any prior notice, or assigning any reason at the sole discretion of BHEL without any cost or other adverse implications to BHEL provided that this shall not apply to any clarification or request for instructions sought by the Contractor and Validation / testing of Contractor outputs for checking if these are in line with BHEL Technical specifications.
- e) The Contractor will perform the Project as per instructions as may from time to time be given by BHEL.
- f) The Contractor shall be deemed to have satisfied itself of the Project to be done, the nature of the site, local facilities of access, Applicable Laws and all matters affecting the execution of the Project. No extra charges consequent on any misunderstanding in these respects or otherwise shall be allowed.
- g) Should any error or ambiguity be discovered in the specification or information given to the Contractor, the Contractor shall forthwith bring the same to the notice of authorized person of BHEL before commencement of the Project.



Article 5
Supervision by the Contractor

- a) The Contractor shall either himself supervise the execution of the Contract or shall appoint a competent agent (“Contractor Project Leader”) acceptable to the BHEL Project Leader .
- b) Instructions or communications given to the Contractor Project Leader shall be considered to have the same force as if they have been given to the Contractor himself.
- c) BHEL shall have full powers and without assigning any reason, require the Contractor to immediately cease to employ in connection with this Contract, any Contractor Project Leader, servant or employee where continued employment is, in his opinion undesirable. The Contractor shall not be allowed any compensation on this account.
- d) The Contractor Project Leader shall ensure that human resources deployed for the Project and skilful to perform the Project in accordance with best industry practices and shall ensure adequate human resources and discipline by the human resources to be put on the Project and in general see that the Project is carried out in a safe and proper manner.

Article 6
Terms of Payment

- a) **No advance payments will be made.**
- b) Payment shall be made after certification issued by BHEL Project Leader regarding the satisfactory completion of scope of work as per the payment schedule enumerated hereunder.
- c) **Payment Milestones:**

Stage	Description	% of Contract value (software development charge)
1	Project initiation (Project team deployment) + Acceptance of Software Requirement Specification (SRS) + Submission of Bank guarantee equal to 10% of the contract value to be valid till expiry of contract period / Final acceptance (Go –Live)	10%



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2	Design Automation development in UG-NX for all types of Louver dampers in Table-1 of Section-II and Demonstration of all deliverables specified in Clause 9.0 of Section-II applicable for Louver Dampers, their testing, validation and acceptance by BHEL and submission of source codes.	10%
3	Design Automation development in UG-NX for all types of Biplane dampers in Table-1 of Section-II and Demonstration of all deliverables specified in Clause 9.0 of Section-II applicable for Biplane Dampers, their testing, validation and acceptance by BHEL and submission of source codes .	10%
4	Design Automation development in UG-NX for all types of Control dampers in Table-1 of Section-II and Demonstration of all deliverables specified in Clause 9.0 of Section-II applicable for Control Dampers, their testing, validation and acceptance by BHEL and submission of source codes.	10%
5	Design Automation development in UG-NX for all types of Flap dampers in Table-1 of Section-II and Demonstration of all deliverables specified in Clause 9.0 of Section-II applicable for Flap Dampers, their testing, validation and acceptance by BHEL and submission of source codes.	5%
6	Design Automation development in UG-NX for all types of Guillotine gates in Table-1 of Section-II and Demonstration of all deliverables specified in Clause 9.0 of Section-II applicable for Guillotine gates, their testing, validation and acceptance by BHEL and submission of source codes.	10%
7	Design Automation development in UG-NX for all types of Air operated gates in Table-1 of Section-II and Demonstration of all deliverables specified in Clause 9.0 of Section-II applicable for Air operated gates, their testing, validation and acceptance by BHEL and submission of source codes.	10%
8	Development of KBPCES and its customization in Teamcenter as per clause 4.9 and Annexure –I in Section- II, for all the Inputs and Outputs of Proposals, Contracts and Detailed Engineering activities after Testing, Validation and acceptance by BHEL and submission of source codes.	15%
9	Training to BHEL users, Receipt of total documentation – Manuals & Source codes, Go live and Final Acceptance + Submission of Performance Bank guarantee equal to 10% of Software development charge) to be valid till expiry of guarantee	20%



	period (12 months after Go-Live)	
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Note :

Some or all of the Activities of sl.nos. 2 to 8 of Milestone Payments in above Table can be done simultaneously by contractor and payments for each of these activities will be paid independent of the other milestone activities as per acceptance after Testing and Validation.

- d) Contractor shall submit the invoices to BHEL Project Leader within ten (10) days from the date of successful completion of milestones and acceptance by BHEL.
- e) Within Fifteen (15) days after final acceptance, Bidder shall be required to furnish performance bank guarantee equal to 10% of the contract value, to be valid for the duration of the guarantee period (12 months). The final payment will be released only after submission of the performance bank guarantee. Payment will be made to vendor within a period of 45 days.
- f) Deleted.
- g) Payments to be made to the Contractor under this contract shall be by electronic transfer for which the necessary details shall be furnished by the Contractor. BHEL may also choose to pay the Contractor by any other means at it may deem fit. In such cases, necessary details shall be furnished by the Contractor
- h) Contractor shall continue to have full liability to meet the complete requirements and rectify any defects till the expiry of the Warranty Period notwithstanding any part payments that may have been made for any part of the work.

**Article 7
Warranty Period**

- a) The developed software shall be guaranteed for trouble-free operation for a period of twelve (12) months from its installation and acceptance at BHEL (“Warranty Period”). In case of any defects observed during the operation of this module during this period, the Contractor shall render their services without any additional cost for repair / rectification of the same within the time as prescribed by BHEL.
- b) One (1) year support for operation and maintenance of the software product must be provided by one support engineer knowledgeable in NX and KF and associated with the project, resident at BHEL after acceptance. No extra payment on account of conveyance, lodging and boarding will be payable.
- c) During the Warranty Period any software modification required for operational reasons shall be done at BHEL site at no extra cost.



Article 8
Annual Maintenance Charges

- a) Prices pertaining to the Annual Maintenance Charges (“AMC”) shall be valid for a period of three (3) years. The AMC shall commence after expiry of Warranty Period.
- b) **SCOPE FOR THE AMC**
- i) Services to ensure trouble free operation & uptime of the software during AMC. Installation of software on new machines.
 - ii) Ensuring compatibility with the latest & upgraded version of UG NX by necessary updation / modifications to the software.
 - iii) Assistance in utilization of the software.
 - iv) Fixing of bugs in the software i.e. 3D modeling, animation, 2D drawing, GUI, Database, output files etc. if any.
 - v) Correction in developed software if required, for patches released by UG-NX during the AMC.
 - vi) Software developed in 32 bit machine shall be ported to 64 bit machine as and when BHEL goes for 64 bit configuration hardware during AMC period. When the hardware is migrated to 64 bit, the software should work in the new hardware.
 - vii) Payment of AMC charges would be paid quarterly, within 15th of the next month after expiry of the previous quarter.

Article 9
Compliance with Applicable Laws

- a) The Contractor shall confirm to the provisions of Applicable Laws, including any laws relating to the Project, statutory compliances, tax, labour law. The Contractor shall be bound to give all notices required by Applicable Laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof. BHEL shall not be responsible for any reason whatsoever for the non-compliance by the Contractor of Applicable Laws.
- b) BHEL shall have the right, but not the duty, to demand any document, receipt etc relating to or showing the proof of compliance by the Contractor with any of the Applicable Laws.

Article 10
Applicable Taxes

- a) The Contractor shall duly pay Applicable Taxes to the statutory or governmental authorities.



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- b) Notwithstanding anything to the contrary, BHEL shall not be liable for payment of any fine, penalty, or interest or any other amount for delay in or failure by the Contractor to discharge statutory liabilities.
- c) Payments to Contractor will be subject to deduction of taxes at source as per Applicable Laws.
- d) Rate quoted shall be inclusive of all taxes and duties as applicable seven (7) days prior to the date of Tender opening except Service Tax, if any. If the Offer is silent then the normal service tax shall be deemed to have been included and BHEL will proceed to finalize the Tender accordingly. The Vendor is to produce tax invoices as per the provisions of the law to enable BHEL to avail CENVAT Credit. Non – compliance of the same will result in deduction of tax amount from the bills.
- e) In case the government (Centre/ State) imposes any new indirect taxes or upward revision of indirect taxes on the output services / work after the submission of Bid, the same shall be reimbursed to the Contractor by BHEL at actuals. All necessary documents as required by BHEL shall have to be provided by the Contractor.
- f) However, in the event of delay in work execution attributable to the Contractor, the new indirect taxes with effect from delay period shall not be reimbursed to the Contractor. BHEL's decision in this regard shall be final.
- g) For the sake of clarity, the Parties agree that BHEL shall not be liable to reimburse any direct tax, whether present or in future to the Contractor.

Article 11 Confidentiality

The Contractor shall not within the period from the Effective Date until Five (5) years from expiry of all obligations of the Contractor, disclose or make available to any third party or use, directly or indirectly, any information acquired from BHEL or obtained by Contractor in connection with the Project, except as necessary for the performance of the Contract with prior approval, in which cases the same undertaking shall be signed prior to receipt by the recipient.

Article 12 Intellectual Property Rights

- a) In the event that the services provided by the Contractor in connection with software programmes and related documentation supplied to BHEL in relation to which rights may be owned by third parties, Bidder shall warrant and represent that:
 - i) BHEL has all necessary permissions, express or otherwise, to enable the software programs and documentation to be copied or otherwise used by Bidder during the



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course of the services without infringing any third party copyright, patent or trade secret or any other proprietary right;

- ii) In providing the services the Contractor shall not be infringing upon the intellectual property rights of any third parties;
 - iii) The disclosures or use of the software programmes and documentation during the course of services shall not involve the breach of any confidential or contractual relationship.
- b) The deliverables, and all information, reports, studies, object or source codes, flow charts, diagrams and other tangible or intangible material related to the Project (collectively called “ Materials”) in relation to the Project and all copies thereof shall be the sole and exclusive property of BHEL and shall be considered as BHEL’s proprietary information. The Contractor hereby irrevocably grants, assigns and transfers all right, title and interest to BHEL of any kind or description of Materials, including but not limited to patents, copyrights, trade secrets and other intellectual property rights.
- c) The Contractor shall keep BHEL indemnified from / against any and all damages, demands, losses, costs and expenses that BHEL suffers/ may suffer as a result of any infringement or alleged infringement of any patent, registered design, trademark, copy right or other intellectual property right registered or otherwise by reason of claims, actions, demands and proceedings whatsoever brought or made against BHEL on the basis of any patent or infringement thereof claimed or otherwise relating to and arising from any method or process employed or matter or thing done to or in connection with any work executed by the Contractor under the Contract and the Contractor shall, at his own risk and expenses, defend any suit for infringement of patent or like suit brought against BHEL (whether with or without the Contractor being a party thereto) and shall pay any damages and costs awarded in such suit and keep BHEL indemnified from and against all costs and other consequences thereof.

Article 13 Security Deposit

- a) The Contractor shall pay Security Deposit (SD) within fifteen (15) days from the award of the Contract (Letter of Intent). The quantum of SD shall be based on the total contract price as per rates given below:
- (i) Upto Rs. 10 lakhs : 10%
 - (ii) Above Rs. 10 lakhs upto Rs.50 lakhs: 1 lakh + 7.5% of amount exceeding Rs. 10 lakhs.
 - (iii) Above Rs. 50 lakhs : Rs. 4 lakhs + 5% of amount exceeding Rs. 50 lakhs.
- b) EMD of the successful Bidder shall be adjusted against SD.



- c) Security may be furnished in any one of the following terms:
- i. Cash, (as permissible under the Income Tax Act)
 - ii. Pay Order, Demand Draft in favour of BHEL.
 - iii. Local cheques of Scheduled Banks, subject to realization.
 - iv. Securities available from Post Office such as National Savings Certificates, Kisan Vikas Patras etc., (Certificates should be held in the name of Contractor furnishing the Security and duly pledged in favour of BHEL and discharged on the back).
 - v. Bank Guarantee from Scheduled Bank / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
 - vi. Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
 - vii. Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be paid before start of the work and the balance 50% may be recovered from the running bills.
- Note : Acceptance of Security Deposit against sl.nos. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith).
- d) SD shall be returned on the satisfactory completion of the warranty period . BHEL shall have the right to adjust any penalties or dues from the SD.
- e) SD shall be forfeited if the Contract is abandoned by the bidder during the Contract period.
- f) SD shall not bear any interest in any manner whatsoever.

Article 14

Instructions under the Contract

All instructions, requests, notices etc. to be given under the Contract shall be in writing, type-script or printed and if sent by registered post to the address given in the tender of the Contract, shall be deemed to have been served on the date, when in the ordinary course they would have been delivered to him. The Contractor shall carry out without delay all orders given to him.



Article 15

Force Majeure

- a) Force Majeure means any cause which is beyond the control of the Contractor or BHEL, as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the contract, such as:
- i) Natural phenomena including, but not limited to, floods, droughts, earthquakes and epidemics;
 - ii) Acts of any government, domestic or foreign, including, but not limited to, war, declared or undeclared, priorities, quarantines, embargoes;

However Force Majeure shall not include the following circumstances:

- (i) mechanical breakdown of equipments of the Contractor of whatsoever kind not resulting itself from an event of Force Majeure;
 - (ii) Financial distress of Contractor or its subcontractor, lack of funds or the inability of the Contractor to make payments in the manner specified herein;
 - (iii) inclement weather;
 - (iv) any event or circumstance that makes performance by the Contractor merely uneconomic or commercially impracticable including without limitation due to recession, depression, inflation, deflation, tax rate or law changes, exchange rate fluctuations, or changes in prices;
 - (v) any act or omission or default on the part of a subcontractor or a vendor that is not itself attributable to an event of Force Majeure (as defined herein); and
 - (vi) the imposition of sanctions by any governmental authority due primarily to the failure of the Contractor to comply with any Applicable Laws.
- b) Either party shall within fifteen (15) days from the occurrence of Force Majeure notify the other in writing of such cause.
- c) The obligation stipulated in this Contract can only be suspended in the case of any particular item of work, in the event of Force Majeure or as the result of an agreement between the parties. In the event of Force Majeure, neither of the parties may be considered in default of its obligations under the terms of this Contract.
- d) If the Force Majeure circumstances mentioned in Article 15(a) above continue to exist for more than One (1) Month, BHEL shall have the right to terminate the Contract forthwith.

Article 16

Liquidated Damages

- a) Liquidated Damages at the rate of 0.5% per week or part thereof, subject to a maximum of 10% of the order value, shall be levied for the late delivery/ execution of the Project as per certification of the BHEL Project Leader.



- b) Liquidated Damages shall be evaluated only at the time of final delivery and not during the stages of individual milestones, if any.

Article 17

Damage and Loss to Private Property and Injury to Workmen

The Contractor shall at his own expense reinstate and make good to the satisfaction of the BHEL Contract Leader and pay compensation for any injury, loss or damage occurred to any property or rights whatever including property and rights of BHEL (or agents) servants or employee of BHEL, the injury, loss or damage arising out of or in any way in connection with the execution or purported execution of the Contract and further the contractor shall indemnify, the BHEL against all claims enforceable against BHEL (or any agent, servant or employee of BHEL) or which would be so enforceable against BHEL where BHEL is a private person, in respect of any such injury (including injury resulting in death) loss or damage to any person whomsoever or property including all claims which may arise under the Workmen's Compensation Act, 1923 or otherwise.

Article 18

Indemnities

Contractor shall indemnify and keep indemnified BHEL, its other contractors and/or sub-contractors and its/their employees from all actions, proceedings, suits, claims, demands, liabilities, damages, losses, costs, charges, expenses (including without limitation, wreck or debris, removal costs, where wreck or debris removal is ordered by a competent authority) judgments and fines arising out of or in the course of, or caused by the execution of work under the Contract or other obligations hereunder directly or indirectly associated herewith which may arise due to:

- a) breach of law by the Contractor, or any of its sub-contractor, or any of their respective employees.
- b) negligence or willful default by the Contractor, or any of its sub-contractor, or any of their respective employees.
- c) breach/ infringement by the Contractor, or any of its sub-contractor, or any of their respective employees of any intellectual property right;
- d) failure by Contractor to proceed with Project in accordance with the determinations, instructions and clarifications of Company pending disagreement, dispute, protest, request for arbitration/ court proceedings
- e) loss of property or death of any employee of BHEL or of its other contractors/ sub-contractors.

The above shall be without prejudice to any other remedy that may be available to BHEL whether as per law, contract, equity or otherwise.



Article 19
Risk Purchase

- a) In case of any neglect or refusal on the part of the Contractor to:
- i) commence the Project, or
 - ii) provide sufficient labour for the Project or
 - iii) if in the opinion of BHEL Project Leader, the Project done by the Contractor are not satisfactory, or
 - iv) if the Contractor fails to carry out the Project as per the Contract or as per instructions of the BHEL Project Leader or officer authorized by him,

BHEL shall have the right to have the Work done by any means at the Contractor's sole risk and expenses.

The above shall be without prejudice to any other remedy that may be available to BHEL whether as per law, contract, equity or otherwise.

- b) In the event, the cost of the work so done (as certified by BHEL Project Leader which is final and conclusive) is less than the Contract cost, the advantage shall accrue to the BHEL and if the cost exceeds the money due to Contractor under the Contract, the Contractor shall either pay the excess amount ordered by BHEL Project Leader or the same shall be recovered from the Contractor by other means.

Article 20
Termination

a) **Termination of Contract for Corrupt Acts**

- i) BHEL shall have the right to terminate the Contract in any of the following cases:
- ▲ The Contractor (or the Contractor's purported agent, representative or employee) offers, give or agrees to give to any personnel (whether employee, worker, labourer, official, director or otherwise) in BHEL any gift or consideration of any kind, as an inducement or reward for doing or for bearing to do or for having done or for borne to do any act, in relation to the obtaining or execution of this or any other contract for BHEL service, or
 - ▲ The Contractor enters in to a contract with BHEL in connection with which commission has been paid or agreed to be paid by him or with his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to BHEL, or



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- ▲ The Contractor obtains a contract with BHEL as a result of ring tendering or by non-bonafide methods of competitive tendering, without first disclosing the fact in writing to BHEL.

- ii) In deciding whether the Contractor has committed the above acts, the decision of BHEL shall be final and conclusive.

b) Termination for Insolvency, Bankruptcy, Winding up, etc

- i) BHEL shall have the right to terminate the Contract in any of the following cases:

- ▲ If the Contractor, being an individual or if a firm any partner thereof, shall at any time be adjudged bankrupt or have a receiving order for administration of his estate made against him or shall initiate/ take any proceedings for liquidation or composition under any bankruptcy law or assignment of his effects of composition or arrangement for the benefit of his creditors or purports to do so, or if any application made under any Bankruptcy law for the time being in force for the sequestration of his estate or if a trust deed be granted by him on behalf of his creditors, or

- ▲ If the Contractor, being a Company, initiates or passes a resolution or the Court shall make an order for the liquidation of its affairs, or a receiver or Manager on-behalf of the debenture holders shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or Manager.

c) Termination of Contract in Part of Full for Contractor's Default

- i) If the Contractor defaults in carrying out the work as directed and continues in that state after a reasonable notice from BHEL Project Leader or his authorised representative or the Contractor fails to comply with any of the Terms and Conditions of the contract or the Contractor makes poor progress in the execution of the Project, BHEL shall have the right to, after reasonable notice in writing and without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to BHEL, terminate the Contract as whole or in part thereof or only such work order or items of work in default..

- ii) Without prejudice to the generality of the above, BHEL shall have the right to terminate the Contract as a whole or in part in the following circumstances:

- If the Contractor assigns, transfers, sub-contracts or sub-lets or attempts to assign, transfer or sub-Contract or Sub-let any portion of the work without the prior written approval of the BHEL
- If the Contractor fails to deploy competent manpower and/ or equipment.



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- If the Contractor fails to comply with the requirement of Applicable Laws
 - If the Contractor or any employee/ labourer/ worker of the Contractor is found involved in corrupt activities, the contract shall be terminated and the Contractor shall be banned for applying for any future Contract for at least three (3) years or any other period as BHEL may decide.
- d) Whenever BHEL exercise the authority to terminate the Contract as whole or part under Article 20(a) or (b) or (c) , BHEL may complete the Work at the contractor's risk and cost (as certified by BHEL Project Leader which is final and conclusive). If the cost exceeds the moneys due to the Contractor under this contract the Contractor shall either pay the excess amount ordered by BHEL Project Leader or the same shall be recovered from the Contractor by any means, including but not limited to invocation of security deposit, deduction from pending payments etc. In case BHEL carries out the Work or any part thereof the cost to be taken into account in determining the excess cost to be charged to the Contractor shall consist of the cost of the materials, hire charges of tools and plant and/or labour provided by the BHEL with an addition of such percentage to cover the superintendence and establishment charges as may be decided by the BHEL Project Leader whose decision shall be final and conclusive.
- e) **Termination of Contract on Death of Contractor**
- Without prejudice to any of the rights or remedies under this contract, if the Contractor dies or if the firm is dissolved or the company is liquidated, BHEL shall have the right to terminate the contract forthwith without any compensation to the Contractor.
- f) **Termination for Convenience**
- If at any time after the award of Contract, BHEL shall for any reason whatsoever not require whole or any part of the Work to be carried out by the Contractor. BHEL Project Leader shall give notice in writing of the fact to the Contractor. In such case, the Contractor shall have no claim to any sum or payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the fore-closing of the work.
- g) The right of BHEL to terminate the Contract under this Article 20 shall be without prejudice to any other right or remedy which shall have accrued or which shall accrue thereafter to BHEL, and the Contractor shall be liable to make payment to BHEL for any loss or damage of whatsoever nature resulting from any such termination to the same extend as provided in the case of termination for default.



Article 21

Governing Law, Arbitration and Jurisdiction

- a) The contract shall be governed by the Indian Laws for time being in force.
- b) **Arbitration**
- i) All disputes between the parties to the Contract, arising out of or relation to the Contract, other than those for which the decision of the BHEL Project Leader or any other person is by the Contract expressed to be final and conclusive shall, after written notice by either party to the Contract to the other party be referred to the sole Arbitration of Unit Head of BAP, BHEL Ranipet or any designate nominated by the Unit Head of BAP, BHEL Ranipet in his sole discretion.
- ii) Unless the parties otherwise agree, such reference shall not take place until after the completion, completion or abandonment of the Work or the determination of the contract.
- iii) The venue of Arbitration shall be Ranipet, Tamil Nadu. The arbitrator may hold meetings for convenience in such a place or places discretion.
- iv) The award of the Arbitrator shall be final, conclusive and binding on both parties to the Contract.
- v) The Contractor shall, notwithstanding any disagreement, dispute, protest, request for arbitration, court or other proceedings, continue to perform the Services in accordance with the determinations, instructions and clarifications of BHEL
- c) Subject to the above, the appropriate court in Vellore District shall have the exclusive jurisdiction over any disputing arising out of or in connection with this Contract.

Article 22

Deviations

- a) CERTIFICATE OF NO DEVIATIONS as per ANNEXURE- F is to be submitted.

Article 23

Miscellaneous

- a) **Assignment and Subcontracting**
- i) The Contractor shall not without the prior written approval of the BHEL, assign or transfer the contract or any part thereof, or any share, or interest thereon to any



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other persons. No sum of money which may become payable under the contract shall be payable to any person, other than the Contractor unless the prior written approval of the BHEL to the assignment or transfer of such money is given.

- ii) The Contractor shall not sub-contract any portion of the contract without the prior written approval of the BHEL.

b) Waiver

Failure by BHEL to insist upon strict performance of any terms or conditions of this Contract, or failure or delay to exercise any rights or remedies provided herein or by Applicable Laws, or failure to properly notify the Contractor in the event of breach, or the acceptance of or payment for Project or otherwise, shall not release the Contractor from any of the obligations under this Contract and shall not be deemed a waiver of any right of BHEL to insist upon strict performance hereof or any of its rights or remedies as to any prior or subsequent default hereunder nor shall any termination of Project under this Contract by BHEL operate as a waiver of any of the terms hereof.

- c) BHEL shall, at its discretion, recover any compensation or other sums of money payable by the Contractor to BHEL under the terms of this Contract or any other contract with BHEL or Applicable Laws from the Security Deposit or by the sale of the securities or from the interest arising there from or from any sums which may be due or may become due to the contractor by BHEL. In the event of this Security Deposit being deducted by reason of such deductions or sale, as aforesaid, the Contractor shall within Seven (7) Days thereafter, make good in cash or in securities endorsed as aforesaid, any sum by which the Security Deposit has been reduced. Without prejudice to the above, BHEL shall have the discretion to ask the Contractor to make the payment to BHEL on demand
- d) The terms and conditions of the Tender Documents and the LOI shall be deemed to have been incorporated into this Agreement. Wherever the Tender Documents and the LOI are repugnant to terms and conditions of this Contract, the terms and conditions of this Contract shall prevail.



e) **Signing of the Contract**

The Contract shall be signed by the Contractor with his usual signature. Contract by partnership or Hindu Joint Family firm, may be signed in the firm's name by one of the Partners or the Karta or Manager as the case may be or by any other duly authorised representative followed by the name and designation of the persons so signing. Contracts by a Company shall be signed with the name of the Company by a person authorised in this behalf and a power of attorney or other satisfactory proof showing that the persons signing the Contract documents on behalf of the Company is duly authorised to do so, shall accompany the contract

[Insert name of the Contractor]

Bharat Heavy Electricals Limited

Signature:

Signature:

Name & Designation:

Name & Designation:

Witness
Signature:

Witness
Signature:


Name & Designation:

Name & Designation:






Annexures:

- i) **Schedule of Prices** (Section- I, Part- A, Annexure –B)
- ii) **Third Party NDA** (Section –I, Part-A, Annexure –C)
- iii) **CERTIFICATE OF NO DEVIATION** (Annexure- F)
- iv) **Technical Specifications** (Section – II)

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SECTION – II

TECHNICAL SPECIFICATION FOR DESIGN AUTOMATION OF GATES & DAMPERS using UG-NX and TeamCenter

Prepared	D. Ashwin Dhinakar	Mgr /EDC-G&D	
Reviewed	J. Ravisankar	DGM /EDC-G&D	
Approved	A. R. Ramamoorthy	AGM / Fans, DP, G&D	



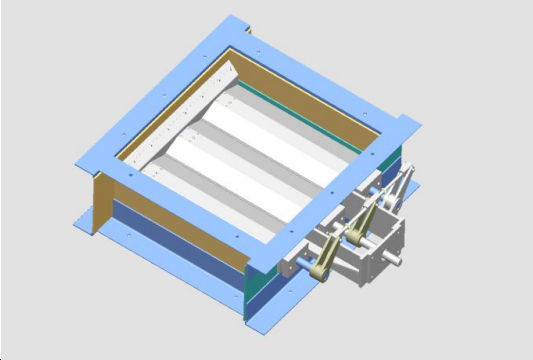
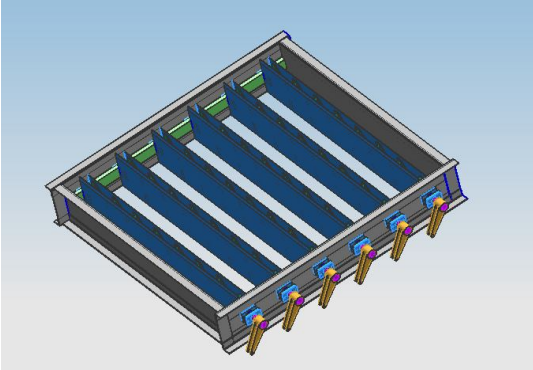
Contents :


1.0	Intent of Specification
2.0	Introduction about BHEL
3.0	Product description – Gates & Dampers
4.0	Objectives of the proposed automated design
5.0	Flexibility and User friendliness of model
6.0	Implementation Program - Resource requirement - Estimated Work Schedule
7.0	Software programs / Packages to be used
8.0	Computer Software & Hardware
9.0	Deliverables
10.0	Documentation & Source codes
11.0	Training
12.0	Testing & Acceptance criteria
13.0	Miscellaneous

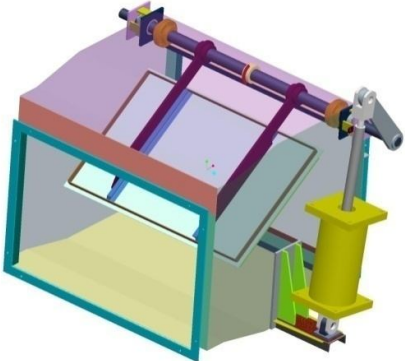

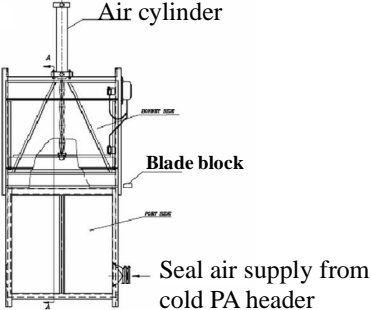


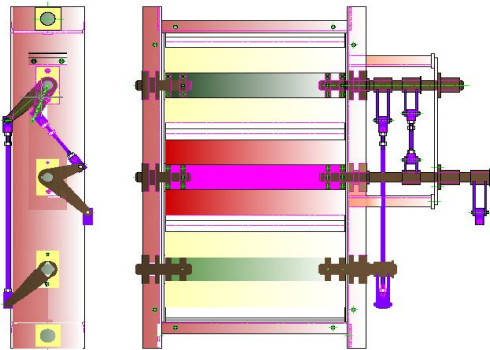
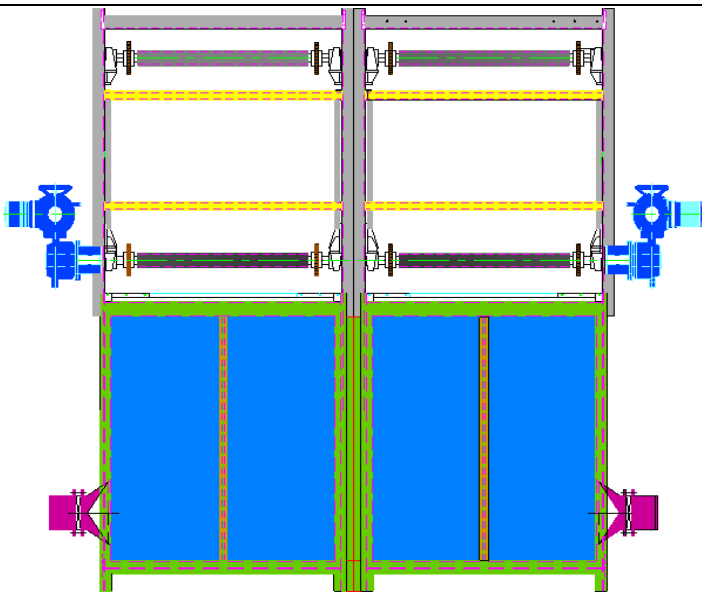
1.0	Intent of Specification:
1.1	<p>This specification aims at design automation of Gates and Dampers components as listed in Clause no. 4.0 through Knowledge Based Engineering (KBE).</p> <p>The implementation of the above requirement shall be carried out with the following principal objectives:</p> <ul style="list-style-type: none">Acquisition and Preservation of Explicit Knowledge AssetsCreation of Tacit Knowledge AssetsKnowledge Use and Re-useKnowledge Dissemination / SharingKnowledge Security & Access ControlSeamless integration with other interacting systemsAccuracy and consistency of inputs and outputs & data verificationReal time on-line monitoring
1.2	To develop a KBE (Knowledge Based Engineering) software solution (Automated Design Module) to generate project specific 3D models, 2D manufacturing and assembly drawings along with related documents (refer deliverables in clause no. 9.0), given the basic design parameters.
1.3	This KBE shall be implemented at Engineering Development Centre / Gates and Dampers, BHEL-Ranipet
2.0	Introduction about BHEL:
2.1	Bharat Heavy Electricals Ltd (BHEL) is a premier Govt. of India undertaking and ranks among the top ten power generation equipment manufacturers in the world. BHEL manufactured and supplied approx. 70% of the power generating equipment in India.
3.0	Product description - Gates & Dampers
3.1	<p>Modern boilers have many auxiliaries in Air and Flue Gas circuit viz. Primary air (PA) fans, Forced draft (FD) fans, Induced Draft (ID) fans, Air pre heater (APH), Pulveriser (Mill), Economiser, Steam coil air pre heater (SCAPH) and Electrostatic precipitator (ESP).</p> <p>The necessity to attend repairs and maintenance of these equipment, while the boiler is in operation, warrants proper provision of Gates and dampers. Complete isolation may be required due to high pressure and temperature of the medium and functional need of the equipment for maintenance. Above all, man safe condition is essential for the maintenance crew to enter in to the duct system, while the boiler is in service.</p> <p>In steam generators the Gates & Dampers are a specially engineered piece of equipment adopted for the function of isolation of Air & Gas flow in the ducts. Depending on the need, leakage of flow medium in the duct past gate / damper is either fully eliminated or limited to bare minimum. The air/gas flow pressure loss across the damper is to be maintained as minimum as possible.</p> <p>Dampers which are provided for flow regulation application (at Mill inlets and at</p>

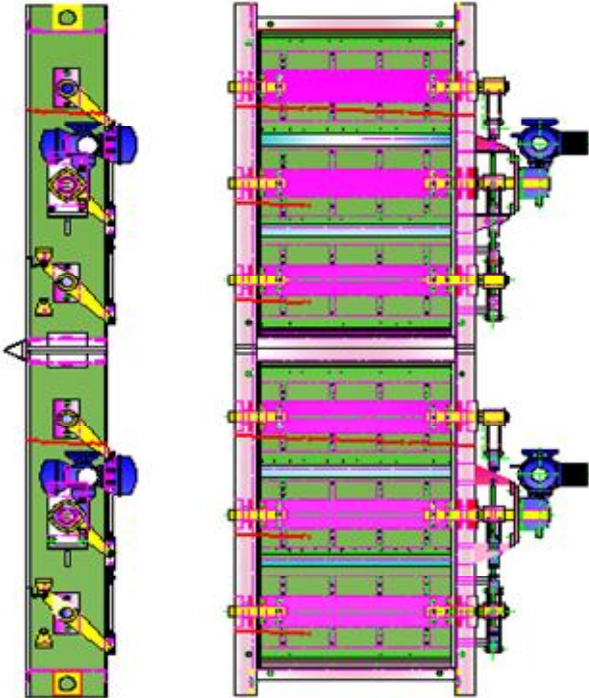
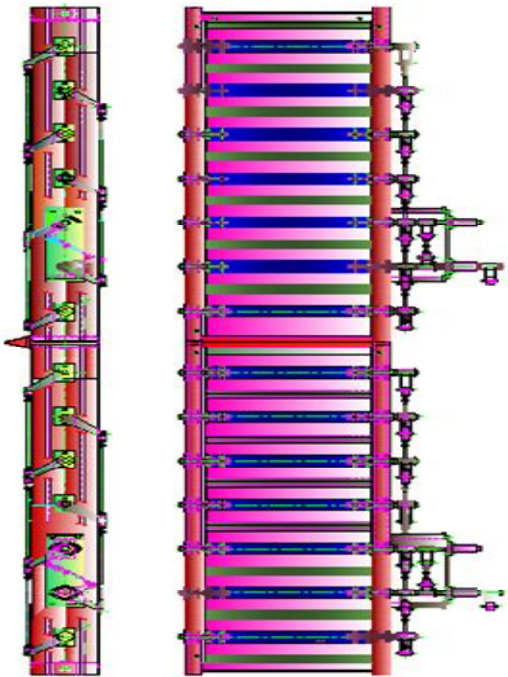


	<p>Air heater outlet) in flue gas circuit are called Control louvers.</p> <p>The selection of a Gate or Damper for isolation is dependent on factors like redundant boiler auxiliary equipment, Customer requirements, space availability etc.</p> <p>Major selection parameters are as below:</p> <ul style="list-style-type: none">Type (Gate/Bi-plane damper/Control damper/Louver damper/Flap damper)Duct size (Height x width); splitting if dimensions exceed a specified limitDrive type (Electrical/pneumatic/manual)Flow direction (Horizontal / vertical up / vertical down)Sealing requirements (No seal air / Atmospheric seal / Blower seal)Site altitudeDesign pressure, Operating pressure & Leakage pressureOperating temperatureAsh depthShaft material (SS 304 / SS 450).Location of actuators – (Left hand / Right hand)
3.2	Louver damper : 
3.3	Bi-plane damper : 

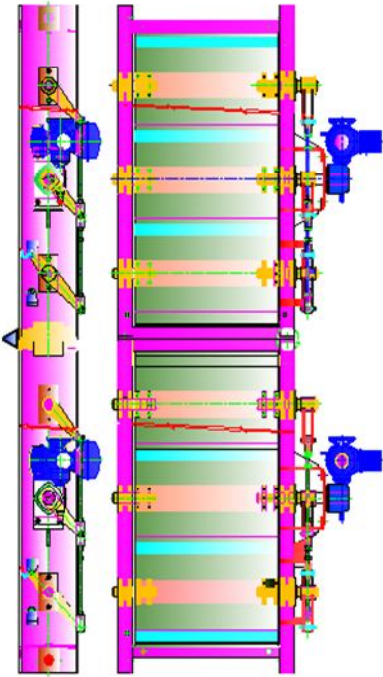
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<p>3.4</p>	<p>Flap damper :</p> 
<p>3.5</p>	<p>GUILLOTINE GATE</p> 
<p>3.6</p>	<p>AIR OPERATED PNEUMATIC GATE :</p> 

3.7	Control damper:	
3.8	Split gate:	


3.9	Split Bi-Plane damper:	
3.10	Split Control damper:	




3.11	Split Louver damper:	
4.0	Objectives of the proposed automated design:	
4.1	<p>Detailed Design Automation (DDA):</p> <p>The DDA shall aim at standardisation of product design with minimum number of options and variants. Reduce design cycle time. Produce Error-free design documents Produce 3D Models for better visualization Storage of design parameters in Data base (TEAM CENTER PLM) for similarity analysis and re-use in future. Generate derived design documents automatically from the above data base.</p>	
4.2	<p>The scope involves generation of 3-D models and design documents for the following types & variants. Vendor to refer Table-1 (enclosure) for further details regarding type of operation / variants / sub-variants & options. For generation of complete 3D models of Assemblies of the Types & Variants listed in Table -1 , 3D models of standardized components / sub-assemblies listed in Tables-2, 3 & 4 will be necessary. Standard components listed in Tables form a small part of the overall Assembly. Other simple components like bolts, nuts, washers, sheets, beams, locking chains, pins and standard ball bearings etc. not listed in Tables 2 to 4 are not having drawing numbers and are released in drawings with material codes presently. However these are common for all the types of gates & dampers and their variants. Vendor 's automation should cover such items also in their scope to enable generation of 3D models of complete assemblies of Table-1.</p>	




4.2.1	<p>Louver Damper:</p> <p>Louver damper with 1 Blade Louver Damper with 2 Blades Louver Damper with more than 2 blades Louver Damper – Split</p>
4.2.2	<p>Control Damper</p> <p>Control Damper with 2 Blades Control Damper with more than 2 blades Control Damper - Split</p>
4.2.3	<p>Biplane Damper:</p> <p>Biplane Damper - Single Biplane Damper - Split</p>
4.2.4	<p>Flap damper:</p> <p>Cold Application Hot Application</p>
4.2.5	<p>Guillotine gate:</p> <p>Single Split</p>
4.2.6	<p>Guillotine gate - Pneumatically operated:</p>
4.3	<p>The proposed software to be developed should accept the output results of DDIN program (Refer Clause 4.4) for each and every PGMA in a given project. The number and sizes of drawings for a given type of Gate or damper are constant and does not depend on Boiler MW rating. Only the overall and component dimensions vary depending upon the Input details keyed in.</p> <p>Number of various sizes of drawings estimated to be generated for each type of Gates and Dampers is given in Table-1.</p>
4.4	<p>Present Practise :</p> <p>BHEL is currently using an Application program (DDIN.bas) written in "GW BASIC", which is a selection program. The parameters viz., Design pressure, Operating pressure, Temperature, Site elevation, equipment type, Drive type etc. are keyed in. When the program is under execution, it prompts for additional details which are keyed in manually as per thumb rules (hard copy available). After complete execution, the output is saved in file as "DDIN.dat".</p>

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	<p>The output data as received above, is manually fed into other subsequent programs as applicable (Fortran programs developed in house by BHEL):</p> <p style="padding-left: 40px;">Guillotine gates: HGAT.FOR Louvers: LOVINP13.FOR Bi- plane dampers: LOVINP13.FOR & BIPL.FOR Control dampers: LOVINP13.FOR & CLOV.FOR</p> <p>The output files of above Fortran programs are fed manually to AUTO LISP routines. For Flap dampers, Input details are directly fed into LISP routines to get 2D drawings (DDIN and Fortran programs are not applicable.)</p> <p>Drawing number requisition software generates drawing nos. depending on PGMA & size of drawing, which are fed manually into AUTO LISP routines.</p> <p>The output of above sequence of operations is:</p> <ul style="list-style-type: none"> -Project specific 2D drawings (Not to scale; template based) generated in Auto-CAD, as furnished in Table-1. -BOM in a format acceptable to existing GMS program (in Foxpro). <p>In addition to the above referred project specified drawings listed in Table-1, a List of Standard Drawings generated in Autocad (Table-2) and scanned .pdf/.tif copies of standard drawings (Tables- 3 & 4) are referred in the AUTO LISP routines, as applicable.</p>
4.5	<p>Vendor's scope is to do the automation as specified in this Technical specification.</p> <p>The software of vendor shall automate the process so that the vendor developed program captures and gets populated by output data from DDIN.bas program and accept a few inputs from user (Refer Input –Output diagram of Detailed Engineering) and give outputs, which are currently generated by Auto-LISP programs, (In the case of Flap dampers, the vendor's scope of Automation is to cover the scope of LISP routines) with certain improvements like:</p> <ul style="list-style-type: none"> Generation of 3D Models of components, sub-assemblies and assemblies and 2D drawings (To scale drawings, generated in UG-NX) and BOM. Above drawings and BOM are to be extracted and stored in existing TEAM CENTRE (PLM) environment, available with BHEL. Animated movie files for each variant showing Assembly / Dis-mantling process. Operating sequence during Open/Close cycle.
4.6	<p>The vendors are advised to visit our Design office during the Pre-bid stage and study the Engineering process, the software used presently, the drawings and BOM outputs for different components generated currently. Vendor shall plan suitably regarding manpower deployment for completing the project in scheduled time.</p>

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4.7	<p>During execution stage, after award of contract, BHEL will furnish the required rules for customization, existing programs and will show the current practices and procedures / process for smooth and trouble free implementation of this project.</p>
4.8	<p>Knowledge Dissemination / Sharing: Dissemination is the primary way to leverage the knowledge throughout the organisation.</p> <ul style="list-style-type: none"> Data Sharing Within the individual Engg group Among the Engg. Groups Among the Associated functional groups <p>Vendor shall ensure the proposed Design automation process interface with the existing PLM software (TEAMCENTER) available with BHEL to meet the above requirement and also ERP (SAP) at a later date.</p>
4.9	<p>Proposal and Contract Engineering of Gates & Dampers automation using Teamcenter based PLM :</p> <ol style="list-style-type: none"> 1. Enquiries registration 2. Document / drawing structure creation customization 3. Workflows customization 4. BHEL legacy Oracle to be interfaced with Teamcenter Engineering. 5. Comments, Clarifications and Deviations should be captured using Teamcenter Engineering. 6. Technical write up documents to be generated with minimal inputs and also specified values should be fetched. 7. Product Structure Editor (PSE) Customization for NX Models (CAD data)/ Non CAD specific to BHEL requirements. Outputs should be generated for downstream application like GMS (Group Manufacturing Specifications). 8. Teamcenter Engineering should be interfaced for material code, R-Indent & Material forecast. 9. Existing Department (Local) database developed in ACCESS used for past 4 years is to be migrated to ORACLE and populated with existing database details and put in PLM (TEAMCENTER) and Inputs/ updating for future projects will be carried out in this. Also past records prior to this has to be populated with relevant inputs in the proposed database. 10. Current BOM estimation for Projects in Proposal stage is done manually by referring to similar/ closest parameters of past completed projects from above referred database and approximations are done manually after choosing most appropriate past record. Proposed package should automate the estimation process.
5.0	<p>Flexibility and user friendliness of module: The software shall have:</p> <ul style="list-style-type: none"> User friendly GUI for data entry and outputs. Flexible for future addition of modules. Self explanatory with appropriate comments for every statement. Detailed flowcharts for each module.

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6.0	Implementation Program		
6.1	<p>Resource Requirement : The vendor will be responsible for the successful implementation of the KBE. The vendor shall clearly bring forth an implementation strategy for the solution. The vendor shall give the implementation procedure as well as the Schedule for the implementation. BHEL prefers the shortest turnaround time for implementation. KBE vendor shall consider the required Human resource for the same.</p> <p>The vendor is to furnish the bio-data of the proposed project team leader and the number of persons to be deployed together with the schedule. BHEL has no responsibility in any way on the Human resources to be deployed at BHEL for the above activity. The KBE vendor is responsible solely for the personnel deployed at BHEL.</p> <p>The project shall be split into phases and each phase can have milestone with a schedule. All major activities are to be listed and the duration required to be given in terms of calendar weeks.</p> <p>KBE Vendor should quote for the necessary customization required if any to comply with the tender requirements.</p> <p>Customer (BHEL) problem reporting and resolution mechanism :</p> <p>The problems will be reported to the solution provider who will be camping at BHEL during implementation and/or the nearest available office and all solutions / alternatives to be provided to BHEL immediately as required. Assistance to be provided during this phase for usage of the product developed and assistance for BHEL personnel for further modification or additional features as needed in the software, coding, customization, installation, configuration etc. Vendor should identify a single point contact (resident engineer) for the above and he shall co-ordinate within the KBE vendor's work for the required resources as needed. There will be no service charges payable from BHEL during this phase.</p>		
6.2	<p>Project Work Schedule : Vendor to estimate the work content & time schedule in each of the following phase / module :</p> <ol style="list-style-type: none"> (1) System Design and Project Plan. (2) Development of software program including graphic user interfaces, databases, libraries of 3D Component, Assembly models & drawings, interfaces to other software (for FEA & CFD – ANSYS) required. (3) Periodic testing of development with participation of BHEL team. (4) Preparation of system documentation and User Manuals. (5) Training to BHEL users and system administrator. (6) Installation of the developed software on BHEL computer system. (7) Final acceptance testing of installed system by BHEL. <p style="text-align: center;">Project Duration – 10 months</p>		
7.0	SOFTWARE PROGRAMS / PACKAGES TO BE USED		
	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">i) System Designing</td> <td>UG /NX (latest version), Visual Basic, MS</td> </tr> </table>	i) System Designing	UG /NX (latest version), Visual Basic, MS
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	<p>ii) 3D models & drawings & 2D Manufacturing & G.A. drawings</p> <p>iii) Databases</p> <p>iv) Programming / logics</p> <p>v) Conversion of 2D drawings to AutoCad for Records</p> <p>vi) Development of Integrated system</p> <p>vii) Front end Display</p> <p>viii) Operating System</p>	<p>Office Tools, .net & “C” Sharp UG-NX. User interfaces and design rules are to be developed using NX UI Styler and KF modules respectively. If any other software is required to be developed, prior approval should be obtained from BHEL.</p> <p>Oracle</p> <p>C, C++, .net</p> <p>-</p> <p>UG-NX Knowledge Fusion sharing</p> <p>UI Styler</p> <p>Windows XP Professional / Vista / Windows7 / Windows latest version (32/64 bit version)</p>																																																
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8.2	<p>* Will be procured by BHEL</p> <p>The additional licenses required during development phase should be arranged by the KBE vendor free of cost to meet the surge load. KBE vendor should arrange any other software required for this development. The developed module shall be installed in BHEL’s server and its satisfactory operation demonstrated. The software module should have provision for editing / modifying the output results after every stage by the user. All units must be in ‘mm’ by default unless it is specified.</p> <p>The software features employed should be generic so that the developed</p>																																																	




	<p>system should be executable under any higher versions of UG-NX without any modifications in the source code. If it is unavoidable, the developer has to list down those features employed which are version dependent. However, such features must be kept to as minimum number as possible. Upward compatibility must be ensured.</p>
9.0	<p>DELIVERABLES</p> <ul style="list-style-type: none">- The KBE vendor shall generate parametric 3D model for each product variant / sub assembly using UG-NX latest version. Also vendor is to make provision to take the 3D model data to ANSYS for FEA and CFD for analysis. Meshing will be done in ANSYS.- For generation of complete 3D models of Assemblies of the Types & Variants listed in Table -1 , 3D models of standardized components / sub-assemblies listed in Tables-2, 3 & 4 will be necessary. Standard components listed in Tables form a small part of the overall Assembly. Other simple components like bolts, nuts, washers, sheets, beams, locking chains, pins and standard ball bearings etc. not listed in Tables 2 to 4 are not having drawing numbers and are released in drawings with material codes presently. However these are common for all the types of gates & dampers and their variants. Vendor 's automation should cover such items also in their scope to enable generation of 3D models of complete assemblies of Table-1.- Vendor has to make provision to take the 3D Model of complete assemblies of Type / variant listed in Table-1 to PDMS / PDS software package for enabling compilation of As- Built- drawings by Layouts Engineering / PEM Delhi of steam generator package for submission to customer.* The KBE vendor shall consider the following during the design of Design Automation (DA) process.<ul style="list-style-type: none">- Extraction and documentation of Design rules from BHEL, Ranipet- All the design rules should be entered in database. The system should get the design rules from database rather than using a direct black box.- BOM for estimation of total weight.- Generation of 2-D manufacturing drawings covering aspects like component, assembly, developed view, fabrication etc.- Preparation of BOM.- If any Change is made in a Particular Component, then other components requiring change has to be highlighted and a summary



	<p>report is to be generated.</p> <ul style="list-style-type: none">- Creation of O&M manual of the Automation Wizard.- Making user defined library of components for Standard parts.- The software should be capable of accommodating (size, specification modifications of DCN (Design change note) after DDR. Modification Report to be generated (including Interference checks & other applicable documents). On Technical acceptability of DCN, the software should yield all applicable revised 3D models, 2D drawings and GMS as applicable. Revised documents due to DCN should yield revised drawings and GMS.- Some of the existing Components in list of standard drawings enclosed is planned to be shifted to either BPS code or Q category bought out items during implementation stage of automation and during AMC Period. So vendor has to make the software compatible to work with conversion of (standard drawing) component / sub-assemblies by BHEL to BPS code or Q Category Bought out items.- Training to users on the developed package.- KBE vendor shall also consider the following during DA:<ul style="list-style-type: none">(i) Develop User friendly GUI(ii) Use Boiler plant standards (BPS), Rationalised Raw material list (RRM).(iii) BOM and DU link file generation for GMS program. (Outputs used for GMS generation.)- Provision should be made to preserve the actual models and 2D drawings created for every contract to enable revisions.- Provision should made to convert the native formatted 2D drawings to PDF format.- Provision should exist to extract the Native format and PDF format 2-D drawings as computer files for operation through the in-house drawing management system.- Animated movie files should be created for Gates and Dampers assemblies depicting the<ul style="list-style-type: none">i) assembly and dismantling process.ii) Operating sequence during Open / Close.- 2D Drawing Scaling : All the drawings must be to scale.- Output file to enable BHEL generate Group Manufacturing Specification (GMS).
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	<p>GMS is a set of instructions, which includes details like material details, size, weight, and quantity etc., to facilitate fabrication. For generation of GMS, the Bill of materials file and DU link file should be made available by vendor's software. The Bill of material and the DU link shall be picked up from the individual production drawings and will be used for GMS generation.</p> <ul style="list-style-type: none">- Material forecast : After generation of BOM for a Gate / Damper assembly/ sub assembly, software should be able to generate Raw Material forecast for reference . BHEL will key in the Quantity of Main Assemblies of GATE /DAMPER. The software should multiply the Material Forecast of equipment with Quantity of Equipment in the reference PGMA and provide the RMF.- Proposal and Contracts Engineering based customization and automation using Teamcenter based PLM as per Clause 4.9.
10.0	<p>Documentation & Source Codes On award of contract, KBE Vendor shall furnish the following documents : Application manual, User reference manuals, Maintenance manuals are to be supplied for each module considered for CAD Software. Hard copies of the above manuals – 2 sets minimum. Soft copies of the above manuals – 2 sets minimum in CD. All Software to be supplied in CDs with Original licensing documents. - Total technical document with full details should be submitted for future reference at every stage. - All the programming source codes with proper system documents as per standards should be submitted at every stage.</p>
11.0	<p>Training KBE Vendor shall provide training on the solution offered in a phased manner to all the users, administrator, and the management personnel. KBE Vendor to formulate a training requirement in the structured manner for direct users and administrator. On-line interactive training module is required for the cited training in addition to the standard training modules. On completion of the offered training, BHEL personnel should be in a position to use, administrator and modify on incremental requirements without the assistance of the KBE Vendor or any other Product vendor.</p>
12.0	<p>TESTING & ACCEPTANCE CRITERIA : The design Automation package developed by the KBE vendor shall be tested based on the suggested test procedure, before development. (i) The developed system will be tested against the 2D Drawings, BOM already created for different past projects. The number of validations for each model / variant shall be decided by BHEL and vendor on a case to case basis. (ii) User Acceptance certificate shall be issued only after the successful testing.</p>

	Bharat Heavy Electricals Ltd Boiler Auxiliaries Plant Ranipet - 632 406	Engineering & Development Centre TECHNICAL SPECIFICATION for Design Automation of Gates and Dampers	
Specification No KBE: DA: GAD: 001		Rev. No: A	Date : 16-03-11

13.0	<p>Miscellaneous :</p> <p>(i) For Intellectual Property Rights, Guarantee / Warranty and Annual Maintenance contract, refer Section – I of Tender document.</p> <p>(ii) Refer Table-1 for drawing sizes to be generated for model / variants and sub-variants and optional features.</p> <p>(iii) Refer Table-2, 3 & 4 for List of standard drawings for components.</p> <p>(iv) KBE Technical Check list to be filled and submitted along with Offer.</p> <p>(v) Refer ANNEXURE TO SECTION – II (3 sheets) “ INPUTS & OUTPUTS of Proposals Engineering, Contracts Engineering and DESIGN AUTOMATION of GATES & DAMPERS” drawing enclosed which shows the Deliverables and Scope of vendor’s Design automation.</p>
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Table-1: Proposed sizes of drawings to be generated

Number of various sizes of drawings estimated to be generated for each type of Gate / Damper given below :

1) Louver Damper:

Sl.No.	TYPE	A0	A1	A2	A3	A4
1.1	Louver with one blade – Electrical drive (Either LH or RH only)	0	1	1	3	3
1.2	Louver with one blade – Hand Operated (Either LH or RH only)	0	1	1	3	2
1.3	Louver with one blade - Pneumatic (Either LH or RH only)	0	1	1	3	3
1.4	Louver with two blades - Pneumatic (Either LH or RH only)	1	1	0	10	3
1.5	Louver with two blades - Hand Operated (Either LH or RH only)	1	1	0	10	2
1.6	Louver with two blades - Electrical (Either LH or RH only)	1	1	0	10	3
1.7	Louver with 3 or more blades – Hand Lever (Either LH or RH only)	1	1	0	10	2
1.8	Louver with 3 or more blades – Electrical (Either LH or RH only)	1	1	0	10	3
1.9	Louver with 3 or more blades – Pneumatic (Either LH or RH only)	1	1	0	10	3

Additional sub-variants for each of the above shall be generated based on the following special inputs using Logics like Optional features, Mutually exclusive logics as applicable.

1. Combination of both RH and LH Assemblies.
2. Split (2 Tier) Louver Dampers (each tier having 3 or more blades. Applicable for Pneumatic or Electrical actuators only. Generation of additional 1 no. A0, 1 no. A1 and 1 no. A2 size drawings).
3. Split (3 Tier) Louver Dampers (each tier having 3 or more blades. Applicable for Pneumatic or Electrical actuators only. Generation of additional 1 no. A0, 1 no. A1 and 1 no. A2 size drawings)

Table-1: Proposed sizes of drawings to be generated

2) Biplane Damper:

Sl.No.	TYPE	A0	A1	A2	A3	A4
2.1	Biplane damper – Either LH or RH only – Electrical	1	1	3	11	2
2.2	Biplane damper – Either LH or RH only – Pneumatic	1	1	3	11	2

Additional sub-variants for each of the above shall be generated based on the following special inputs using Logics like Optional features, Mutually exclusive logics as applicable.

1. Combination of both RH and LH Assemblies.
2. Split (2 Tier) Biplane Dampers (Generation of additional 1 no. A0; 2 nos. A1 and 1 no. A2 size drawings).
3. Split (3 Tier) Biplane Dampers (Generation of additional 1 no. A0, 2 nos. A1 and 1 no. A2 size drawings).
4. Plenum Duct (Accessory) requirement (Indication on Main Assembly A0 drawing only).

3) Control Damper:

Sl.No.	TYPE	A0	A1	A2	A3	A4	
3.1	Control Damper Single Tier with 2 blades	Pneumatic	1	1	0	10	5
		Electrical	1	1	0	11	5
3.2	Control Damper Single Tier with more than 2 Blades	Pneumatic	1	1	0	12	6
		Electrical	1	1	0	13	6

Additional sub-variants for Sl.No. 3.2 i.e. "Control Damper Single Tier with more than 2 Blades" (for both Pneumatic and Electrical) to obtain " **Control Damper Split (2 Tier) with more than 2 Blades**" using Logics like Optional features, Mutually exclusive logics as applicable. (Generation of additional 1 no. Each of A0, A1 and A2 size drawings).

Table-1: Proposed sizes of drawings to be generated

4) Flap Damper:

Sl.No.	TYPE	A0	A1	A2	A3	A4
4.1	Flap Damper Cold Application - Pneumatic (Either LH or RH only)	2	3	2	5	0
4.2	Flap Damper Hot Application – Pneumatic (Either LH or RH only)	2	3	3	4	0

Additional sub-variants for each of the above shall be generated based on the following special inputs using Logics like Optional features, Mutually exclusive logics as applicable.

1. Combination of both RH and LH Assemblies.

5) Guillotine Gate:

Sl.No.	TYPE	A0	A1	A2	A3	A4
5.1	Guillotine Gate Single – Electrical (Either RH or LH)	1	2	12	8	1

Additional sub-variants for each of the above shall be generated based on the following special inputs using Logics like Optional features, Mutually exclusive logics as applicable.

1. Combination of both RH and LH Assemblies.
2. Transport Stiffener (Accessory). Applicable when either Height or width exceeds 3 meters. (Indication in main Assembly A0 drawing only).
3. Each of the 3 Mutually exclusive options – (i) No sealing, (ii) 1 x 100% Fan sealing i.e. Integral mounting & (iii) 2 x 100% Fan seal or Ambient Air sealing.
4. Split (Twin) Gate. (1 no. A1 and 1 no. A3 size drawings to be generated additionally).
5. Bulb seal (Accessory). Indication on A0 drawing and generation of 6 nos. A2 and 3 nos. A3 size drawings additionally.
6. Hand operation instead of Electrical.

Table-1: Proposed sizes of drawings to be generated

6) Air Operated Gate:

Sl.No.	TYPE	A0	A1	A2	A3	A4
6.1	Air Operated Gate without bulb seal	1	2	9	7	1

Additional sub-variants for each of the above shall be generated based on the following special inputs using Logics like Optional features, Mutually exclusive logics as applicable.

- 1. Transition duct (Accessory).
- 2. Shroud Plate (Accessory. Based on input whether Duct is Horizontal or Vertical).
- 3. Bulb seal (Accessory. 7 nos. A2 and 3 nos. A3 drawings to be generated additionally).

Table-2:

Standard drawings list available in AutoCAD

Sl.No.	PG	DRAWING NO	REV	DWG TITLE	REMARKS
1	57	2-57-999-04323	02	BEARING HOUSING- 538	
2	57	3-57-999-03914		GATES & DAMPER (SCHEME OF SEAL AIR SYSTEM)	NOT FOR MODELLING
3	57	3-57-999-04620	00	LOCK TAB 1	
4	57	3-57-999-04621	00	LOCK TAB 2	
5	57	3-57-999-04622	00	LOCK TAB 3	
6	57	3-57-999-04623	00	LOCK TAB 4	
7	57	3-57-999-04624	00	LOCK TAB 5	
8	57	3-57-999-04625	00	LOCK TAB 6	
9	57	3-57-999-08140	00	IDLER BEARING BRACKET	FOR 111 FH BEARING
10	57	3-57-999-08141	00	DRIVE BEARING BRACKET (RH)	FOR 111FH BEARING
11	57	3-57-999-08142	00	DRIVE BEARING BRACKET (LH)	FOR 111FH BEARING
12	57	3-57-999-08144	00	IDLER BEARING BRACKET	FOR 63H BEARING TYPE
13	57	3-57-999-08145	01	DRIVE BEARING BRACKET RH	FOR 63H BEARING TYPE
14	57	3-57-999-08146	01	DRIVE BEARING BRACKET LH	FOR 63H BEARING TYPE
15	57	3-57-999-08147	00	IDLER BEARING BRACKET	FOR 56H BEARING TYPE
16	57	3-57-999-08148	00	DRIVE BEARING BRACKET RH	FOR 56H BEARING TYPE
17	57	3-57-999-08149	00	DRIVE BEARING BRACKET LH	FOR 56H BEARING TYPE
18	57	3-57-999-08150	00	IDLER BEARING BRACKET	FOR 47H BEARING TYPE

Table-2:

Standard drawings list available in AutoCAD

Sl.No.	PG	DRAWING NO	REV	DWG TITLE	REMARKS
19	57	3-57-999-08151	00	DRIVE BEARING BRACKET RH	FOR 47H BEARING TYPE
20	57	3-57-999-08152	00	DRIVE BEARING BRACKET LH	FOR 47H BEARING TYPE
21	57	3-57-999-08153	00	IDLER BEARING BRACKET	FOR 44H BEARING TYPE
22	57	3-57-999-08154	00	DRIVE BEARING BRACKET RH	FOR 44H BEARING TYPE
23	57	3-57-999-08155	00	DRIVE BEARING BRACKET LH	FOR 44H BEARING TYPE
24	57	3-57-999-08156	00	IDLER BEARING BRACKET	FOR 35H BEARING TYPE
25	57	3-57-999-08157	00	DRIVE BEARING BRACKET RH	FOR 35H BEARING TYPE
26	57	3-57-999-08158	00	DRIVE BEARING BRACKET LH	FOR 35H BEARING TYPE
27	57	3-57-999-08159	00	IDLER BEARING BRACKET	FOR 28H BEARING TYPE
28	57	3-57-999-08160	00	DRIVE BEARING BRACKET RH	FOR 28H BEARING TYPE
29	57	3-57-999-08161	00	DRIVE BEARING BRACKET LH	FOR 28H BEARING TYPE
30	57	6174-0020	00	BLADE BLOCK FOR DIA 25	BPS CODE (A3 Size)
31	57	6174-0016	00	BLADE BLOCK FOR DIA 32	BPS CODE (A3 Size)
32	57	6174-0005	00	BLADE BLOCK FOR DIA 38	BPS CODE (A3 Size)
33	57	6174-0006	00	BLADE BLOCK FOR DIA 44.5	BPS CODE (A3 Size)
34	57	6174-0007	00	BLADE BLOCK FOR DIA 51	BPS CODE (A3 Size)
35	57	6174-0008	00	BLADE BLOCK - I FOR DIA 57 (Chord range 84-101)	BPS CODE (A3 Size)
36	57	6174-0009	00	BLADE BLOCK - II FOR DIA 57 (Chord range 102-114)	BPS CODE (A3 Size)

Table-2:

Standard drawings list available in AutoCAD

Sl.No.	PG	DRAWING NO	REV	DWG TITLE	REMARKS
37	57	6174-0010	00	BLADE BLOCK - I FOR DIA 63 (Chord range 94-106)	BPS CODE (A3 Size)
38	57	6174-0011	00	BLADE BLOCK - IIFOR DIA 63 (Chord range 107-118)	BPS CODE (A3 Size)
39	57	6174-0012	00	BLADE BLOCK FOR DIA 70	BPS CODE (A3 Size)
40	57	6174-0013	00	BLADE BLOCK FOR DIA 76	BPS CODE (A3 Size)
41	57	6174-0014	00	BLADE BLOCK FOR DIA 83	BPS CODE (A3 Size)
42	57	6174-0015	00	BLADE BLOCK FOR DIA 95	BPS CODE (A3 Size)
43	57	4-57-999-01753	00	KEY - ACTUATOR - 12 x 8 x 86	Q Category item
44	57	4-57-999-01754	00	KEY - ACTUATOR - 14 x 9 x 97	Q Category item
45	57	4-57-999-01755	00	KEY - ACTUATOR - 18 x 11 x 129	Q Category item
46	57	4-57-999-01756	00	KEY - ACTUATOR - 20 x 12 x 150	Q Category item
47	57	4-57-999-01757	00	KEY - ACTUATOR - 22 x 14 x 171	Q Category item
48	57	4-57-999-01758	00	KEY - ACTUATOR - 25 x 14 x 203	Q Category item
49	57	4-57-999-01759	00	KEY - ACTUATOR - 36 x 20 x 298	Q Category item
50	57	4-57-999-01760	00	SPROCKET - DRIVE ; DIA 122; BORE 50	Q Category item
51	57	4-57-999-01761	00	SPROCKET - IDLER ; DIA 122; BORE 50	Q Category item
52	57	4-57-999-01762	00	SPROCKET - DRIVE ;DIA 194; BORE 55	Q Category item
53	57	4-57-999-01763	00	SPROCKET - IDLER ; DIA 194; BORE 55	Q Category item
54	57	4-57-999-01764	00	SPROCKET - DRIVE ; DIA 297; BORE 75	Q Category item

Table-2:

Standard drawings list available in AutoCAD

Sl.No.	PG	DRAWING NO	REV	DWG TITLE	REMARKS
55	57	4-57-999-01765	00	SPROCKET - IDLER ; DIA 297; BORE 75	Q Category item
56	57	4-57-999-01766	00	SPROCKET - DRIVE ; DIA 297; BORE 80	Q Category item
57	57	4-57-999-01767	00	SPROCKET - IDLER ; DIA 297; BORE 80	Q Category item
58	57	4-57-999-01768	01	SPROCKET - DRIVE ; DIA 297; BORE 94	Q Category item
59	57	4-57-999-01769	01	SPROCKET - IDLER ; DIA 297; BORE 94	Q Category item
60	57	4-57-999-01770	00	SPROCKET - DRIVE ; DIA 449; BORE 106	Q Category item
61	57	4-57-999-01771	00	SPROCKET - IDLER ; DIA 449; BORE 106	Q Category item
62	57	4-57-999-01772	00	SPROCKET - DRIVE ; DIA 445; BORE 182	Q Category item
63	57	4-57-999-01773	00	SPROCKET - IDLER ; DIA 445; BORE 182	Q Category item
64	57	4-57-999-01774	00	KEY - SPROCKET ; 12 x 8 x 66	Q Category item
65	57	4-57-999-01775	00	KEY - SPROCKET ; 16 x 10 x 90	Q Category item
66	57	4-57-999-01776	00	KEY - SPROCKET ; 20 x 12 x 110	Q Category item
67	57	4-57-999-01777	00	KEY - SPROCKET ; 22 x 14 x 110	Q Category item
68	57	4-57-999-01778	00	KEY - SPROCKET ; 25 x 14 x 110	Q Category item
69	57	4-57-999-01779	00	KEY - SPROCKET ; 28 x 16 x 190	Q Category item
70	57	4-57-999-01780	00	KEY - SPROCKET ; 45 x 25 x 190	Q Category item
71	57	4-57-999-02096	00	STUB SHAFT 25	
72	57	4-57-999-02097	00	STUB SHAFT 32	

Table-2:

Standard drawings list available in AutoCAD

Sl.No.	PG	DRAWING NO	REV	DWG TITLE	REMARKS
73	57	4-57-999-02098	00	STUB SHAFT 38	
74	57	4-57-999-02099	00	STUB SHAFT 44.5	
75	57	4-57-999-02100	00	STUB SHAFT 51	
76	57	4-57-999-02101	00	STUB SHAFT 57	
77	57	4-57-999-02102	02	STUB SHAFT 63	
78	57	4-57-999-02103	00	STUB SHAFT 70	
79	57	4-57-999-02104	00	STUB SHAFT 76	
80	57	4-57-999-02105	00	STUB SHAFT 83	
81	57	4-57-999-02106	00	STUB SHAFT 95	
82	57	4-57-999-02107	00	key -1	
83	57	4-57-999-02108	00	key -2	
84	57	4-57-999-02109	00	key -3	
85	57	4-57-999-02110	00	key -4	
86	57	4-57-999-02111	00	key -5	
87	57	4-57-999-02112	00	key -6	
88	57	4-57-999-02113	00	key -7	
89	57	4-57-999-02114	00	key -8	
90	57	4-57-999-02126	00	STUB SHAFT I 95	

Table-2:

Standard drawings list available in AutoCAD

Sl.No.	PG	DRAWING NO	REV	DWG TITLE	REMARKS
91	57	6174-0001	00	SEAL AIR GASKET	BPS CODE (A4 Size), variants
92	57	6174-0002	00	SEAL AIR COVER PLATE	BPS CODE (A4 Size), variants
93	57	6174-0003	00	ASH HOLE GASKET	BPS CODE (A4 Size), variants
94	57	6174-0004	01	ASH HOLE COVER PLATE	BPS CODE (A4 Size), variants
95	57	4-57-999-03193		BEARING EQUIVALENT CHART	NOT FOR MODELLING
96	57	4-57-999-02115	00	BLADE PIN : DIA 8	
97	57	4-57-999-02116	00	BLADE PIN : DIA 10	
98	57	4-57-999-02117	00	BLADE PIN : DIA 12	
99	57	4-57-999-02118	00	BLADE PIN : DIA 14	
100	57	4-57-999-02119	00	BLADE PIN : DIA 16	
101	57	4-57-999-02120	01	BLADE PIN : DIA 18	
102	57	4-57-999-02121	00	BLADE PIN : DIA 20	
103	57	4-57-999-02122	00	BLADE PIN : DIA 22	
104	57	4-57-999-02123	00	BLADE PIN : DIA 25	
105	57	4-57-999-02124	00	BLADE PIN : DIA 33	
106	57	4-57-999-02130	00	SLAVE SHAFT : DIA 25	
107	57	4-57-999-02131	00	SLAVE SHAFT : DIA 32	
108	57	4-57-999-02132	00	SLAVE SHAFT : DIA 38	
109	57	4-57-999-02133	00	SLAVE SHAFT : DIA 44.5	
110	57	4-57-999-02135	00	SLAVE SHAFT -A : DIA 51	

Table-2:

Standard drawings list available in AutoCAD

Sl.No.	PG	DRAWING NO	REV	DWG TITLE	REMARKS
111	57	4-57-999-02136	00	SLAVE SHAFT -B : DIA 51	
112	57	4-57-999-02137	00	SLAVE SHAFT -A : DIA 57	
113	57	4-57-999-02138	00	SLAVE SHAFT -B : DIA 57	
114	57	4-57-999-02139	00	SLAVE SHAFT -C : DIA 57	
115	57	4-57-999-02140	00	SLAVE SHAFT -A : DIA 63	
116	57	4-57-999-02141	01	SLAVE SHAFT -B : DIA 63	
117	57	4-57-999-02142	00	SLAVE SHAFT -A : DIA 70	
118	57	4-57-999-02143	00	SLAVE SHAFT -B : DIA 70	
119	57	4-57-999-02144	00	SLAVE SHAFT -A : DIA 76	
120	57	4-57-999-02145	00	SLAVE SHAFT -B : DIA 76	
121	57	4-57-999-02146	00	SLAVE SHAFT -A : DIA 83	
122	57	4-57-999-02147	00	SLAVE SHAFT -B : DIA 83	
123	57	4-57-999-02148	00	SLAVE SHAFT -C : DIA 83	
124	57	4-57-999-02149	00	SLAVE SHAFT -A : DIA 95	
125	57	4-57-999-02150	00	SLAVE SHAFT -B : DIA 95	
126	57	4-57-999-02151	00	SLAVE SHAFT -C : DIA 95	
127	57	3-57-013-00193	01	FLOW DIVIDER -220 mm	
128	57	3-57-013-00194	01	FLOW DIVIDER -280 mm	
129	57	3-57-013-00195	01	FLOW DIVIDER - 320 mm	

Table-3: Standard drawings of Guillotine gates (Scanned copy)

Sl. No	Drawing number	Rev no.	Drawing Title	
1	1-48-490-36124	0	PLENUM DUCT (DIA 150)	
2	1-48-490-36125	1	PLENUM DUCT (DIA 200)	
3	1-48-490-36126	0	PLENUM DUCT (DIA 250)	
4	1-48-490-39909	0	PLENUM DUCT (DIA 300)	
5	2-48-270-40816	0	AIR TANK (0.03CUM, 1/2" CONN)	
6	2-48-270-40817	0	AIR TANK (0.05CUM, 3/4" CONN)	
7	2-48-270-40818	2	AIR TANK (0.08CUM, 3/4" CONN)	
8	2-48-270-40819	2	AIR TANK (0.12CUM, 3/4" CONN)	
9	2-48-270-40820	2	AIR TANK (0.22CUM, 1" CONN)	
10	2-48-270-40821	2	AIR TANK (0.40CUM, 1" CONN)	
11	2-48-270-40822	0	AIR TANK (0.65CUM, 1" CONN)	
12	2-48-460-40639	0	TRANSITION DUCT DETAIL DIA6"	
13	2-48-460-40640	0	TRANSITION DUCT DETAIL DIA8"	
14	2-48-460-40641	0	TRANSITION DUCT DETAIL DIA10"	
15	2-48-460-40642	1	TRANSITION DUCT DETAIL DIA12"	
16	2-48-490-40724	1	BLOWER MOUNTING BRACKET ASSY	
17	6174-0027	0	LOCK PLATE I	BPS, A3 SIZE
18	3-48-110-39343	1	LOCK PLATE DETAIL II	
19	6174-0028	0	LOCK PLATE II	BPS, A3 SIZE
20	3-48-110-39345	0	LOCK PLATE DETAIL IV	
21	3-48-110-39365	1	SLOT COVER (BLADE 10)	Drg. has variants
22	3-48-110-39366	1	SLOT COVER (BLADE 12)	Drg. has variants
23	3-48-110-39367	2	SLOT COVER (BLADE 16)	Drg. has variants
24	3-48-110-39368	0	SLOT COVER (BLADE 20)	Drg. has variants
25	6174-0032	0	BLADE LOCK PIN-I	BPS, A3 SIZE
26	3-48-110-39372	0	BLADE LOCK PIN-II&III	
27	6174-0033	0	BLADE LOCK PIN-IV	BPS, A3 SIZE
28	3-48-110-48874	0	SLOT COVER (BLADE 25)	Drg. has variants
29	3-48-270-49178	1	LIMIT SWITCH MOUNTING BRACKET	
30	3-48-270-49359	0	MOUNTING BRACKET FOR SOLENOID	
31	3-48-270-49360	0	SUPPORT	
32	6174-0029	3	CHAIN PIN SHORT	A3 SIZE, BPS, Drg. has variants
33	6174-0030	3	CHAIN PIN LONG	A3 SIZE, BPS, Drg. has variants
34	3-48-460-38626	2	GASKET	Drg. has variants
35	3-48-460-48854	0	STRAIGHT DUCT DETAIL (DIA 150)	
36	3-48-460-48855	0	STRAIGHT DUCT DETAIL (DIA 200)	
37	3-48-460-48856	1	STRAIGHT DUCT DETAIL (DIA 250)	
38	3-48-460-50831	0	STRAIGHT DUCT (DIA 300)	

Table-3: Standard drawings of Guillotine gates (Scanned copy)

Sl. No.	Drawing number	Rev no.	Drawing Title	
39	3-48-810-36544	3	LIMIT SWITCH BRACKET	
40	6174-0025	0	BLADE LOCK I	A4 SIZE, BPS
41	4-48-110-41693	1	BLADE LOCK IV	Drg. has variants
42	4-48-110-41694	0	BLADE LOCK III	
43	6174-0026	0	BLADE LOCK II	A4 SIZE, BPS
44	4-48-270-42790	1	ELECTRICAL COMPONENT ASSY	
45	4-48-270-49397	0	FLANGE (DIA 150)	
46	4-48-270-49398	0	FLANGE (DIA 200)	
47	4-48-270-42399	0	FLANGE (DIA 250)	
48	4-48-270-49411	0	TERMINAL BOX MOUNTING PLATE	
49	4-48-270-49486	0	FLANGE (DIA 300)	
50	2-48-999-45290	2	ISOLATION VALVE	Drg. has variants
51	6174-0031	1	ADJUSTING BOLT	A3 Size, BPS, Drg has variants
52	3-48-003-59763	2	GATE CHAIN (BUSH)	Drg. has variants
53	3-48-003-59764	2	GATE CHAIN (ROLLER)	Drg. has variants
54	4-48-490-35033	2	ROUND	
55	4-48-810-38504	0	HEX.SCREW 1/4"	
56	4-48-820-36340	1	PLUG	Drg. has variants
57	4-48-820-36211	2	STUB	Drg. has variants
58	3-48-460-49179	0	STRAIGHT DUCT DETAIL	
59	3-48-820-34329	1	AIR TANK BRACKET	Drg. has variants
60	3-48-160-68181	0	BRACKET LIMIT SWITCH	
61	3-48-160-68182	0	BRACKET JUNCTION BOX	
62	4-48-160-59638	0	LOCKING BOLT	
63	4-48-160-59644	0	DOVEL PIN	
64	2-95-090-01374	0	WIRING DIAGRAM (used in GMS Index sheet)	
65	3-48-270-61734	2	BEARING BRACKET	
66	3-48-270-61735	0	DUCT SEAL AIR	
67	3-48-270-61736	1	CENTER RESTRAINT	
68	3-48-270-61738	3	DRIVE SHAFT (WELDMENT)	
69	3-48-270-61739	0	FLANGE - SHAFT	
70	3-48-270-61737	0	FLANGE -TUBE	
71	3-48-270-61740	3	NON - DRIVE SHAFT (WELDMENT)	
72	3-48-270-61741	2	NON DRIVE SHAFT	
73	4-48-270-54368	1	ELECTRICAL COMPONENT ASSY	
74	4-48-160-59696	0	LOCKING BOLT	
75	4-48-160-59697	0	DOVEL PIN	
76	2-48-270-45039	0	ELBOW SEAL AIR	
77	4-48-270-56901	0	COVER SEAL AIR	

Table-3: Standard drawings of Guillotine gates (Scanned copy)

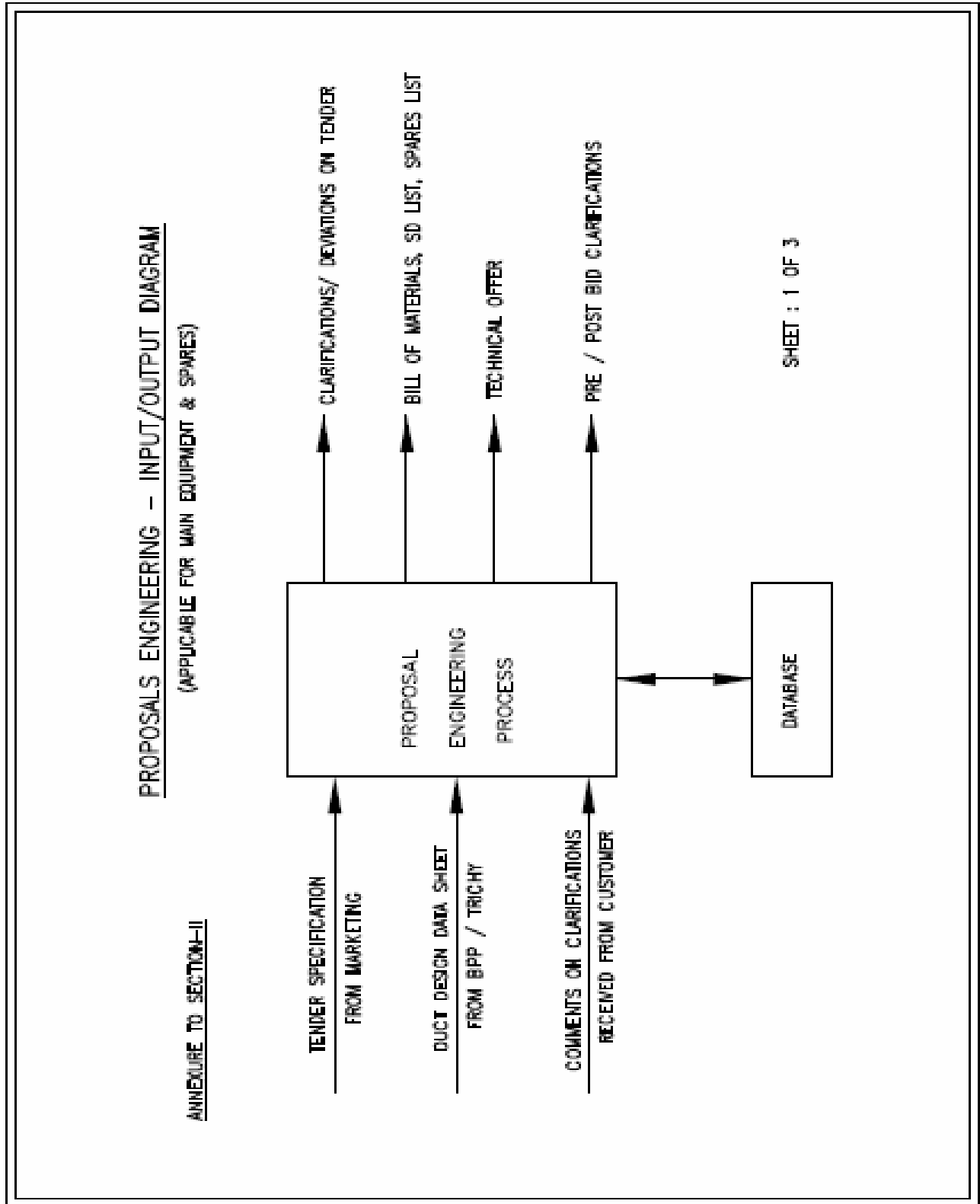
Sl. No.	Drawing number	Rev no.	Drawing Title	
78	2-95-090-01348	0	WIRING DIAGRAM (used in GMS Index sheet)	
79	2-48-660-45109	2	TRANSITION	
80	6174-0021	1	MALE CONNECTOR (1")	A4 SIZE, BPS, Drg has variants
81	6174-0022	1	STRAIGHT UNION (1")	A4 SIZE, BPS, Drg has variants
82	6174-0023	1	EQUAL TEE UNION (1")	A4 SIZE, BPS, Drg has variants
83	6174-0024	1	ST. CONN. 1" x 3/4" NPT(M)	A4 SIZE, BPS, Drg has variants
84	GDQS: 009		TUBE CLIP	A4 SIZE, BPS, Drg has variants
85	GDQS: 010		HOSE ADAPTER	A4 SIZE, BPS, Drg has variants
86	GDQS: 011		JUNCTION BOX	A4 SIZE, BPS, Drg has variants
87	2-48-270-39718		CHECK VALVE	Drg. Has variants
88	GDRS: 001	0	AIR CYLINDER	A4 SIZE, Drg. Has variants
89	GDQS: 003	0	SPROCKET – DIA 228	A4 SIZE

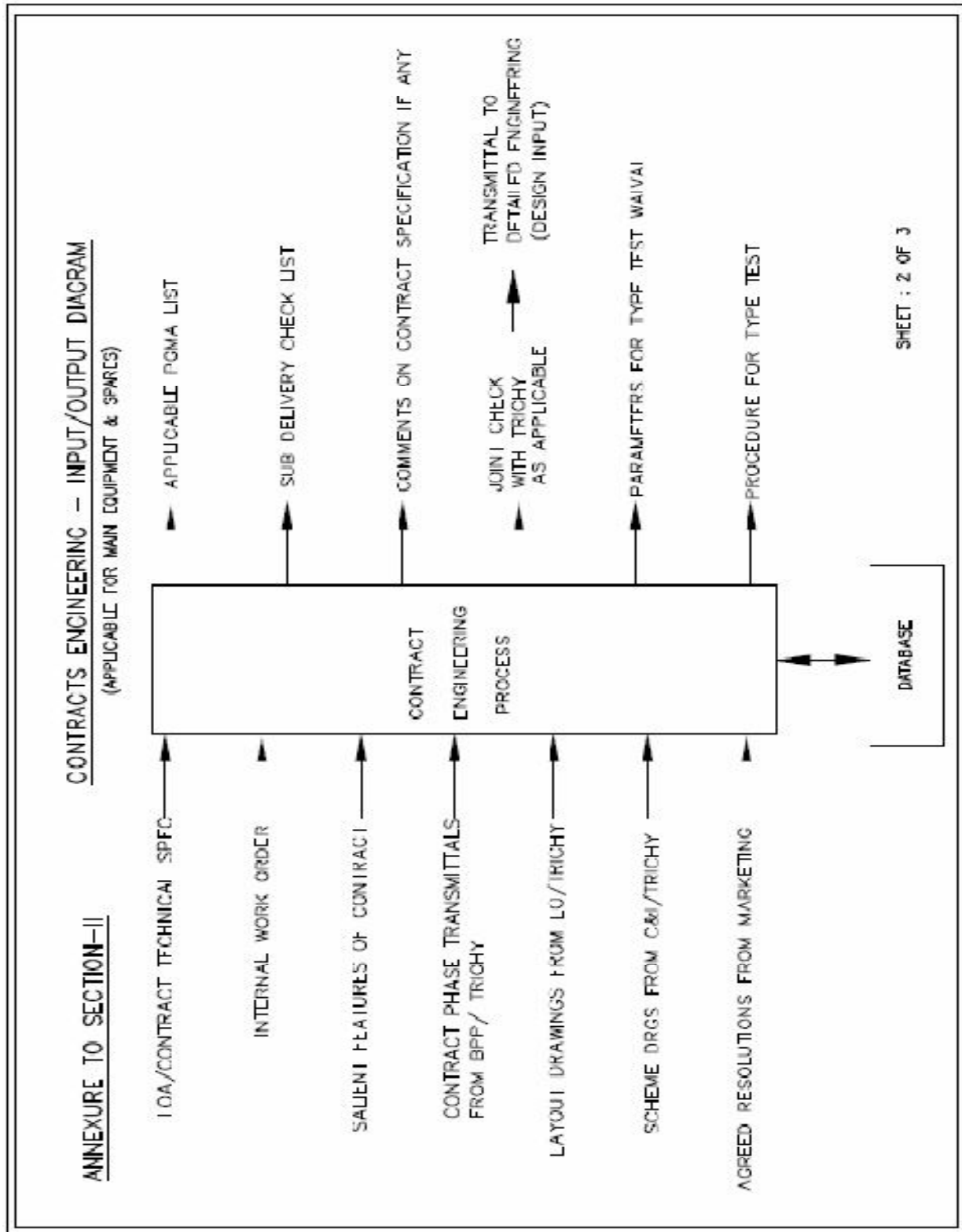
Table-4: Standard drawings of Dampers (Scanned copy)

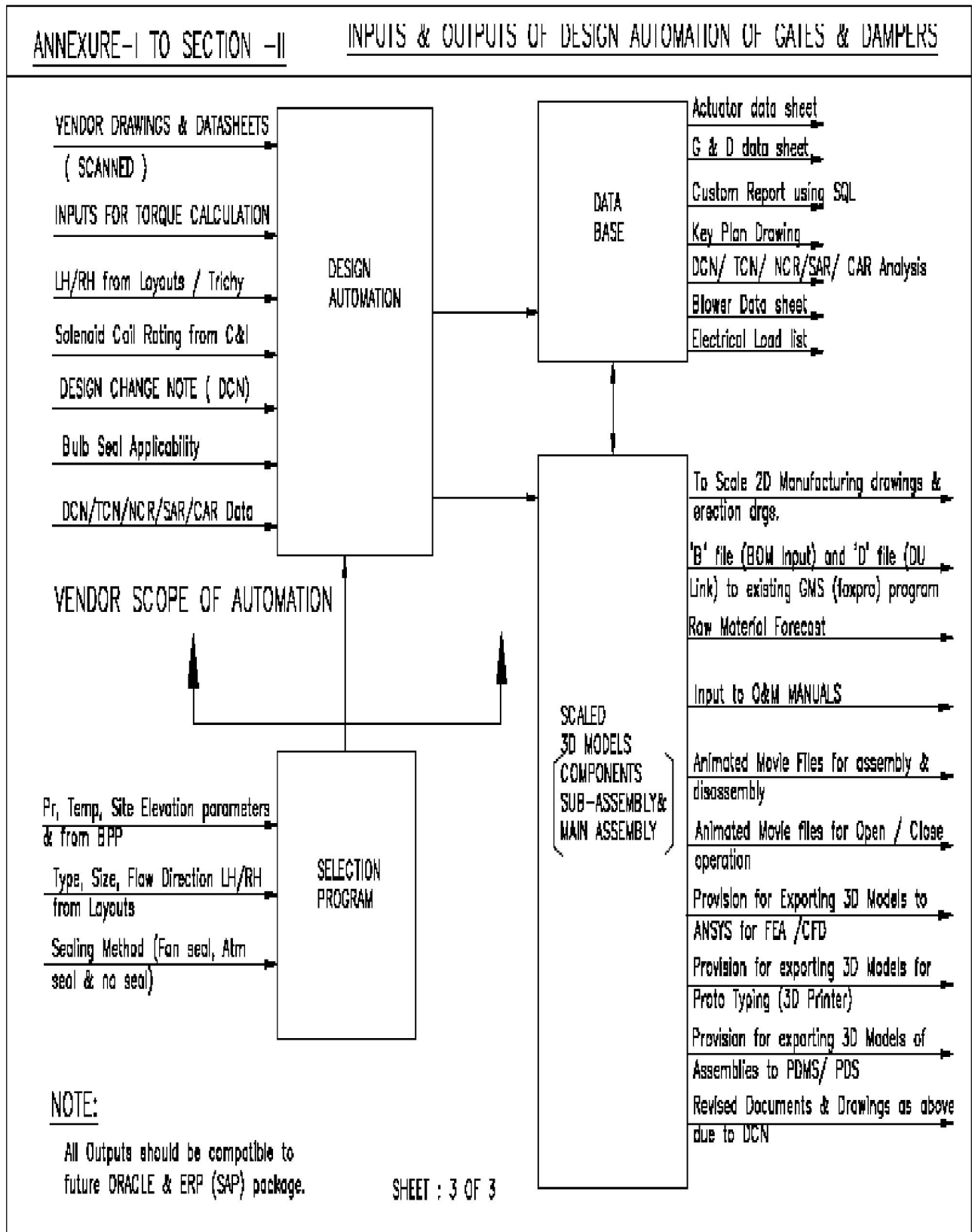
Sl. no.	Drawing number	Revision no.	Drawing Title	Remarks
1	2-48-003-40623	2	LINKAGE BEARING HOLDER	Drg. with variants
2	3-48-003-43244	1	BLADE POSITION INDICATOR	Drg. with variants
3	3-48-003-45848	1	KEY RETAINER	Drg. with variants
4	3-48-003-55853	0	LINKAGE PIN	Drg. with variants
5	3-48-003-55854	0	KNUCKLE (RH)	Drg. with variants
6	3-48-003-55855	0	KNUCKLE (LH)	Drg. with variants
7	3-48-003-55856	0	KNUCKLE (CENTRE)	Drg. with variants
8	3-48-013-33558	6	STUD	Drg. with variants
9	3-48-013-33559	3	GLAND	Drg. with variants
10	3-48-013-33667	1	HEX NUT (LH)	Drg. with variants
11	3-48-013-33866	1	LINKAGE PIN	Drg. with variants
12	3-48-013-34015	0	GLAND	Drg. with variants
13	3-48-203-41526	0	LOCK PIN	
14	4-48-013-35173	4	BEARING HOLDER (for shaft dia 63)	
15	4-48-013-35174	4	GLAND PLATE (for shaft dia 63)	
16	4-48-013-35175	5	FOLLOWER PLATE (for shaft dia 63)	
17	4-48-013-35453	0	HEX NUT M-22 (RH)	
18	4-48-013-35917	5	GLAND PLATE (for shaft dia 76)	
19	4-48-013-35918	6	BEARING HOLDER (for shaft dia 76)	
20	4-48-013-35919	5	FOLLOWER PLATE (for shaft dia 76)	
21	4-48-013-35943	4	GLAND PLATE (for shaft dia 83)	
22	4-48-013-35944	7	BEARING HOLDER (for shaft dia 83)	
23	4-48-013-35945	6	FOLLOWER PLATE (for shaft dia 83)	
24	4-48-013-37960	1	LANTERN RING	
25	4-48-113-35635	5	GLAND PLATE (for shaft dia 57)	
26	4-48-113-35636	0	LANTERN RING DETAIL	
27	4-48-113-35637	4	BEARING HOLDER (for shaft dia 57)	
28	4-48-113-35638	6	FOLLOWER PLATE (for shaft dia 57)	
29	4-48-113-35746	6	GLAND PLATE (for shaft dia 95)	
30	4-48-113-35747	5	BEARING HOLDER (for shaft dia 95)	
31	4-48-113-35748	7	FOLLOWER PLATE (for shaft dia 95)	
32	4-48-113-36074	3	BEARING HOLDER (for shaft dia 25)	
33	4-48-113-36075	4	GLAND PLATE (for shaft dia 25)	
34	4-48-113-36076	4	FOLLOWER PLATE (for shaft dia 25)	
35	4-48-203-35703	4	GLAND PLATE (for shaft dia 38)	

Table-4: Standard drawings of Dampers (Scanned copy)

Sl. no.	Drawing number	Revision no.	Drawing Title	Remarks
36	4-48-203-35704	4	FOLLOWER PLATE (for shaft dia 38)	
37	4-48-203-35705	5	BEARING HOLDER (for shaft dia 38)	
38	4-48-203-35706	0	LANTERN RING	
39	4-48-203-37907	0	LANTERN RING	
40	4-48-203-57182	0	FLANGE	
41	4-48-223-35185	1	LANTERN RING	
42	4-48-223-35670	3	BEARING HOLDER (for shaft dia 51)	
43	4-48-223-35672	7	FOLLOWER PLATE (for shaft dia 51)	
44	4-48-223-35673	5	GLAND PLATE (for shaft dia 51)	
45	4-48-223-35697	2	FOLLOWER PLATE (for shaft dia 32)	
46	4-48-223-35698	3	BEARING HOLDER (for shaft dia 32)	
47	4-48-223-35699	3	GLAND PLATE (for shaft dia 32)	
48	4-48-313-36501	0	LANTERN RING	
49	4-48-433-35686	5	GLAND PLATE (for shaft dia 44.5)	
50	4-48-433-35688	4	BEARING HOLDER (for shaft dia 44.5)	
51	4-48-433-35689	7	FOLLOWER PLATE (for shaft dia 44.5)	
52	4-48-663-36506	0	LANTERN RING	
53	4-48-663-36553	0	LATERN RING DETAIL	
54	4-48-663-37961	1	LANTERN RING	
55	4-48-999-35760	3	BEARING HOLDER (for shaft dia 70)	
56	4-48-999-35761	4	FOLLOWER PLATE (for shaft dia 70)	
57	4-48-999-35762	4	GLAND PLATE (for shaft dia 70)	
58	3-48-003-37991	3	NYLON BUSH	Drg. With variants
59	3-48-003-37988	3	PACKING ROPE	Drg. With variants
60	GDQS: 007	0	SHAFT COLLAR	Drg. With variants
61	6174-0035	0	LEVER BOSS	A3 SIZE, BPS, Drg. with variants







Sl. No.	Item Description	Vendor to Fill-in / confirm
1.0	Deliverables	
1.1	Vendor's Scope of work starting from BHEL inputs for Detailed Design Engineering Automation includes translating and converting the existing Fortran programs and AutoLisp programs as indicated in Section - II.	Yes/No
1.2	Parametrized 3D Models at Part/Sub-assembly/Assembly level for the Types & Variants in Table-1.	Yes/No
1.3	Integrated 3D Model	Yes/No
1.4	Methodology for extraction of Drawings, Reports in Deliverables of Section - II B.	Yes/No
1.5	Documentation as outlined in Section-II	Yes/No
1.6	Submission of All source codes as per Section- II	Yes/No
1.7	Creation of Design Wizard to integrate the various modules	Yes/No
1.8	Generation of Template for O&M Manuals and program for automatic population of Templates	Yes/No
1.9	Project Completion duration as per Clause 6.0 of Section -II is 10 months.	Yes/No
2.0	Reports	
2.1	List of derived documents other than the 2D drawings (BOM Input files, DU Link file, Raw Material forecast and Interference checks.	Yes/No
2.2	The software to be developed is capable of accommodating Size and Material specification modifications of DCN (Design Change Note) after DDR (Design Documentation Release). Modification Report to be generated (including Interference Check and other applicable checks). On Technical acceptability of DCN, the software should yield all applicable revised 3D models, 2D drawings and GMS as applicable to an initial Rev.00 DDR Release.	Yes/No
2.3	If any change in a particular component, then other components requiring change has to be highlighted and a summary report is to be generated.	Yes/No
2.4	If any part gets updated, then that particular part drawing should get updated with new revision number and a summary has to be generated with list of the changes in Part & Part drawings. The particular change has to be updated in BOM file and DU Link file.(Output files used for GMS generation.)	Yes/No

Sl. No.	Item Description	Vendor to Fill-in / confirm
3.0	Conformance to Specification Requirements	
3.1	For every part/assembly, parametric 3D model created using UGS-NX software latest version ?	Yes/No
3.2	Parametrisation in Knowledge fusion and other tools wherever needed for flexibility for maintenance and for scaling up.	Yes/No
3.3	All the basic inputs (independent parameters) to be stored in PLM (TEAM CENTER) as given by BHEL. Suitable ORACLE interface for I/O to be created for KBE software. The input and output to be in suitable approved XML structures	Yes/No
3.4	Provision to preserve identified derived parameters also in PLM (TEAM CENTER), of structure specific to the product, projectwise. Approved XML structure to be employed	Yes/No
3.5	BOM, as per BHEL structure, for every assembly to be preserved in PLM (TEAM CENTER) with proper revision control	Yes/No
3.6	One integrated modeling system created with suitable front end for designer to generate total model as well as individual part/sub-assembly models on need basis	Yes/No
3.7	Multiuser integrated modeling system loadable on the central engineering server with proper access rights controls	Yes/No
3.8	Provision to preserve in TEAM CENTER the actual 3D models and 2D drawings project-wise for revisions	Yes/No
3.9	Provision to easily convert native formatted 2D drawings to PDF format	Yes/No
3.10	Provision to extract the Native format computer files for management through in-house drawing management system	Yes/No
3.11	Complete and detailed technical documentation to be submitted for reference and records at every stage	Yes/No
3.12	All the programming source codes with proper system documents should be submitted at every stage.	Yes/No
3.13	User guidelines to be submitted for every product	Yes/No
3.14	Animated movie files to be created for every assembly depicting the assembly and dismantling process	Yes/No
3.15	Animated movie files to be created for every assembly depicting the OPEN / CLOSE operation.	Yes/No

Sl. No.	Item Description	Vendor to Fill-in / confirm
3.16	Raw Material Forecast as per Section - II	Yes/No
3.17	Migration of existing ACCESS Database to ORACLE and populating them with existing database details and put in TEAM CENTER (PLM) as per Section- II, Clause 4.9, point-9.	Yes/No
3.18	Automation of Proposal stage Estimation as indicated in Section - II, Clause 4.9, point 10.	Yes/No
3.19	Creation of Proposals & Contracts customization in Teamcenter as per Section II, Clause 4.9.	Yes/No
3.20	Provision to take the 3D model data to ANSYS for FEA and CFD for Analysis. Meshing will be done in ANSYS.	Yes/No
3.21	Provision to take the 3D models of Table-1 Assemblies to PDMS/ PDS software for compiling As-Built-Drawings.	Yes/No
3.22	Provision to export the 3D model for Prototyping (3D Printer)	Yes/No
3.23	All units in 'mm' by default unless specified otherwise	Yes/No
3.24	All the drawings generated to be to scale.	Yes/No
3.25	The software features employed should be generic so that the developed system should be executable under any higher versions of UGS without any modifications in the source code. Where unavoidable, the vendor shall list down those features employed that are version dependent	Yes/No
3.26	Mutually agreed colors to be employed both for 3D models as well as 2D drawings. Colors shall be used to distinguish the line types and layers, etc which must be listed down and approved before usage.	Yes/No
4.0	ANNUAL MAINTENANCE CONTRACT includes the following	
4.1	Keeping the Customized software in Working conditions during AMC	Yes/No
4.2	Correction in Customized software, if required, for patches released by UGNX during the AMC.	Yes/No
4.3	Upgradation of Customized software to make it compatible to work with any of the upgrade of UGNX during AMC.	Yes/No

Sl. No.		Item Description	Vendor to Fill-in / confirm
	4.4	Upgradation of Customized software to make it compatible to work with conversion of Part / sub-assemblies by BHEL to BPS CODE items or Q Category Bought out items during AMC.	Yes/No
	4.5	Software developed in 32 bit machine shall be ported to 64 bit machine as and when BHEL goes for 64 bit configuration hardware during AMC period. When the hardware is migrated to 64 bit, the software should work in the new hardware.	Yes/No
	4.6	Payments of AMC charges would be quarterly, as indicated in Section - I.	Yes/No

ANNEXURE - III

Corrigendum to Enquiry No : KBE: DA: G&D: 001. dt. 14.02.2011

Addendum-1 Sl.no.	Tender Specification	Clause No.	Description
1	Section- I Part –A	2b	Clause deleted
2	Section- I Part –A, Clause 12 & Part –B, Article 13	(c) (d)	Sub clause no. (v) modified, Sub clause no.(vii) & Note added. Sub clause modified
3	Section – I Part –A	24	Sub clause (c) added (v) Option of e-mail & courier added.
4	Section – I Part –A	Format – I & II	Added for Bidder reference regarding Reverse Auction
5	Section – I Part –A	25	Annexure –F, Certificate of No Deviation added and shown in Annexure –E.
6	Section – I Part –A	Annexure- B	Modified to indicate Rate of Taxes.
7	Section – I Part –B	Article – 3	Time period revised to Ten (10) months.
8	Section – I Part –B	Article – 6	c) Payment Milestones modified
9	Section – I Part –B	Article – 12 b)	Paragraph modified.
10	Section –II	4.2 to 4.6	Scope of automation covered by existing GW Basic program removed.
11	Section –II	6.2	7) Project duration reduced to 10 months.
12	Section – II	8.0	Supply of two product licenses of UG-NX excluded from vendor scope.
13	Section – II	9.0	Deliverables paragraphs modified
14	Section – II	Table – 3	Ten (10) additional standard drawings added
15	Section - II	Table-4	Four (4) additional standard drawings added
16	Section – II	Annexure – I	Sheet 3 of 3, diagram modified.
17	Section – II	Annexure –II	<u>Check list</u> Clause nos. 1.1, 1.9, 3.17 modified. 3.20 to 3.26 renumbered.