

**BHARAT HEAVY ELECTRICALS LIMITED****(A Govt. Of India Undertaking)**

POWER SECTOR, EASTERN REGION

BHEL BHAWAN, PLOT NO. DJ-9/1, SECTOR II,

SALT LAKE CITY, KOLKATA, WEST BENGAL, INDIA

Phone : 033-23216130-31, 033-23216130 FAX : 033-23211960

NOTICE INVITING TENDER

OFFERS ARE INVITED FROM **REPUTED AND EXPERIENCED "LOCAL" BIDDERS** (meeting pre-qualification criteria as mentioned) **THROUGH E-PROCUREMENT PORTAL <https://bhel.abcprocure.com> ONLY** for THE SUBJECT JOB BY THE UNDERSIGNED ON BEHALF OF BHARAT HEAVY ELECTRICALS LIMITED AS PER THE TENDER DOCUMENT where "LOCAL" is defined as per Public procurement (preference to make in India) order 2017 by Govt. of India, vide order no. P-45021/2/2017-B.E.-II dated 15th June, 2017, & all subsequent clarifications.

ISSUE OF TENDER TO ANY BIDDER SHALL NOT CONSTRUCT THAT THE BIDDER IS CONSIDERED TO BE QUALIFIED. FOLLOWING POINTS RELEVANT TO THE TENDER MAY PLEASE BE NOTED AND COMPLIED WITH:

Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	E-TENDER NUMBER	PSER:PUR:PMX:392:003:(ENQ:20:PP:0015:PUR:5) Date: 30/04/2020
ii	Broad Scope of job	SUPPLY OF BALL VALVES AT 3 X 660 MW NORTH KARANPURA STPP, JHARKHAND. DETAILS AS PER PART- C OF TENDER.
iii	DETAILS OF TENDER DOCUMENT	
a)	PART – B	GENERAL CONDITIONS OF CONTRACT (GCC) <i>Applicable</i>
b)	PART – C	TECHNICAL SPECIFICATION AND SPECIAL CONDITIONS OF CONTRACT (SCC) <i>Applicable</i>
c)	PART – E	PRICE SCHEDULE and UNPRICE SCHEDULE (ABSOLUTE VALUE) <i>Applicable</i>
d)	PART – H	FORMS AND PROCEDURES ETC. <i>Applicable</i>
iv	ISSUE OF TENDER DOCUMENTS	a) Online through e-procurement platform at https://bhel.abcprocure.com/ b) in BHEL website (www.bhel.com , CPP Portal): For tender view purpose only. START DATE: 30/04/2020 <i>a) Applicable</i> <i>b) Applicable</i>
v	DUE DATE & TIME OF OFFER SUBMISSION	Date: 11/05/2020, Time: 15-00 Hrs. (Offer to be submitted online only through e-procurement platform at https://bhel.abcprocure.com/) <i>Applicable</i>
vi	TECHNO-COMMERCIAL BID OPENING OF TENDER	Date: 11/05/2020, Time: 16-00 Hrs. (online only through e-procurement platform at https://bhel.abcprocure.com/, participating bidders may witness the same online only) <i>Applicable</i>
vii	EMD AMOUNT	NA <i>Not Applicable</i>
viii	COST OF TENDER	- <i>Not Applicable</i>
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: 05/05/2020 (UP TO 12:00 Hrs.) <i>Applicable</i>
x	SCHEDULE OF Pre Bid Discussion (PBD)	Not Applicable (In case BHEL decides to conduct PBD, date, time & venue of PBD will be intimated suitably thru TCN). <i>Not Applicable</i>
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	Not Applicable <i>Not Applicable</i>
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com) → Tender Notifications → View Corrigendums & CPP portal → Tender Notice & E-PROCUREMENT PORTAL (https://bhel.abcprocure.com) and not in the newspapers. Bidders to keep themselves updated with all such information. <i>Shall be intimated to bidder</i>

1. The offer shall be submitted as per the instructions of tender document. Only One set of tender document (in **original, downloaded from website**) signed by authorised company rep. of bidder and stamped on each page shall be submitted as detailed further, as given below. Bidders to note specifically that all pages of tender document, including these NIT pages etc. appearing in the website for this particular tender shall be submitted by them (after signing/stamping on each page) as a part of their offer. **Price shall not be mentioned by them anywhere in the techno-commercial portion of offer. Price shall be mentioned in the relevant price schedule only and to be submitted in e-procurement portal/platform in the form and manner mentioned in tender.**

For E-PROCUREMENT ASSISTANCE & TRAINING, M/s E-PROCUREMENT TECHNOLOGIES LIMITED HELPDESK PERSONS AS PER FOLLOWING: -

- a) Mr. Swapnil Hamilton, Support Executive, Ph: +91 7968136867, e-mail ID: swapnil.h@eptl.in
b) Mr. Hardik Oza, Support Executive, Ph: +91 7940270560, e-mail ID: hardik.oza@eptl.in
c) Mr. Ankur Bhatt, Support Executive, Ph: +91 7968136823, e-mail ID: ankur.bhatt@eptl.in
d) Mr. Prashant Rajyaguru, Asst. Manager – Implementation & Support, Ph: +91 7968136872, e-mail ID: prashant@eptl.in

For any difficulty in downloading the tender from internet website, they should contact this office (Sr. Engineer, Purchase or SDGM, Purchase Phone no. 033-23398223/8220). No alteration/changes by bidders is permitted in the tender/NIT appeared in the website.

2. Successful bidder shall have to submit additional set of tender/sign on tender document provided by BHEL, if so decided by BHEL.
3. This is an E-tender floated online through our E-Procurement Site <https://bhel.abcprocure.com>. The bidder should respond by submitting their offer online only in our e-Procurement platform at <https://bhel.abcprocure.com>. Offers are invited in two-parts only. No Hard copy bid or bids through email/ fax shall be accepted. Bids are invited in two parts & shall be submitted as described below:

OFFER DESCRIPTION	DOCUMENTS TO BE UPLOADED & MODALITY OF UPLOADING
TECHNICAL OFFER	- Scanned copy of Covering letter of offer (To be attached in Attachment section) - Scanned copy of Entire tender documents signed & stamped in each page by authorized representative of the bidder except price bid (To be attached in Attachment section). - Scanned copy of Techno-Commercial Offer (To be attached in Attachment section) - Duly filled all annexures except price & unpriced format (To be attached in Attachment section). - Copy of records notes of Pre-Bid Conference, if applicable/ pre-bid MOM. (To be attached in Attachment section) - Copy of Tender change notice (TCN), if applicable (To be attached in Attachment section) - All supporting documents/ Annexures etc. as applicable (To be attached in Attachment section). No deviation certificate in bidder's letterhead as per format given in Tender (To be attached in Attachment section).
PRE-QUALIFICATION PART	9. Pre-qualifying documents with all credentials as per tender. (To be attached in PQ Attachment section)
UNPRICED PRICE BID	10. Price schedule –Unpriced but mentioning only quoted / unquoted against each item as per tender.
PRICE BID	11. Duly filled in Price Schedule as per tender. Any other document uploaded in the price bid, apart from tendered Price schedule, shall not be taken into cognizance for evaluation of offer.

SPECIAL NOTE:

- A) ***Your offer & documents submitted with the offer shall be signed and stamped in each page by your authorized representative. No overwriting/correction in tender documents by bidders shall be allowed. However if correction is unavoidable, the same may be signed by authorized signatory.***
- B) ***All documents/annexure submitted with the offer shall be properly annexed and placed in respective places of the offer as per enclosure list mentioned in the covering letter. BHEL shall not be responsible for any missing documents.***
4. No deviation with respect to tender clauses and no additional clauses/ suggestions/clarification in Techno-commercial bid/Price bid shall normally be considered by BHEL. Bidders are requested to positively comply with the same. Offers with deviation are liable for rejection.

5. BHEL reserves the right to accept or reject any or all offer without assigning any reasons thereof. BHEL also reserve the right to cancel the offer wholly or partly without assigning any reason thereof. BHEL also reserve the right to split/part award the job. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).
6. Bidders are free to visit the site and study the prevailing site condition including law & order etc. before quoting (if applicable). They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions. No additional claim shall be entertained by BHEL in future, on account of non-acquaintance of site/machine conditions at the time of bidding.
7. For any clarification on the tender document, you may seek the same in writing or through e-procurement portal/platform as per specified format within the last date of seeking clarification as per tender. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay, and receipt of any query after due date shall not be entertained.
8. BHEL may decide holding Pre-bid Discussion [PBD] with all intending bidders. On such communication from BHEL, the bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Outcome of PBD (if any) shall also form part of tender.
9. In case of absence of any queries from bidder(s), their quoted price will be PRESUMED to be final and complete with reference to the tender documents (including Tender change notes (TCNs), clarifications, corrigendum issued by BHEL, if any). Bidders are requested to study the tender documents in detail and prepare their queries/clarifications accordingly. All such queries / clarifications shall be cleared/replied by BHEL. Such clarification letters, corrigendum and/or Tender change notes (TCNs), if issued by BHEL, shall form part of tender document.
10. In the event of any conflict between requirement of any clause of this specification/ documents /drawings /data sheets etc. or requirements of different codes/ standards specified/ contradictions between any two clauses of tender document, the same to be brought to the knowledge of BHEL by bidders in writing for clarification before due date of seeking clarification, otherwise, more stringent requirement as may be interpreted by BHEL shall prevail and shall be binding on you. Any typing error/missing pages/other clerical errors in the tender documents, noticed by you must be pointed out before submission of offer, or else, BHEL's interpretation shall prevail & binding on you.
11. Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
12. Tender document containing above mentioned volumes shall be signed & stamped in all pages including this covering letter. Price bid shall be furnished in the specified format enclosed with the tender. Any additional copy, if required, may be taken by photocopying from the tender document given in the web.
13. **The Bidder has to satisfy the Pre-Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened, who will qualify for the subject job on the basis of pre-qualification evaluation & Techno-Commercial bids etc. BHEL reserves the right to reject the bidders with unsatisfactory past performance in the execution of a contract. BHEL's decision in this regard shall be final & binding.**
14. The bidder shall submit documents in support of possession of 'Pre-Qualifying Requirements" duly self-certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately (if applicable).
15. **The bidder may have to produce original document for verification if so decided by BHEL.**
16. While BHEL reserves the right to open the price bid of the offers in camera, the date & time to open the tender opening shall be intimated to the bidders in case BHEL decides it to be 'Public opening' and in such a case, one authorized representative of the bidder shall be allowed to attend.
17. Validity of the offer shall be as per PART-B, CI - 17.
18. Bidders are required to submit their BEST price as per tender Price Schedule format in e-procurement portal/platform in the form & manner as mentioned in tender.
19. Price Bids shall be evaluated in the manner as prescribed in Price Schedule. However, Unit Rates shall also be furnished if applicable in the Price Schedule.
20. **Bid should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.**
21. Taxes and duties shall be as per PART- C of the tender. Statutory variation of taxes and duties (plus or minus) in accordance with Govt. Notifications to the account of BHEL. Any imposition of new / additional Duty / Tax at the time of supply shall be borne by BHEL.
22. *"BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.*

23. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider) as well as 'Online sealed bid' in the Reverse Auction. Non-submission of 'Process compliance form' or 'Online sealed bid' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).
24. The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. The envelope sealed price bid of successful L1 bidder in RA, if conducted, shall also be opened after RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates. In case of enquiry through e-procurement portal/platform, the sealed electronic price bid (e-bid) is to be treated as sealed envelope bid.
25. If it is found that L1 bidder has quoted higher in online seal bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/contractors (as available on www.bhel.com).
26. Reverse Auction is the type of auction typically conducted to buy goods/ items over Internet in which the lowest price bidder wins. In case, the bidders are willing to know the details about the methodology, they may please contact HEAD/PURCHASE OR DY.MANAGER /PURCHASE, BHEL, KOLKATA.
27. **However, if Reverse Auction process is not adopted or Reverse Auction is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the 'PRICE BID' and price impacts (if any), already submitted in e-procurement portal/platform, submitted by the bidder shall be opened for deciding the successful bidder, as per BHEL's standard practice. BHEL's decision in this regard will be final and binding on bidder.**
28. Bidders are requested to note that the accepted / agreed tender terms (technical, commercial or on Reverse Auction) in their original offer cannot be altered / withdrawn by their own during the processing of tender.
29. Unsolicited discounts received after opening of techno commercial bid shall not be considered for evaluation. However, if the party who has submitted the unsolicited discount/rebate becomes the L-1 party, then the awarded price shall be after considering the discount.
30. **"The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com".**
31. **The Bidder along with its associate/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL management about any fraud or suspected fraud as soon as it comes to their notice.**
32. Suspension of Business dealings: BHEL reserves the right to take action against contractors who fail to perform or indulge in malpractices, by suspending business dealings with them as detailed in Annexure-IV.
33. "MSE suppliers can avail the intended benefits in respect of the procurements related to the Goods and Services only (Definition of Goods and Services as enumerated by Govt. of India vide Office Memorandum F. No. 21(8)/2011-MA dtd. 09/11/2016 office of AS & DC, MSME) if they submit along with the offer, attested copies of either EM II certificate having deemed validity (five years from the date of issue of acknowledgement in EM II)/Udyog Aadhar Memorandum(UAM) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure-B where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer."
- Any Bidder falling under MSME category, shall furnish the following details & submit documentary evidence/Govt. Certificate etc. in support of the same along with their techno-commercial offer: -

Type under MSME	SC/ST owned	Others
Micro		
Small		
Medium		

Note: - If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSME category.

34. Indian suppliers, falling under the purview of Public procurement (preference to make in India) order 2017 by Govt. of India, vide order no. P-45021/2/2017-B.E.-II dated 15th June, 2017, & all subsequent clarifications can avail the intended benefits, as per provisions of the order subject to minimum local content shall be 50%, margin of Purchase preference shall be 20% & modality of preference to make in India shall be as per aforesaid order.
35. For this Procurement, Public Procurement (Preference to Make in India) Order 2017 dated 15.06.2017 & 28.05.2018 and subsequent Orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/PO/WO against this NIT. In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and/or local content in respect of this procurement, same shall be applicable.
36. **ORDER OF PRECEDENCE:**
In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:
- AMENDMENTS/CLARIFICATIONS/CORRIGENDA/ERRATA etc issued in respect of the tender documents by BHEL.
 - NOTICE INVITING TENDER (NIT)
 - PRICE SCHEDULE: PART- E
 - TECHNICAL SPECIFICATION/SCOPE AND SPECIAL CONDITIONS OF CONTRACT (SCC)-PART-C
 - GENERAL CONDITIONS OF CONTRACT (GCC)-PART-B
 - FORMS AND PROCEDURES - PART- H

for BHARAT HEAVY ELECTRICALS LTD

Sr. Engineer/ (PUR)

All the bidders are requested to note that all the errata / technical clarifications / corrigendum / extension etc. shall be published THROUGH E-PROCUREMENT PORTAL (<https://bhel.abcprocure.com>) and in website www.bhel.com & <http://eprocure.gov.in>. As such, all the bidders are requested to be in continuous touch with these websites.

Agency	Contact details
BHEL, PSER, Kolkata	Address
	BHARAT HEAVY ELECTRICALS LIMITED, POWER SECTOR – EASTERN REGION 2ND FLOOR, BLOCK-DJ, PLOT- 9/1, SECTOR, SALT LAKE CITY, KOLKATA – 700 091
	Phone no.
	033-23398223, 23398220, 23211690
	FAX no.
	033-23211960
	E-mail ID
	ujjwalh@bhel.in , avijitpan@bhel.in
M/s E-PROCUREMENT TECHNOLOGIES LIMITED	For E-PROCUREMENT ASSISTANCE & TRAINING, M/s E-PROCUREMENT TECHNOLOGIES LIMITED HELPDESK PERSONS AS PER FOLLOWING: - 1) Mr. Swapnil Hamilton, Support Executive, Ph: +91 7968136867, e-mail ID: swapnil.h@eptl.in 2) Mr. Hardik Oza, Support Executive, Ph: +91 7940270560, e-mail ID: hardik.oza@eptl.in 3) Mr. Ankur Bhatt, Support Executive, Ph: +91 7968136823, e-mail ID: ankur.bhatt@eptl.in 4) Mr. Prashant Rajyaguru, Asst. Manager – Implementation & Support, Ph: +91 7968136872, e-mail ID: prashant@eptl.in

Enclosures:

- ANNEXURE-I: Pre qualifying Criteria.
- ANNEXURE-II : No Deviation Certificate
- ANNEXURE-III: Format for seeking clarification
- ANNEXURE-IV: Suspension of business dealing with Suppliers/Contractors
- ANNEXURE-V: Certificate by Chartered Accountant
- ANNEXURE-VI: Declaration for Relation in BHEL
- ANNEXURE-VII: General Terms & conditions for Reverse Auction.
- Tender documents as per this NIT.

PRE-QUALIFICATION CRITERIA

JOB	SUPPLY OF BALL VALVES AT 3 X 660 MW NORTH KARANPURA STPP, JHARKHAND. DETAILS AS PER PART- C OF TENDER.
TENDER NO	PSER:PUR:PMX:392:003:(ENQ:20:PP:0015:PUR:5) Date: 30/04/2020

SL NO	CRITERIA
1.0	FINANCIAL
(a)	BIDDER SHOULD HAVE AVERAGE MINIMUM ANNUAL FINANCIAL TURNOVER OF INR 6.00 LAKH DURING THE LAST 3 (THREE) YEARS, ENDING ON 31-03-2019
(b)	BIDDER MUST HAVE SUBMITTED AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT OF THE COMPANY FOR LAST THREE FINANCIAL YEARS ENDING ON 31-03-2019 NEED TO BE SUBMITTED IN SUPPORT OF ABOVE.
(c)	IN CASE AUDITED BALANCE SHEET AND PROFIT AND LOSS ACCOUNT HAS NOT BEEN SUBMITTED FOR ALL THREE YEARS INDICATED ABOVE THEN THE APPLICABLE FINANCIAL AUDITED STATEMENTS SUBMITTED BY THE BIDDERS AGAINST THE REQUISITE THREE YEARS WILL BE AVERAGED FOR THREE YEARS.
(d)	IF FINANCIAL STATEMENTS ARE NOT REQUIRED TO BE AUDITED STATUTORILY, THEN INSTEAD OF AUDITED FINANCIAL STATEMENTS, FINANCIAL STATEMENTS ARE REQUIRED TO BE CERTIFIED BY CHARTERED ACCOUNTANT.
2.0	TECHNICAL
a)	BIDDER SHOULD HAVE EXPERIENCE OF SUPPLYING BALL VALVES TO ANY GOVT. / PSU/ REPUTED ORGANISATION IN LAST THREE YEARS ENDING ON LATEST DUE DATE OF SUBMISSION OF OFFER. RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED.
b)	BIDDER SHOULD HAVE VALID PAN. RELEVANT DOCUMENT IN SUPPORT OF ABOVE SHALL BE SUBMITTED.
3.0	CONSORTIUM / JV BIDDING IS NOT ALLOWED.
NOTE:	
1.0	THE BIDDER WHO MEETS THE ABOVE PRE-QUALIFICATION CRITERIAN CAN ONLY PARTICIPATE IN THE TENDER.
2.0	BIDDERS QUOTING IN INDIAN CURRENCY (INR) ONLY SHALL BE QUALIFIED.
3.0	BIDDER MUST NOT BE UNDER BANKRUPTCY CODE PROCEEDINGS (IBC) BY NCLT OR UNDER LIQUIDATION / BIFR, WHICH WILL RENDER HIM INELIGIBLE FOR PARTICIPATION IN THIS TENDER, AND SHALL SUBMIT UNDERTAKING TO THIS EFFECT.

NO DEVIATION CERTIFICATE
(TO BE SUBMITTED IN BIDDER'S LETTERHEAD)

To
BHARAT HEAVY ELECTRICALS LIMITED,
Power Sector - Eastern Region,
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
Kolkata – 700 091

Sub	NO DEVIATION CERTIFICATE	
Job	SUPPLY OF BALL VALVES AT 3 X 660 MW NORTH KARANPURA STPP, JHARKHAND. DETAILS AS PER PART- C OF TENDER.	
Ref	1.0	PSER:PUR:PMX:392:003:(ENQ:20:PP:0015:PUR:5) Date: 30/04/2020
	2.0	Other references (if any).

Dear Sir,

With reference to above tender, this is to confirm you that we have gone through each and every terms and conditions mentioned in the enquiry (Terms and Conditions) and we offer our unqualified acceptance of the same. This is also to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc.

We also confirm that we have not changed/modified the tender documents as appeared in the website/newspapers and in case of observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT *and confirm our acceptance to **reverse auctioning process*** and we hereby convey our unqualified acceptance to all terms and conditions as stipulated in the tender and NIT.

It is also confirmed that the price has been quoted in the format received with the enquiry. We confirm that, we do not have any objections to splitting the quantity among the different bidders by BHEL and price shall remain firm till the completion supply of full ordered quantity.

Any deviation found subsequently at any time during execution of order shall be treated null and void.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorised
representative of the contractor)

FORMAT FOR SEEKING CLARIFICATION

Job	SUPPLY OF BALL VALVES AT 3 X 660 MW NORTH KARANPURA STPP, JHARKHAND. DETAILS AS PER PART- C OF TENDER.			
Tender No	PSER:PUR:PMX:392:003:(ENQ:20:PP:0015:PUR:5) Date: 30/04/2020			
Sl. no	Reference clause of tender document	Existing provision	Bidder's query	BHEL's clarification

SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS/ CONTRACTORS

1.0	Suspension of Business dealings with Suppliers/ Contractors
1.1	BHEL reserves the right to take action against Suppliers/ Contractors who fail to perform or indulge in malpractices, by suspending business dealings with them.
1.2	Suspension of business dealings with Suppliers/ Contractors could be in the form of following: -- a) Hold within the unit for specific item(s)/ material category (ies)/ type of work(s) for one year. b) Hold within the unit for all item(s)/ material category(ies)/ type of work(s) for two years c) Banning across BHEL for all items/ material category (ies)/ type of work(s) for three years. The Supplier may be either put on hold or banned, as detailed hereinafter on the basis of one or more of the category wise reasons as enumerated hereunder.
1.3.1	Hold within the unit for a specific item(s)/ material category(ies)/ type of work(s) shall be imposed in the following cases, if i) In the last three consecutive supplies of a specific material category, average quality rating, as provided in the supplier performance rating (SPR) as per SEARP, falls below 80% of the quality weightage. This is irrespective of supplies against PO(s) having single/ multiple delivery schedules. Note: Not applicable in cases for erection works of Power Sector Regions, where separate guidelines for evaluation of capacity of bidders is being followed. ii) Two consecutive delays, for reasons of delay attributed to the Supplier, in execution of the contracts where delay occurred is such that a) prescribed maximum LD time limits of the contracts is exceeded or b) delay period has equaled/ exceeded half the original delivery period specified in the contracts whichever among the above is earlier. iii) a) Overall SPR (Supplier Performance Rating) in that particular Unit in line with SEARP falls below 60% of the specific material category. b) Bids of contractors (in PS-MSX portal) shall not be considered (if average score of last six months falls 60% or below as per guidelines for evaluation of capacity of bidders formula). Note: – for (b), No specific period of hold shall be applicable. Supplier works are under strike/ lockout for a period of more than three months.
1.3.2	Hold within the unit for all item(s)/material category(ies)/ type of work(s) shall be put in the following cases, if i) Supplier tampers with tendering procedure affecting ordering process. ii) Supplier has misused BHEL documents/ drawings/ technical information or has breached the confidentiality agreement with BHEL. iii) after placement of order, Supplier fails to execute the contract. iv) within warranty period as per contract, Supplier continues to supply low/ less/ non-performing equipment/ services, repetitive failures, remains non-responsive. v) Wherever risk purchase clause (amounting to more than 5% of contract value) has been invoked.
1.4	Banning across BHEL shall be imposed in following cases, if
1.4.1	i) After price bid opening but before placement of order, Supplier withdraws his offer or varies it in any manner within the validity period. ii) Supplier is found to be responsible for submitting fake/ false/ forged documents, certificates, or information or misrepresentation/ wilful suppression of facts, or has resorted to unethical, illegal means or has forged BHEL documents, certificates etc. for securing business, meeting PQR or for enlistment in BHEL or with customers other than BHEL. iii) In spite of warnings, the Supplier persistently violates or circumvents the provisions of labour laws/ regulations/ rules or other statutory requirements. iv) Supplier is found to be involved in cartel formation or in any other act so as to influence the bidding process or influence the price. v) The Supplier has indulged in malpractices or misconduct such as bribery, corruption and fraud, pilferage, coercion etc. vi) The Supplier is found guilty by any court of law for criminal activity/ offences involving moral turpitude in relation to business dealings. vii) Supplier is found to have obtained any internal information/ documentation of BHEL by unauthorized means. viii) The foreign Principals along with the representing Agent shall be banned together if information submitted by them about their precise relationship, commission/ remuneration etc. payable/ receivable and other particulars as asked by BHEL, as per the extant guidelines regarding dealing with Agents of Foreign Suppliers is found false/ incorrect, at any stage. ix) Supplier has substituted, damaged, failed to return or unauthorizedly disposed of free issue materials/ tools etc. of
1.4.2	A Supplier can also be banned with the approval of Director (E, R&D) provided a direction to this effect has been received from the administrative ministry of the Government.

Note: Above shall be applicable along with Guidelines for “Suspension of Business dealings with Suppliers/ Contractors” available in BHEL website <http://www.bhel.com>. These shall form part of tender documents.

Certificate by Chartered Accountant on letter head

This is to Certify that M/S
(hereinafter referred to as 'company') having its registered office at is
registered under MSMED Act 2006, (Entrepreneur Memorandum No (Part-II)
..... dtd:..... ,
Category: (Micro /Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the latest audited financial
year as per MSMED Act 2006 is as follows:

1. For Manufacturing Enterprises: Investment in plant and machinery (i.e. original cost excluding land and
building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E)
dated October 5, 2006 :

Rs..... Lacs

2. For Service Enterprises: Investment in equipment (original cost excluding land and building and furniture,
fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act,
2006:

Rs..... Lacs

(Strike off whichever is not applicable)

The above investment of Rs Lacs is within permissible limit of Rs.....Lacs
for..... Micro / Small (Strike off which is not applicable) Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/ Small) (Strike off which is not applicable) and
the date of graduation of such enterprise from its original category is (dd/mm/yyyy) which is within the
period of 3 years from the date of graduation of such enterprise from its original category as notified vide 5.0. No.
3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name-

Membership number –

Seal of Chartered Accountant

DECLARATION FOR RELATION IN BHEL

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder failing which the offer of Bidder is liable to be summarily rejected)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub: **Declaration for relation in BHEL**

Ref : 1) NIT/Tender Specification No:

I/We hereby submit the following information pertaining to relation/relatives of Proprietor/Partner(s)/Director(s) employed in BHEL.

Tick (✓) any one as applicable:

1. The Proprietor, Partner(s), Director(s) of our Company/Firm DO NOT have any relation or relatives employed in BHEL

OR

2. The Proprietor, Partner(s), or Director(s) of our Company/Firm HAVE relation/relatives employed in BHEL and their particulars are as below:

(i)

(ii)

Signature of the Authorized Signatory

Note:

1. Attach separate sheet, if necessary.
2. If BHEL Management comes to know at a later date that the information furnished by the Bidder is false, BHEL reserves the right to take suitable against the Bidder/Contractor.

=====

GENERAL TERMS & CONDITIONS OF REVERSE AUCTION

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e. ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit 'online sealed bid' in the Reverse Auction. Non-submission of 'online sealed bid' by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. 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.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Process Compliance form (**Annexure-III of Business Rule Document of Reverse Auction – shall be shared to bidders along with intimation of RA schedule**) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g. EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, GST and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (**as per Annexure-IV of Business Rule Document of Reverse Auction**) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. In case BHEL decides not to go for Reverse Auction procedure for this 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.
12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the 'Business Rules of Reverse Auction', which will be communicated before the Reverse Auction.
13. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) will not be allowed to participate in further RA process provided minimum three bidders are left after removal of H1 bidder. In case of tie for H1 bid (identical online sealed bids), 15 minutes' additional time shall be provided and all the participating bidders shall be informed by mail/message on bidding screen to enable bidders submit revised online sealed bids so as to break the tie.
16. In case H1 bidder happen to be MSE and was removed from further bidding but is within L1 + 15% band, then this bid shall also be considered and to be processed in line with 'Public Procurement Policy for Micro & Small Enterprises (MSEs) order, 2012'.

PART – B: GENERAL CONDITIONS OF CONTRACT (GCC)

SL. NO.	BHEL STANDARD TERMS	Bidder's confirmation	Deviation
1.	Our requirement is for use at 3 X 660 MW NORTH KARANPURA STPP, JHARKHAND. Techno-commercial & Pre-Q bids shall be opened first & afterwards price bid shall be opened for qualified bidder(s), who have qualified in Techno-commercial & pre-q bids. Tenders will be received up to 15.00 Hours on the said due date. <u>If the vendor submits offer i.e. Technical & Price bid together in single attachment, the offer shall be liable for rejection.</u> <u>Price should be submitted as per tender format only & uploaded in the price section.</u> Note: In order to maintain sanctity of the tender system, it is advised that one Agent cannot represent two suppliers or quote on their behalf in a particular tender. In the tender, either one agent on behalf of the principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for same item/product.		
2.	If any vendor sought to quote through their agents "They have to inform to BHEL in advance, before opening date. Otherwise the offer will be treated as Unsolicited Offer and same will not be opened".		
3.	BHEL keeps its right to reject / load any offer which is having deviations to BHEL Specifications, Standard Terms & Conditions. All the bidders shall submit their offers only by filling the original BHEL tender documents. No other offer will be entertained. In case of Technical-Cum-Commercial bid, copy of the price bid has to be used to indicate commercial terms without price.		
4.	The equipment offered shall be strictly conforming to the specification and for complete unit.		
5.	No offer for individual accessories or part machinery will be accepted.		
6.	<u>PAYMENT TERMS:</u> PAYMENT SHALL BE RELEASED BY BHEL AFTER COMPLETE DELIVERY AT DESTINATION SITE AS PER FOLLOWING T&C :- a) 90 % of Order Value excluding GST shall be payable within 60 days of submission of Original GST invoice along with Original Challan/ Consignment note/ Delivery note duly receipted or SRV from BHEL Consignee site, Original MDCC , Original Warranty Certificate etc. (as applicable). b) 5 % order value including GST shall be payable subject to i. confirmation of full GST credit to BHEL ii. Vendor declaring such Invoice in his GSTR-1 iii. Confirmation of payment of GST thereon by vendor on GSTN Portal iv. Above is subject to receipt of goods / service and tax invoice thereof along with vendor declaring invoice in his return and paying GST within timeline prescribed for availing ITC by BHEL. Any Interest if levied thereon for reasons elaborated in tax & duties clause of the tender and attributable to the bidder, will be recovered from the Final Payment / Retention amount. c) Balance 5% amount shall be retained towards 'Guarantee/ warranty for Material' and shall become refundable after expiry of Guarantee/ warranty period. This portion of the retention amount can be released on commencement of the Guarantee/ warranty period, on submission of equivalent Bank Guarantee. Paying Authority: HEAD/FINANCE, BHEL-PSER, KOLKATA. 'Bill To' address will be same as consignee address with GST No. and all original billing documents to be submitted at Purchase Dept. / BHEL-PSER, Kolkata office.		

	No advance shall be paid. Payment shall be paid in INR only. Payment shall be made through e-payment mode. Successful bidder shall have to submit the requisite details in RTGS format as per tender.		
7.	<u>WARRANTY/GUARANTEE:</u> Guarantee / warranty period shall be 12 month from commissioning or 18 month from supply at site whichever is earlier.		
8.	<u>DELIVERY TERMS:</u> As specified in PART – C OF TENDER. <u>Offer with delivery period beyond tendered delivery schedule shall be liable for rejection.</u> However, in case due to any reasons if the same is accepted by BHEL, the same shall be loaded for the delayed delivery period (in this case after tendered delivery period) & percentage of loading shall be as per clause no 10 of GCC (LD clause).		
9.	<u>DISCOUNTS:</u> Discounts offered by the vendor in price shall not be entertained by BHEL. The vendor should factor in his discount in the price offer only. In spite of the same, if a discount is offered by the bidder, the same shall not be considered for evaluation of the offer, but purchase order shall be issued on bidder's final discounted price.		
10.	<u>LIQUIDATED DAMAGE (LD) :</u> Subject to force majeure, If vendor fails to complete the job as per aforesaid completion/delivery period, BHEL shall have the right to recover as liquidated damages (LD) a sum equivalent to 0.5 % of the order value for delay of each week or part thereof. The liability for delay shall not in any case exceed 10 % (ten percent) of the order value. For this purpose, the period of delay shall be the delay attributable to vendor for completion of job as per contract. In case of LD recovery, the applicable GST shall also be recovered from vendor.		
11.	<u>SECURITY DEPOSIT: Not Applicable</u> <u>PERFORMANCE BANK GUARANTEE: As per Sl. No. 6.</u>		
12.	The sealed tenders super scribing tender number and due date should be addressed to: Sr. Engineer/Purchase, Bharat Heavy Electricals Limited, PSER, BHEL BHAWAN, DJ-9/1, SALT LAKE, SECTOR-II, KOLKATA - 700 091, India.	Not Applicable	
13.	<u>INSPECTION:</u> Details shall be as per PART-C of tender. NTPC inspection of the indented valves will be conducted at manufacturer works as per approved MQP, DS & GA drawing. Bidder will raise inspection call in BHEL CQIR system immediately with material readiness. BHEL will have the option to inspect with conducting of Load/Overload Test etc. the equipment at supplier's works before delivery. The final inspection / performance checking will however be carried out at our site. Bidder must submit quality plan within one month from the date of LOI, to BHEL for its approval.		
14.	<u>CONSIGNEE DETAILS OF THE EQUIPMENT :-</u> "CONSTRUCTION MANAGER, BHEL SITE OFFICE, 3 X 660 MW NTPC NORTH KARANPURA PROJECT, SITE OFFICE: TANDWA, P.O. – TANDWA, DIST. – CHATRA, JHARKHAND, PIN-825321". All documents / correspondences must bear the Tender no. / Purchase Order No. & Date.		

15.	The manufacturing progress will have to be furnished to us periodically in the form and manner required by us.		
16.	Supplier must submit with their offer list of customers (with their full address and their purchase reference number) to whom they have supplied similar machine in the past five years. The year of supply should also be indicated.		
17.	The quotation should be valid at least for a period of <u>NINETY (90) DAYS</u> from the tender due date of submission (extended, if any). Price Variation Clause will not be entertained.		
18.	<u>FORCE MAJEURE :</u> The vendor shall be subject to force majeure clause defined as under : This force majeure is herein defined as any cause which is beyond the control of the tenderer which they would not have foreseen or with a reasonable amount of diligence could not have foreseen and which subsequently affect the performance of the contract such as SRCC (strike riot and civil commotion), earthquake, flood, acts of god, acts of any government, domestic or foreign including but not limited to war. The tenderer shall not be liable for delay in performing his obligation resulting from any force majeure clause as referred to and/or defined above. The date of completion will be subject to hereinafter provided be extended by a reasonable time even though such cause may occur after tenderer's performance of his obligation has been delayed for other causes.		

19.	ARBITRATION & CONCILIATION		
19.1	ARBITRATION :		
19.1.1	Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause 19.2 herein below or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, commence arbitration in respect of such Dispute by issuance of a notice in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice'). The Notice shall contain the particulars of all claims to be referred to arbitration in sufficient detail and shall also indicate the monetary amount of such claim. The arbitration shall be conducted by a sole arbitrator to be appointed by the Head of the BHEL Power Sector Region issuing the Contract within 60 days of receipt of the complete Notice. The language of arbitration shall be English. The Arbitrator shall pass a reasoned award. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder as in force from time to time shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Kolkata (the place from where the contract is Issued). The Contract shall be governed by and be construed as per provisions of the laws of India. Subject to this provision 19.1.1 regarding ARBITRATION, the principal civil court exercising ordinary civil jurisdiction over the area where the seat of arbitration is located shall have exclusive jurisdiction over any DISPUTE to the exclusion of any other court.		
19.1.2	In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable: In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs Disputes) as mentioned in DPE OM No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22-05-2018 as amended from time to time.		
19.1.3	The cost of arbitration shall initially be borne equally by the Parties subject to the final allocation thereof as per the award/order passed by the Arbitrator.		
19.1.4	Notwithstanding the existence of any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner unless the dispute inter-alia relates to cancellation, termination or short-closure of the Contract by BHEL.		
19.2	CONCILIATION: If at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation effect, interpretation or breach of the agreement, contract), which the Parties are unable to settle mutually, arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee (IEC) to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators. Notes: 1. No serving or a retired employee of BHEL/Administrative Ministry of		

	BHEL shall be included in the BHEL Panel of Conciliators. 2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Procedure 2.3 to this GCC (as available in www.bhel.com). The Procedure 2.3 together with its Formats (as available in www.bhel.com) will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this GCC. The Contractor hereby agrees that BHEL may make any amendments or modifications to the provisions stipulated in the Procedure 2.3 (as available in www.bhel.com) to this GCC from time to time and confirms that it shall be bound by such amended or modified provisions of the Procedure 2.3 (as available in www.bhel.com) with effect from the date as intimated by BHEL to it.		
19.3	No Interest payable to Contractor Notwithstanding anything to the contrary contained in any other document comprising in the Contract, no interest shall be payable by BHEL to Contractor on any moneys or balances including but not limited to the Security Deposit, EMD, Retention Money, RA Bills or the Final Bill, or any amount withheld and/or appropriated by BHEL etc., which becomes or as the case may be, is adjudged to be due from BHEL to Contractor whether under the Contract or otherwise.		
20.	JURISDICTION : All disputes or differences arising under out of or in connection with the purchase order shall be subject to the exclusive jurisdiction of court at Kolkata.		
21.	RIGHTS OF BHEL: (A) To withdraw any portion of work/supply and/or to restrict / alter the quantum of work/supply as indicated in the contract during the progress of work/supply and get it done through other agency and/or to suit BHEL's commitment to its customer or in case BHEL decides to advance the date of completion due to other emergency reasons / BHEL's obligation to its customer. (B) To terminate the contract or withdraw portion of work/supply and get it done through other agency, at the risk and cost of the contractor after due notice of a period of 14 days' by BHEL in any of the following cases: - Contractor/Supplier's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor/supplier including unexecuted portion of work/supply does not appear to be executable within balance available (#) period considering its performance of execution. - Withdrawal from or abandonment of the work by contractor before completion of the work as per contract. - Non-completion of work/Non-supply by the Contractor / Supplier within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the contractor/supplier. - Termination of Contract on account of any other reason (s) attributable to Contractor/Supplier. - Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of contract or part thereof by BHEL. - Non-compliance to any contractual condition or any other default attributable to Contractor/ Supplier. (#) In-case inputs from BHEL/Customer are likely to be delayed or are actually delayed, this delay may also be taken into account while considering balance period available for execution of Contract. (C) Risk & Cost Amount against Balance Work: Risk & Cost amount against balance work shall be calculated as follows: $\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$ Where, A= Value of Balance scope of Work/Supply (*) as per rates of new contract B= Value of Balance scope of Work/Supply (*) as per rates of old contract being paid to the contractor / supplier at the time of termination of contract i.e. inclusive of PVC & ORC, if any. H = Overhead Factor to be taken as 5		

	In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero). (*) Balance scope of work / supply (in case of termination of contract): Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work / Supply for calculating risk & cost amount. Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities. Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities. Substitute / extra items whose rates have already been approved would form part of contract quantities for this purpose. Substitute / extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions. However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose. NOTE: In-case portion of work is being withdrawn, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work / supply' for calculating Risk & Cost amount. (D) LD against delay in executed work/ supply in case of Termination of Contract LD against delay in executed work / supply shall calculated in line with LD clause as per GCC/SCC/TCC/Special note/any other annexure of tender document (in compliance with order of precedence), for the delay attributable to contractor / supplier. For this purpose, contract value shall be taken as Executed Value of work / supply for the purpose of limiting the maximum LD value. Method for calculation of "LD against delay in executed work / supply" is given below. i) Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor / supplier = T1 ii) Let the value of executed work / supply till the time of termination of contract = X iii) Let the Total Executable Value of work / supply for which inputs/fronTS were made available to contractor / supplier and were planned for execution till termination of contract = Y iv) Delay in executed work / supply attributable to contractor/supplier i.e. T2=[1-(X/Y)] x T1 v) LD shall be calculated in line with LD clause [as per GCC/SCC/TCC/Special note/any other annexure of tender document (in compliance with order of precedence)] of the Contract for the delay attributable to contractor / supplier taking "X" as Contract Value and "T2" as period of delay attributable to contractor/ supplier. (E) Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor. Following sequence shall be applicable for recoveries from contractor / supplier on whom risk & cost has been invoked, after informing the contractor / supplier of the total proposed recovery : a) Dues available in the form of Bills payable to contractor / supplier, SD, BGs against the same contract. b) Demand notice for deposit of balance recovery amount shall be sent to contractor/ supplier, if funds are insufficient to effect complete recovery against dues indicated in (a) above. c) If contractor / supplier fails to deposit the balance amount to be recovered within the period as prescribed in demand notice, following action shall be taken for balance recovery: i) Dues payable to contractor / supplier against other contracts in the same Region / Unit shall be considered for recovery. ii) If recovery cannot be made out of dues payable to the contractor / supplier as above, balance amount to be recovered, shall be informed to other Regions/Units for making recovery from the Unpaid Bills/Running Bills/SD/BGs/Final Bills of contractor / supplier. iii) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor / supplier.		
--	--	--	--

22.	LOADING FACTORS FOR DEVIATION TO BHEL STANDARD TERMS & CONDITIONS		
i)	Bank Guarantee: Non submission of 10% BG (if applicable) will attract 10% loading on the offers.		
ii)	Penalty Clause: Non acceptance of penalty clause will attract maximum 10% loading on the offer and accordingly proportionate percentage will be loaded for accepting less percentage of penalty clause. Ex: If the supplier has accepted for maximum 5% penalty clause, then balance 5% will be loaded.		
iii)	For all other Terms & Conditions, if the offer is not confirming to the same, BHEL at its discretion shall load the same and the loading pattern shall be intimated to the bidders before price bid opening. However BHEL reserves the right to cancel a bid in case of non-acceptance of any terms and conditions finally arrived before price bid opening.		
23	Note: The offers not complying the above Terms & Conditions will not be accepted.		

Note:

01. In case of any conflict / inconsistency in any clause of the tender or between various sections of the tender, bidder should bring the same in writing to BHEL for clarification before submission of the bid, failing which the most stringent interpretation of the clause in favour of BHEL shall be adopted and the same shall be binding to the bidder.
02. Any deviation sought by the bidder should be indicated in the techno-commercial offer.
03. **Bidder should write “accepted” in the column “Bidder’s confirmation” for each clause, if the conditions are agreeable or else should write the deviations sought in “Bidder’s Deviation(if any)” column. Offers with deviation are liable for rejection.**
04. If any clause left blank, shall be presumed that the clause is accepted by the bidder.

SIGNATURE OF THE BIDDER WITH SEAL AND DATE

PART-C: TECHNICAL SPECIFICATION AND SPECIAL CONDITIONS OF CONTRACT (SCC)**SPECIAL CONDITIONS OF CONTRACT**

- BIDDER SHOULD QUOTE FREIGHT CHARGES. IF BIDDER DOES NOT QUOTE/INDICATE THE PRICE FOR FREIGHT CHARGES AGAINST INDICATED RATE SCHEDULE, THE SAME SHALL BE CONSIDERED AS 2% OF BASIC PRICE AND ADJUSTED WITH THE TOTAL QUOTED PRICE AGAINST EACH ITEM KEEPING THE TOTAL QUOTED PRICE UNALTERED.
- VALVES SHOULD BE DISPATCHED WITHIN 10 DAYS OF MDCC ISSUED BY NTPC/BHEL.
- VALVES SHOULD BE PROCURED FROM NTPC/BHEL APPROVED MANUFACTURER QUALITY PLAN, DATA SHEET AND GA DRAWING. NTPC INSPECTION OF THE INDENTED VALVES WILL BE CONDUCTED AT MANUFACTURER WORKS AS PER APPROVED MQP, DS & GA DRAWING.
- SUPPLY VALIDITY OF AFORESAID VALVES SHALL BE EIGHT (08) MONTHS FROM DATE OF ISSUANCE OF PO.
- MATERIALS SHOULD BE DIRECTLY DISPATCHED FROM MANUFACTURE WORKS TO PROJECT SITE.
- ALL MATERIALS SHOULD BE ACCOMPANIED WITH GUARANTEE CERTIFICATE, MANUFACTURERS TEST CERTIFICATE AND ISSUANCE MDCC FROM NTPC/BHEL.
- BIDDER SHOULD SUPPLY INDENTED VALVES WHICH WOULD PREFERABLY FROM THE FOLLOWING CUSTOMER RECOMMENDED MANUFACTURER OF VALVES
 - PES
 - L&T VALVES
 - MICROFINISH
 - WEIR BDK
 - FLOW CHEM
 - HAWA ENGINEERING

HOWEVER VALVES OF ANY OTHER MAKE SHALL BE SUBJECT TO APPROVAL OF CUSTOMER/ OWNER. DETAILS/LITERATURE OF SUCH VALVES SHALL BE SUBMITTED WITH THE TECHNICAL BID/OFFER ALONG WITH THEIR CREDENTIALS/CERTIFICATES FROM USER (IN LAST 7 YEARS).
- Evaluation & awarding shall be done on all inclusive **"Total F.O.R. destination price (Basic + Freight) excluding GST"** for all items shall be considered for evaluation. GST shall be payable extra, as applicable. Bidder shall quote for all the items, otherwise the offer may be liable for rejection.
- M/s Unitech Machines Ltd. (M/s UML) is not eligible to quote in this tender.**

TECHNICAL SPECIFICATIONS OF VALVE

SL. NO	ITEM	SPECIFICATION	QTY (LYT)
1.	Ball Valve - 80NB, Manual	As per DS & GA drg.	5
2.	Ball Valve - 200NB, Class 150, Motorized	As per DS & GA drg.	3
3.	Ball Valve - 250NB, Class 150, Manual	As per DS & GA drg	1
4.	Ball Valve - 150NB, Class 150, Manual	As per DS & GA drg	1
5.	Ball Valve - 50NB, Class 150, Manual	As per DS & GA drg	1
6.	Ball Valve - 25NB, Class 150, Manual	As per DS & GA drg	1
7.	Ball Valve - 15NB, Class 150, Manual	As per DS & GA drg	1
8.	Ball Valve - 200NB, Class 150, Manual	As per DS & GA drg	2

				PAGE NO. 1 OF 3	
15/11/17	0	SUBMISSION FOR APPROVAL	BHARAT	BHARAT	SM
Date	Rev	Description of Revision	ALT	CHD	APPD
PROJECT		3X660 MW NORTH KARANPURA STPP (UNIT NO. 1, 2 & 3)			
		CUSTOMER NATIONAL THERMAL POWER CORPORATION LIMITED			
		CONTRACTOR BHARAT HEAVY ELECTRICALS LTD PS-PEM, PPEI-BUILDING, SECTOR-16A, PLOT NO. 25, NOIDA-201301			
		FOHS SUPPLIER UNITECH MACHINES LIMITED UM HOUSE" PLOT NO. 35P, SECTOR - 44, GURGAON - 122002			
JOB No.	405	NTPC Doc. No. 4410-001-131-FO-PVM-Y-005A			Rev: 00
STATU	CONTRACT	BHEL Doc. PE-V0-405-166-A015			Rev: 00
		UML Doc. No P332-FO-PVM-Y-005A			Rev: 00
PACKAGE		FUEL OIL UNLOADING & STORAGE SYSTEM			
TITLE		TDS & GA for Ball Valve for OWS of FO System			
PREPARED BY		BHARAT		15/11/2017	
CHECKED BY		BHARAT		15/11/2017	
APPROVED BY		SM		15/11/2017	

(WE RESERVE THE RIGHT TO CHANGE DESIGN AND TECHNICAL DATA FURNISHED HERE DUE TO CONTINUOUS PRODUCT DEVELOPMENT)																																																																											
1		2		3		4		5		6		7		8																																																													
Technical Data : Manufacturing Std. : BS 5351 Face to Face : ASME B16.10 End Connection : Flanged Ends to ASME B16.5 RF 150# Inspection and Testing Std. : BS EN 12266-I NOTES: 1) FIRE SAFE TEST AS PER API - 607 5TH EDITION WITH ANTISTATIC DEVICE (SS304) 2) VALVES ARE BIDIRECTIONAL 3) TESTING AND INSPECTION SHALL BE AS PER APPROVED NTPC QAP 4) OPEN AND CLOSING POSITION INDICATOR SHALL BE MARKED ON HANDLE																																																																											
REFERENCE DOC FOR QUANTITY AND LOCATION OF VALVES: 1. 4410-001-131-FO-PVM-B-015, GAD OF OWS NTPC Doc. No. 4410-001-131-FO-PVM-Y-005A BHEL Doc. PE-V0-405-166-A015A UML Doc. No P332-FO-PVM-Y-005A																																																																											
TEST PRESSURE <table border="1"> <thead> <tr> <th>TESTING</th> <th>BODY</th> <th>SEAT</th> </tr> </thead> <tbody> <tr> <td>HYDRAULIC</td> <td>32 Kg/Cm²</td> <td>22 Kg/Cm²</td> </tr> <tr> <td>PNEUMATIC</td> <td>-----</td> <td>7 Kg/Cm²</td> </tr> </tbody> </table> WORKING TEMPERATURE - AMBIENT DESIGN TEMPERATURE - 50 DEG. C WORKING PRESSURE - ATMOSPHERIC DESIGN PRESSURE - 7.5 KG/CM²																TESTING	BODY	SEAT	HYDRAULIC	32 Kg/Cm ²	22 Kg/Cm ²	PNEUMATIC	-----	7 Kg/Cm ²																																																			
TESTING	BODY	SEAT																																																																									
HYDRAULIC	32 Kg/Cm ²	22 Kg/Cm ²																																																																									
PNEUMATIC	-----	7 Kg/Cm ²																																																																									
All dimensions are in M.M. <table border="1"> <thead> <tr> <th>SIZE</th> <th>80</th> </tr> </thead> <tbody> <tr> <td>Port</td> <td>74</td> </tr> <tr> <td>L</td> <td>203</td> </tr> <tr> <td>øD</td> <td>190</td> </tr> <tr> <td>b</td> <td>17.5</td> </tr> <tr> <td>øg</td> <td>127</td> </tr> <tr> <td>f</td> <td>2</td> </tr> <tr> <td>øJ</td> <td>19.05</td> </tr> <tr> <td>N</td> <td>4</td> </tr> <tr> <td>K:PCD.</td> <td>152.4</td> </tr> <tr> <td>QTY.</td> <td>01</td> </tr> </tbody> </table>																SIZE	80	Port	74	L	203	øD	190	b	17.5	øg	127	f	2	øJ	19.05	N	4	K:PCD.	152.4	QTY.	01																																						
SIZE	80																																																																										
Port	74																																																																										
L	203																																																																										
øD	190																																																																										
b	17.5																																																																										
øg	127																																																																										
f	2																																																																										
øJ	19.05																																																																										
N	4																																																																										
K:PCD.	152.4																																																																										
QTY.	01																																																																										
<table border="1"> <thead> <tr> <th>P. No.</th> <th>Qty.</th> <th>Nomenclature</th> <th>Material</th> </tr> </thead> <tbody> <tr> <td>14</td> <td>Req.</td> <td>Body studs & Nuts</td> <td>Carbon Steel</td> </tr> <tr> <td>13</td> <td>1</td> <td>Sleeve</td> <td>PVC</td> </tr> <tr> <td>12</td> <td>1</td> <td>Handle</td> <td>Carbon Steel</td> </tr> <tr> <td>11</td> <td>1</td> <td>Stem nut</td> <td>SS 316</td> </tr> <tr> <td>10</td> <td>1</td> <td>Gland nut</td> <td>SS 316</td> </tr> <tr> <td>9</td> <td>Req.</td> <td>Gland packings</td> <td>PTFE</td> </tr> <tr> <td>8</td> <td>1</td> <td>Stem packing</td> <td>PTFE</td> </tr> <tr> <td>7</td> <td>1</td> <td>Body seal</td> <td>PTFE</td> </tr> <tr> <td>6</td> <td>2</td> <td>Ball seals</td> <td>PTFE</td> </tr> <tr> <td>5</td> <td>1</td> <td>Gland</td> <td>SS 316</td> </tr> <tr> <td>4</td> <td>1</td> <td>Stem</td> <td>SS 316</td> </tr> <tr> <td>3</td> <td>1</td> <td>Ball</td> <td>ASTM A351 Gr. CF8M</td> </tr> <tr> <td>2</td> <td>1</td> <td>Connector</td> <td>ASTM A216 Gr. WCB</td> </tr> <tr> <td>1</td> <td>1</td> <td>Body</td> <td>ASTM A216 Gr. WCB</td> </tr> </tbody> </table>																P. No.	Qty.	Nomenclature	Material	14	Req.	Body studs & Nuts	Carbon Steel	13	1	Sleeve	PVC	12	1	Handle	Carbon Steel	11	1	Stem nut	SS 316	10	1	Gland nut	SS 316	9	Req.	Gland packings	PTFE	8	1	Stem packing	PTFE	7	1	Body seal	PTFE	6	2	Ball seals	PTFE	5	1	Gland	SS 316	4	1	Stem	SS 316	3	1	Ball	ASTM A351 Gr. CF8M	2	1	Connector	ASTM A216 Gr. WCB	1	1	Body	ASTM A216 Gr. WCB
P. No.	Qty.	Nomenclature	Material																																																																								
14	Req.	Body studs & Nuts	Carbon Steel																																																																								
13	1	Sleeve	PVC																																																																								
12	1	Handle	Carbon Steel																																																																								
11	1	Stem nut	SS 316																																																																								
10	1	Gland nut	SS 316																																																																								
9	Req.	Gland packings	PTFE																																																																								
8	1	Stem packing	PTFE																																																																								
7	1	Body seal	PTFE																																																																								
6	2	Ball seals	PTFE																																																																								
5	1	Gland	SS 316																																																																								
4	1	Stem	SS 316																																																																								
3	1	Ball	ASTM A351 Gr. CF8M																																																																								
2	1	Connector	ASTM A216 Gr. WCB																																																																								
1	1	Body	ASTM A216 Gr. WCB																																																																								
CLIENT M/s. UNITECH MACHINES LTD P.O. No. P-332/B/17/00218 dt. 06.11.2017 Project : 3X600 MW North Karanpura STPP, Jharkhand DRAWN BY AFZAL CHK. BY APPD. BY DATE 09/11/17 SCALE N. T. S.																																																																											
AMENDMENT/REVISION <table border="1"> <thead> <tr> <th>NO.</th> <th>NAME</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> </tbody> </table>																NO.	NAME	1																																																									
NO.	NAME																																																																										
1																																																																											
DATE																																																																											



AN ISO 9001 COMPANY

Hava Engineers Ltd.

AHMEDABAD

DRG. NO.

TITLE ASSEMBLY OF 2Pc. 150# FLANGED ENDS
EXTENDED STEM FULL BORE BALL VALVE.

HEL/2BV/EXT/FB/150#/D

(WE RESERVE THE RIGHT TO CHANGE DESIGN AND TECHNICAL DATA FURNISHED HERE DUE TO CONTINUOUS PRODUCT DEVELOPMENT)																																																																											
1		2		3		4		5		6		7		8																																																													
Technical Data : Manufacturing Std. : BS 5351 Face to Face : ASME B16.10 End Connection : Flanged Ends to ASME B16.5 RF 150# Inspection and Testing Std. : BS EN 12266-I																																																																											
NOTES: 1) FIRE SAFE TEST AS PER API - 607 5TH EDITION WITH ANTISTATIC DEVICE (SS304) 2) VALVES ARE BIDIRECTIONAL 3) TESTING AND INSPECTION SHALL BE AS PER APPROVED NTPC QAP 4) OPEN AND CLOSING POSITION INDICATOR SHALL BE MARKED ON HANDLE																																																																											
REFERENCE DOC FOR QUANTITY AND LOCATION OF VALVES: 1. 4410-001-131-FO-PVM-B-015, GAD OF OWS NTPC Doc. No. 4410-001-131-FO-PVM-Y-005A BHEL Doc. PE-V0-405-166-A015A UML Doc. No P332-FO-PVM-Y-005A																																																																											
TEST PRESSURE <table border="1"> <thead> <tr> <th>TESTING</th> <th>BODY</th> <th>SEAT</th> </tr> </thead> <tbody> <tr> <td>HYDRAULIC</td> <td>32 Kg/Cm²</td> <td>22 Kg/Cm²</td> </tr> <tr> <td>PNEUMATIC</td> <td>-----</td> <td>7 Kg/Cm²</td> </tr> </tbody> </table>																TESTING	BODY	SEAT	HYDRAULIC	32 Kg/Cm ²	22 Kg/Cm ²	PNEUMATIC	-----	7 Kg/Cm ²																																																			
TESTING	BODY	SEAT																																																																									
HYDRAULIC	32 Kg/Cm ²	22 Kg/Cm ²																																																																									
PNEUMATIC	-----	7 Kg/Cm ²																																																																									
WORKING TEMPERATURE - AMBIENT DESIGN TEMPERATURE - 50 DEG. C WORKING PRESSURE - ATMOSPHERIC DESIGN PRESSURE - 7.5 KG/CM2																																																																											
All dimensions are in M.M. <table border="1"> <thead> <tr> <th>SIZE</th> <th>80</th> </tr> </thead> <tbody> <tr> <td>Port</td> <td>74</td> </tr> <tr> <td>L</td> <td>203</td> </tr> <tr> <td>øD</td> <td>190</td> </tr> <tr> <td>b</td> <td>17.5</td> </tr> <tr> <td>øg</td> <td>127</td> </tr> <tr> <td>f</td> <td>2</td> </tr> <tr> <td>øJ</td> <td>19.05</td> </tr> <tr> <td>N</td> <td>4</td> </tr> <tr> <td>K:PCD.</td> <td>152.4</td> </tr> <tr> <td>QTY.</td> <td>01</td> </tr> </tbody> </table>																SIZE	80	Port	74	L	203	øD	190	b	17.5	øg	127	f	2	øJ	19.05	N	4	K:PCD.	152.4	QTY.	01																																						
SIZE	80																																																																										
Port	74																																																																										
L	203																																																																										
øD	190																																																																										
b	17.5																																																																										
øg	127																																																																										
f	2																																																																										
øJ	19.05																																																																										
N	4																																																																										
K:PCD.	152.4																																																																										
QTY.	01																																																																										
<table border="1"> <thead> <tr> <th>P. No.</th> <th>Qty.</th> <th>Nomenclature</th> <th>Material</th> </tr> </thead> <tbody> <tr> <td>14</td> <td>Req.</td> <td>Body studs & Nuts</td> <td>Carbon Steel</td> </tr> <tr> <td>13</td> <td>1</td> <td>Sleeve</td> <td>PVC</td> </tr> <tr> <td>12</td> <td>1</td> <td>Handle</td> <td>Carbon Steel</td> </tr> <tr> <td>11</td> <td>1</td> <td>Stem nut</td> <td>SS 316</td> </tr> <tr> <td>10</td> <td>1</td> <td>Gland nut</td> <td>SS 316</td> </tr> <tr> <td>9</td> <td>Req.</td> <td>Gland packings</td> <td>PTFE</td> </tr> <tr> <td>8</td> <td>1</td> <td>Stem packing</td> <td>PTFE</td> </tr> <tr> <td>7</td> <td>1</td> <td>Body seal</td> <td>PTFE</td> </tr> <tr> <td>6</td> <td>2</td> <td>Ball seals</td> <td>PTFE</td> </tr> <tr> <td>5</td> <td>1</td> <td>Gland</td> <td>SS 316</td> </tr> <tr> <td>4</td> <td>1</td> <td>Stem</td> <td>SS 316</td> </tr> <tr> <td>3</td> <td>1</td> <td>Ball</td> <td>ASTM A351 Gr. CF8M</td> </tr> <tr> <td>2</td> <td>1</td> <td>Connector</td> <td>ASTM A216 Gr. WCB</td> </tr> <tr> <td>1</td> <td>1</td> <td>Body</td> <td>ASTM A216 Gr. WCB</td> </tr> </tbody> </table>																P. No.	Qty.	Nomenclature	Material	14	Req.	Body studs & Nuts	Carbon Steel	13	1	Sleeve	PVC	12	1	Handle	Carbon Steel	11	1	Stem nut	SS 316	10	1	Gland nut	SS 316	9	Req.	Gland packings	PTFE	8	1	Stem packing	PTFE	7	1	Body seal	PTFE	6	2	Ball seals	PTFE	5	1	Gland	SS 316	4	1	Stem	SS 316	3	1	Ball	ASTM A351 Gr. CF8M	2	1	Connector	ASTM A216 Gr. WCB	1	1	Body	ASTM A216 Gr. WCB
P. No.	Qty.	Nomenclature	Material																																																																								
14	Req.	Body studs & Nuts	Carbon Steel																																																																								
13	1	Sleeve	PVC																																																																								
12	1	Handle	Carbon Steel																																																																								
11	1	Stem nut	SS 316																																																																								
10	1	Gland nut	SS 316																																																																								
9	Req.	Gland packings	PTFE																																																																								
8	1	Stem packing	PTFE																																																																								
7	1	Body seal	PTFE																																																																								
6	2	Ball seals	PTFE																																																																								
5	1	Gland	SS 316																																																																								
4	1	Stem	SS 316																																																																								
3	1	Ball	ASTM A351 Gr. CF8M																																																																								
2	1	Connector	ASTM A216 Gr. WCB																																																																								
1	1	Body	ASTM A216 Gr. WCB																																																																								
CLIENT M/s. UNITECH MACHINES LTD P.O. No. P-332/B/17/00218 dt. 06.11.2017 Project : 3X600 MW North Karanpura STPP, Jharkhand																																																																											
DRAWN BY AFZAL CHK. BY APPD. BY DATE 09/11/17 SCALE N. T. S.																																																																											
AMENDMENT/REVISION <table border="1"> <thead> <tr> <th>NO.</th> <th>NAME</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> </tr> </tbody> </table>																NO.	NAME	1																																																									
NO.	NAME																																																																										
1																																																																											
DATE																																																																											



AN ISO 9001 COMPANY

Hava Engineers Ltd.

AHMEDABAD

DRG. NO.

TITLE ASSEMBLY OF 2Pc. 150# FLANGED ENDS
EXTENDED STEM FULL BORE BALL VALVE.

HEL/2BV/EXT/FB/150#/D1

8

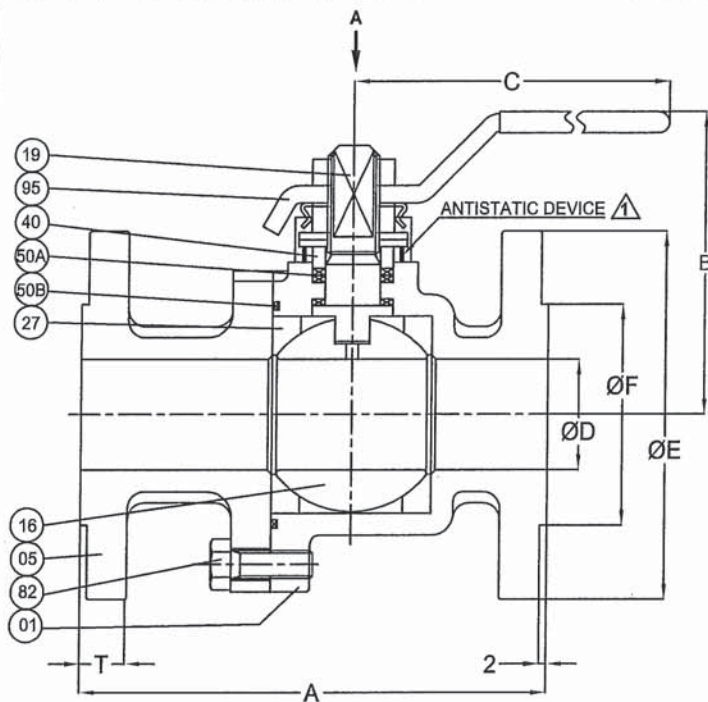
COMPLIANCE REPORT**07/03/2016**

CLIENT	M/S NTPC	
CONTRACTOR	M/S BHEL	
PROJECT	NORTH KARANPURA THERMAL POWER PROJECT	
PACKAGE	FUEL OIL HANDLING AND STORAGE	
FUEL OIL HANDLING CONTRACTOR	UNITECH MACHINES LIMITED, GURGAON	
REFERENCE DOC. NO.	NTPC DOC NO. 4410-131-FO-PVM-Y-005 R-01 BHEL DOC NO. PE-V0-405-166-A013 R-01 GAD AND DATASHEET OF BALL VALVE FOR FOHS	
S. NO.	NTPC COMMENTS DATED 07/03/2016	BHEL / UML REPLY DATED 07/03/2016
1	ALL PAGES BALL MATERIAL SHALL BE : SS-AISI-316	BALL MATERIAL SPECIFIED IN DATASHEET (ASTM A 276 TYPE 316 OR ASTM A 351 GR. CF8M / ASTM A182 GR. F316) IS SS316 ONLY AS PER NTPC SPECIFICATION AND IS IN ORDER. NO CHANGE IS REQUIRED.
2	INCLUDE WORKING PRESSURE & TEMPERATURE, DESIGN PRESSURE & TEMPERATURE,	MAXIMUM OPERATING PRESSURE IN THE SYSTEM IS 5.0 KG/CM² (RV SET PRESSURE OF LDO UNLOADING PUMPS). THIS IS CONSIDERED AS WORKING PRESSURE FOR ALL THE VALVES LDO SYSTEM DO NOT HAVE ANY HEATING FACILITY. WORKING TEMPERATURE IS AMBIENT. DESIGN PRESSURE IS CONSIDERED AS 1.5 TIMES THE WORKING PRESSURE I.E. 7.5 KG/CM² DESIGN TEMPERATURE IS CONSIDERED AS 50 DEG. C FURTHER, VALVE RATING IS 150. AS PER CODE, SHELL AND SEAT IS TESTED FOR 30 AND 22 BAR RESPECTIVELY WHICH AND IS VERY HIGH AS COMPARED TO OPERATING PRESSURE. HECNE, VALVE SECTED IN ORDER. NTPC IS REQUESTED TO KINDLY APPROVE.
3	LOCATION WITH REF. DRAWING NO	PLEASE REFER FOLLOWING DRAWING / DOCUMENTS FOR QUANTITY AND LOCATION OF VALVES: 1. 4410-001-131-FO-PVM-L-002, P&ID FOR LDO SYSTEM 2. 4410-001-131-FO-PVM-P-002, PIPING LAYOUT IN & AROUND PUMP HOUSE AND ROAD TANKER UNLOADING AREA 3. 4410-001-131-FO-PVM-P-003, PIPING LAYOUT IN & AROUND STORAGE TANK FARM AREA
4		CHANGES ARE REFLECTED IN THE DOC BY REV. MARK 02

COMPLIANCE REPORT**25/02/2016**

CLIENT	M/S NTPC	
CONTRACTOR	M/S BHEL	
PROJECT	NORTH KARANPURA THERMAL POWER PROJECT	
PACKAGE	FUEL OIL HANDLING AND STORAGE	
FUEL OIL HANDLING CONTRACTOR	UNITECH MACHINES LIMITED, GURGAON	
REFERENCE DOC. NO.	NTPC DOC NO. 4410-131-FO-PVM-Y-005 R-00 BHEL DOC NO. PE-V0-405-166-A013 R-00 GAD AND DATASHEET OF BALL VALVE FOR FOHS	
S. NO.	NTPC COMMENTS	BHEL / UML REPLY
1	BALL VALVE SHALL CONFIRM TO BS: 5351 BALL VALVE FIRE SAFE TEST SHALL CONFIRM TO BS: 6577 PART-2/API 607	NOTED AND INCORPORATED..
2	ANTI STATIC DETAIL??	ANTISTATIC DEVICE SHALL BE MADE OF SS304 AND IS INDICATED IN THE DOCUMENT.
3	FIRE SAFE TEST CERTIFICATE SHALL BE SUBMITTED	FIRE SAFE TEST CERTIFICATES FOR THE VALVES ARE ENCLSOED.
4	BALL POSITION INDICATOR??	NOTED AND INCORPORATED.
5	PLEASE WRITE “ TESTING AND INSPECTION SHALL BE AS PER APPROVED “ NTPC ” QAP	NOTED AND INCORPORATED.
6	GEAR BOX DETAIL? FOR GEAR OPERATED VALVES	INCLUDED IN APPLICABLE DOCUMENTS.
7	ALL QUANTITIES SHALL BE AS PER APPROVED P&ID AND LAYOUT	ALL VALVES INDICATED IS AS PER APPROVED P&ID AND LAYOUT ONLY. NTPC MAY REVIEW QUANTITY FROM SAME
8	RPM?? NO OF TURN?? OF ACTUATOR OF MOTOR OPERATED VALVE	NO. OF TURNS IS MENTIONED IN THE DOCUMENT. RPM WILL BE COVERED IN ACTUATOR DATASHEET.

THIS IS A SYSTEM GENERATED DRAWING



PT.NO.	PART NAME	MATERIAL
01	BODY	ASTM A216 Gr. WCB
05	END PIECE	ASTM A216 Gr. WCB
16	BALL	ASTM A276 TYPE 316
19	STEM (ANTI BLOW OUT)	ASTM A276 TYPE 316
27	SEAT	PTFE
40	GLAND	SS 316
50A	STEM SEAL	GRAFOIL (FIRE SAFE)
50B	BODY SEAL	GRAFOIL (FIRE SAFE)
82	HEX.SCREW	A193 Gr. B7
95	LEVER	STEEL WITH PVC SLEEVE

NOTES :

- 1) FACE TO FACE DIMENSION AS PER ASME B16.10. OTHER DIMENSIONS & WEIGHTS ARE INDICATIVE.
- 2) FLANGED END RAISED FACE - FINISH 125 TO 250 AARH DRILLED TO #150 - AS PER ASME B16.5
- 3) FIRE SAFE TEST AS PER API : 607 5th EDITION, WITH ANTISTATIC DEVICE (SS304)
- 4) VALVES ARE BI-DIRECTIONAL.
- 5) ALL DIMENSIONS ARE IN mm.
- 6) TESTING & INSPECTION SHALL BE AS PER APPROVED NTPC QAP.
- 7) LEAKAGE RATE - CLASS VI (TIGHT SHUTOFF) AS PER ANSI / FCI 70-2.
- 8) VALVE TORQUE : FOR SIZE DN15 - 5 N-m
DN25 - 7 N-m



NTPC Doc.No. - 4410-001-131-FO-PVM-Y-005
 BHEL Doc.No. - PE-V0-405-166-A015
 PACKAGE :- FUEL OIL HANDLING SYSTEM (P-332)
 PROJECT : NORTH KARANPURA STPP

2

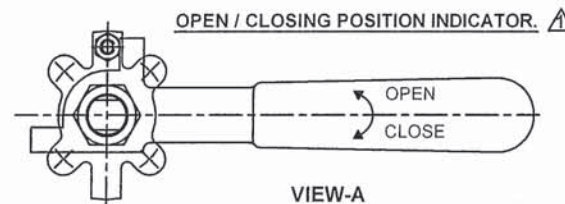
WORKING PRESSURE: 5.0 KG/CM²
 DESIGN PRESSURE: 7.5 KG/CM²
 WORKING TEMPERATURE: AMBIENT
 DESIGN TEMPERATURE: 50 DEG. C

DESIGN STD. : BS EN ISO 17292 (BS 5351)
 TESTING STD. : EN 12266 - 1(BS:6755 - 1)

RATING	150	150
SIZE	15	25
A	108	127
B	80	90
C	120	145
Ø D	13	25
Ø E	90	110
Ø F	34.9	50.8
T	10	11.6
DRILLING	HOLES	4
	HOLE Ø	15.9
	PCD	60.3
Approx. Wt.-kg.		1.3

* Quantity shall be as per approved PID and Respective piping layouts.

Size x Class	Quantity	P.O Line Item No	W.O. Line No.	Service	TAG No.
15 x 150	*	8	--	-	IF-VL-VB-000333.1.h
25 x 150	*	7	--	-	IF-VL-VB-000363.1.g



TEST PRESSURE, bar		
RATING		150
HYD	SHELL	30
	SEAT	22
AIR	SEAT	6.9

WEIR Weir Power & Industrial India
 (Weir BDK Valves - a unit of Weir India Pvt Ltd.)

DATE	09-02-2016	DRG. No.	F20001-90032606	REV
W.O. No	30007692	SHEET No.	01 of 06	
PRODUCT	FLOATING BALL VALVE			
	2 PIECE FULL BORE			
	FIRE SAFE - SOFT SEAT			
	HAND LEVER OPERATED			
CUSTOMER	UNITECH MACHINES LIMITED.			
	P-332/B/15/00322 DT : 22/09/2015			
Order No.				
JOB/PROJECT	(3x660MW) NORTH KARANPURA ---NTPC			
	PROJECT			

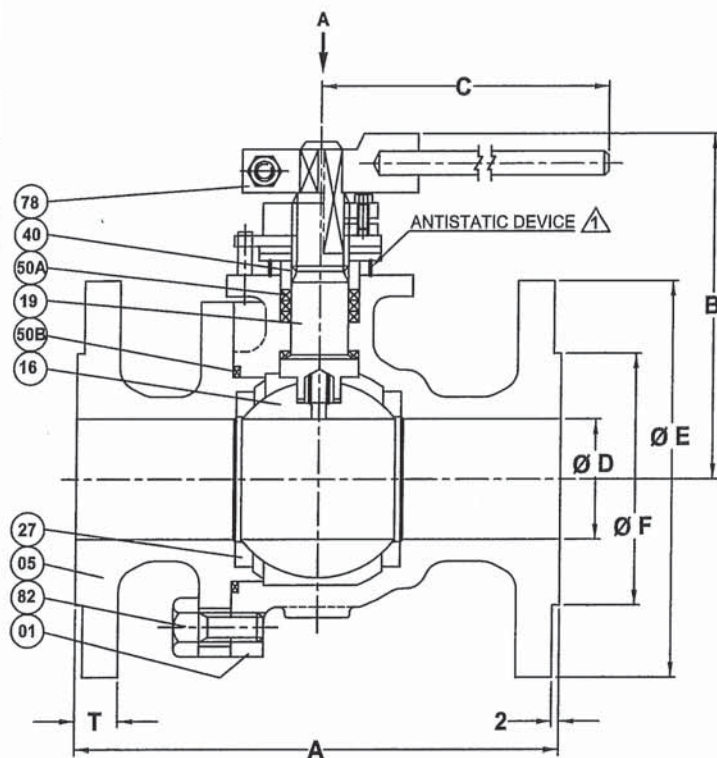
THIS DOCUMENT CONTAINS INFORMATION WHICH IS PROTECTED BY COPYRIGHT AND IS CONFIDENTIAL TO WEIR BDK VALVES. IT SHOULD NOT BE COPIED OR DISCLOSED (IN WHOLE OR IN PART) TO PARTIES OTHER THAN THE RECIPIENT WITHOUT THE EXPRESS WRITTEN PERMISSION OF WEIR BDK AUTHORIZED PERSONNEL.

CUSTOMER COMMENTS.**REFERENCE DOC FOR QUANTITY AND LOCATION OF VALVES:**

1. 4410-001-131-FO-PVM-L-002, P&ID FOR LDO SYSTEM
2. 4410-001-131-FO-PVM-P-002, PIPING LAYOUT IN & AROUND PUMP HOUSE AND ROAD TANKER UNLOADING AREA
3. 4410-001-131-FO-PVM-P-003, PIPING LAYOUT IN & AROUND STORAGE TANK FARM AREA

2

THIS IS A SYSTEM GENERATED DRAWING



2

WORKING PRESSURE: 5.0 KG/CM²
 DESIGN PRESSURE: 7.5 KG/CM²
 WORKING TEMPERATURE: AMBIENT
 DESIGN TEMPERATURE: 50 DEG. C

DESIGN STD. : BS EN ISO 17292 (BS 5351)
 TESTING STD. : EN 12266 - 1 (BS: 6755 - 1)

RATING	150	150
SIZE	50	80
A	178	203
B	135	170
C	300	475
Ø D	49	76
Ø E	150	190
Ø F	92.1	127
T	16.3	19.5
DRILLING	HOLES	4
	HOLE Ø	19
	PCD	120.7
Approx. Wt.-kg.		8.2
		18.5

△ * Quantity shall be as per approved PID and Respective piping layouts.

Size x Class	Quantity	P.O Line Item No	W.O. Line No.	Service	TAG No.
50 x 150	*	6	--	-	IF-VL-VB-000313.1.f
80 x 150	*	5	--	-	IF-VL-VB-000273.1.e

PT.NO.	PART NAME	MATERIAL
01	BODY	ASTM A216 Gr. WCB
05	END PIECE	ASTM A216 Gr. WCB
16	BALL	ASTM A351 Gr. CF8M/ASTM A182 Gr. F316
19	STEM (ANTI BLOW OUT)	ASTM A276 TYPE 316
27	SEAT	PTFE
40	GLAND	SS 316
50A	STEM SEAL	GRAFOIL (FIRE SAFE)
50B	BODY SEAL	GRAFOIL (FIRE SAFE)
78	LEVER ADAPTER	ASTM A216 Gr. WCB
82	HEX.SCREW	A193 Gr. B7

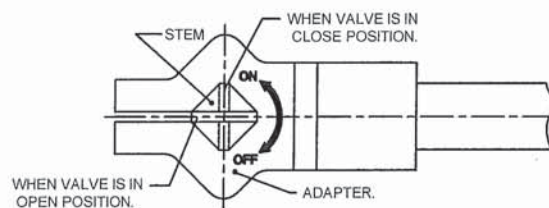
NOTES :

- 1) FACE TO FACE DIMENSION AS PER ASME B16.10. OTHER DIMENSIONS & WEIGHTS ARE INDICATIVE.
- 2) FLANGED END RAISED FACE - FINISH 125 TO 250 AARH DRILLED TO #150 - AS PER ASME B16.5
- 3) FIRE SAFE TEST AS PER API : 607 5th EDITION, WITH ANTISTATIC DEVICE (SS304) △
- 4) VALVES ARE BI-DIRECTIONAL.
- 5) ALL DIMENSIONS ARE IN mm.
- 6) TESTING & INSPECTION SHALL BE AS PER APPROVED NTPC QAP. △
- 7) LEAKAGE RATE - CLASS VI (TIGHT SHUTOFF) AS PER ANSI / FCI 70-2.
- 8) VALVE TORQUE : FOR SIZE DN50 - 34 N-m
DN80 - 88 N-m



NTPC Doc.No.- 4410-001-131-FO-PVM-Y-005
 BHEL Doc.No.- PE-V0-405-166-A015
 PACKAGE :- FUEL OIL HANDLING SYSTEM (P-332)
 PROJECT : NORTH KARANPURA STPP

△ OPEN / CLOSING POSITION INDICATOR.



VIEW-A

TEST PRESSURE, bar		
RATING		150
HYD	SHELL	30
	SEAT	22
AIR	SEAT	6.9

WEIR Weir Power & Industrial India
 (Weir BDK Valves - a unit of Weir India Pvt Ltd.)

DATE	09-02-2016	DRG. No.	F20003-90012864	REV
W.O. No	30007692	SHEET No.	02 of 06	△
PRODUCT	FLOATING BALL VALVE			
	2 PIECE FULL BORE			
	FIRE SAFE - SOFT SEAT			
	HAND LEVER OPERATED			
CUSTOMER	UNITECH MACHINES LIMITED.			
Order No.	P-332/B/15/00322 DT : 22/09/2015			
JOB/PROJECT	(3x660MW) NORTH KARANPURA ---NTPC PROJECT			

THIS DOCUMENT CONTAINS INFORMATION WHICH IS PROTECTED BY COPYRIGHT AND IS CONFIDENTIAL TO WEIR BDK VALVES. IT SHOULD NOT BE COPIED OR DISCLOSED (IN WHOLE OR IN PART) TO PARTIES OTHER THAN THE RECIPIENT WITHOUT THE EXPRESS WRITTEN PERMISSION OF WEIR BDK AUTHORIZED PERSONNEL.

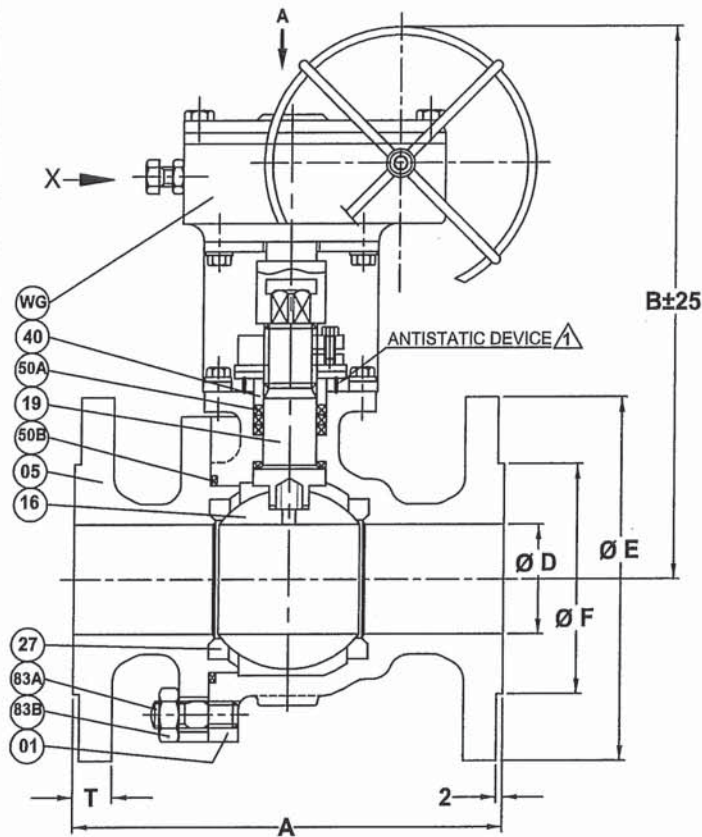
CUSTOMER COMMENTS.

REFERENCE DOC FOR QUANTITY AND LOCATION OF VALVES:

1. 4410-001-131-FO-PVM-L-002, P&ID FOR LDO SYSTEM
2. 4410-001-131-FO-PVM-P-002, PIPING LAYOUT IN & AROUND PUMP HOUSE AND ROAD TANKER UNLOADING AREA
3. 4410-001-131-FO-PVM-P-003, PIPING LAYOUT IN & AROUND STORAGE TANK FARM AREA

2

THIS IS A SYSTEM GENERATED DRAWING

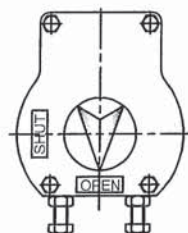


2

WORKING PRESSURE: 5.0 KG/CM²
 DESIGN PRESSURE: 7.5 KG/CM²
 WORKING TEMPERATURE: AMBIENT
 DESIGN TEMPERATURE: 50 DEG. C

DESIGN STD. : BS EN ISO 17292 (BS 5351)
 TESTING STD. : EN 12266 - 1 (BS: 6755 - 1)

RATING	150
SIZE	200
A	292
B	643
C	273
Ø D	203
Ø E	345
Ø F	269.9
Ø W	500
T	29
DRILLING	HOLES 8
	HOLE Ø 22.2
	PCD 298.5
Approx. Wt.-kg.	95



OPEN / CLOSE POSITION INDICATOR.

VIEW 'A'

Size x Class	Quantity	P.O Line Item No	W.O. Line No.	Service	TAG No.
200 x 150	*	3	-	-	IF-VL-VB-001313.1.c

GEAR BOX DETAILS

MAKE	PAC
MODEL	PAC02A
VALVE TORQUE	590 N-m
GEAR RATED TORQUE	1520 N-m
GEAR RATIO	45:1
DESIGN STANDARD	AWWA C504

PT.NO.	PART NAME	MATERIAL
01	BODY	ASTM A216 Gr. WCB
05	END PIECE	ASTM A216 Gr. WCB
16	BALL	ASTM A351 Gr. CF8M
19	STEM (ANTI BLOW OUT)	ASTM A276 TYPE 316
27	SEAT	PTFE
40	GLAND	SS 316
50A	STEM SEAL	GRAFOIL (FIRE SAFE)
50B	BODY SEAL	SPW 304 + GRAPHITE (FIRE SAFE)
83A	STUD	A193 Gr. B7
83B	NUT	A194 Gr. 2H
WG	GEAR BOX HOUSING	CI-IS:210 Gr.FG220
	WORM WHEEL	DUCTILE IRON SGI 600/3
	WORM / WORM SHAFT	EN8

NOTES:

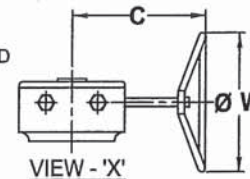
- 1) FACE TO FACE DIMENSION AS PER ASME B16.10. OTHER DIMENSIONS & WEIGHTS ARE INDICATIVE.
- 2) FLANGED END RAISED FACE - FINISH 125 TO 250 AARH DRILLED TO #150 - AS PER ASME B16.5
- 3) FIRE SAFE TEST AS PER API : 607 5th EDITION, WITH ANTISTATIC DEVICE (SS304)
- 4) VALVES ARE BI-DIRECTIONAL.
- 5) ALL DIMENSIONS ARE IN mm.
- 6) TESTING & INSPECTION SHALL BE AS PER APPROVED NTPC QAP.
- 7) LEAKAGE RATE - CLASS VI (TIGHT SHUTOFF) AS PER ANSI / FCI 70-2.



NTPC Doc.No.- 4410-001-131-FO-PVM-Y-005
 BHEL Doc.No.- PE-V0-405-166-A015
 PACKAGE :- FUEL OIL HANDLING SYSTEM (P-332)
 PROJECT : NORTH KARANPURA STPP



* Quantity shall be as per approved PID and Respective piping layouts.



VIEW - 'X'

TEST PRESSURE, bar

RATING		150
HYD	SHELL	30
	SEAT	22
AIR	SEAT	6.9

WEIR Weir Power & Industrial India
 (Weir BDK Valves - a unit of Weir India Pvt Ltd.)

DATE	09-02-2016	DRG. No.	F20005-90050778	REV
W.O. No	30007692	SHEET No.	03 of 06	
PRODUCT	FLOATING BALL VALVE 2 PIECE FULL BORE FIRE SAFE - SOFT SEAT GEAR OPERATED			
CUSTOMER	UNITECH MACHINES LIMITED.			
Order No.	P-332/B/15/00322 DT : 22/09/2015			
JOB/PROJECT	(3x660MW) NORTH KARANPURA ---NTPC PROJECT			

THIS DOCUMENT CONTAINS INFORMATION WHICH IS PROTECTED BY COPYRIGHT AND IS CONFIDENTIAL TO WEIR BDK VALVES. IT SHOULD NOT BE COPIED OR DISCLOSED (IN WHOLE OR IN PART) TO PARTIES OTHER THAN THE RECIPIENT WITHOUT THE EXPRESS WRITTEN PERMISSION OF WEIR BDK AUTHORIZED PERSONNEL.

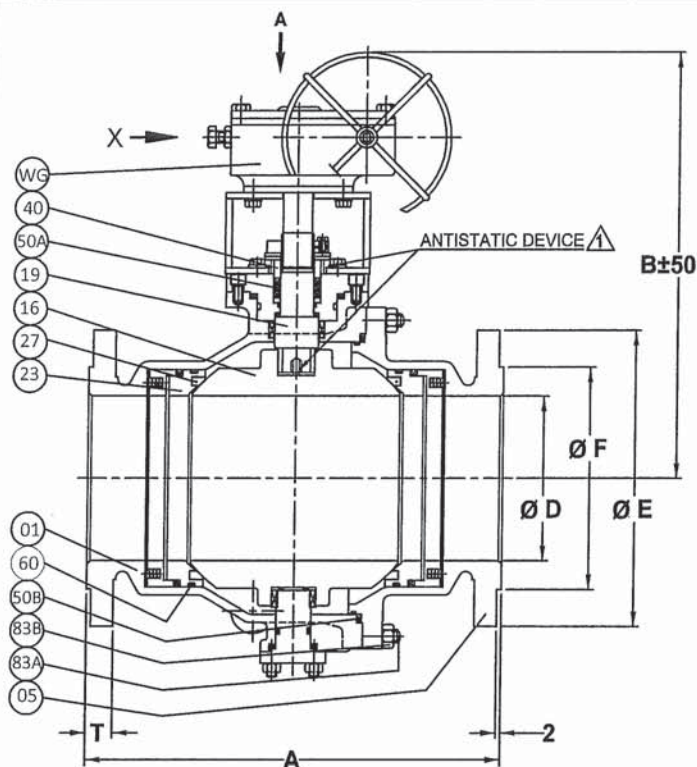
CUSTOMER COMMENTS.

REFERENCE DOC FOR QUANTITY AND LOCATION OF VALVES:

1. 4410-001-131-FO-PVM-L-002, P&ID FOR LDO SYSTEM
2. 4410-001-131-FO-PVM-P-002, PIPING LAYOUT IN & AROUND PUMP HOUSE AND ROAD TANKER UNLOADING AREA
3. 4410-001-131-FO-PVM-P-003, PIPING LAYOUT IN & AROUND STORAGE TANK FARM AREA

2

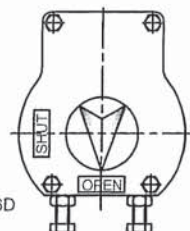
THIS IS A SYSTEM GENERATED DRAWING



2

WORKING PRESSURE: 5.0 KG/CM²
 DESIGN PRESSURE: 7.5 KG/CM²
 WORKING TEMPERATURE: AMBIENT
 DESIGN TEMPERATURE: 50 DEG. C

DESIGN STD. : BS EN ISO 17292 (BS 5351) / API-6D
 TESTING STD. : EN 12266 - 1 (BS: 6755 - 1) / API-598 / API-6D



OPEN / CLOSE POSITION INDICATOR.

VIEW 'A'

RATING		150
SIZE		250
A		533
B		697
C		368
Ø D		252
Ø E		405
Ø F		323.8
T		30.6
Ø W		500
DRILLING	HOLES	12
	HOLEØ	25.4
	PCD	362
Approx. Wt.-kg.		295

Size x Class	Quantity	P.O Line Item No	W.O. Line No.	Service	TAG No.
250 x 150	*	2	--	-	IF-VL-VB-001323.1.b

GEAR BOX DETAILS

MAKE	PAC
MODEL	PAC03A
VALVE TORQUE	1050 N-m
GEAR RATED TORQUE	2550 N-m
GEAR RATIO	45:1
DESIGN STANDARD	AWWA C504

PT.NO.	PART NAME	MATERIAL
01	BODY	ASTM A216 Gr. WCB
05	END PIECE	ASTM A216 Gr. WCB
16	BALL	ASTM A351 Gr. CF8M
19	STEM (ANTI BLOW OUT)	ASTM A564 TYPE 630 17-4 PH
23	SEAT RETAINER	ASTM A351 Gr. CF8M
27	SEAT	PTFE
40	GLAND	SS 316
50A	STEM SEAL	GRAFOIL (FIRE SAFE)
50B	BODY SEAL	SPW 304 + GRAPHITE (FIRE SAFE)
60	'O'-RING	VITON
83A	STUD	A193 Gr. B7
83B	NUT	A194 Gr. 2H
WG	GEAR BOX HOUSING	CI-IS:210 Gr.FG220
	WORM WHEEL	DUCTILE IRON SGI 600/3
	WORM / WORM SHAFT	EN8

NOTES :

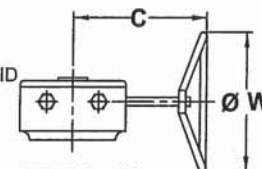
- 1) FACE TO FACE DIMENSION AS PER ASME B16.10. OTHER DIMENSIONS & WEIGHTS ARE INDICATIVE.
- 2) FLANGED END RAISED FACE - FINISH 125 TO 250 AARH DRILLED TO #150 - AS PER ASME B16.5
- 3) FIRE SAFE TEST AS PER API : 607 5th EDITION, WITH ANTISTATIC DEVICE (SS304)
- 4) VALVES ARE PROVIDED WITH VENT WITH PLUG, & DRAIN WITH NEEDLE VALVE + PLUG CONNECTION.
- 5) VALVES ARE BI-DIRECTIONAL.
- 6) ALL DIMENSIONS ARE IN mm.
- 7) TESTING & INSPECTION SHALL BE AS PER APPROVED NTPC QAP.
- 8) LEAKAGE RATE - CLASS VI (TIGHT SHUTOFF) AS PER ANSI / FCI 70-2.



NTPC Doc.No.- 4410-001-131-FO-PVM-Y-005
 BHEL Doc.No.- PE-V0-405-166-A015
 PACKAGE :- FUEL OIL HANDLING SYSTEM (P-332)
 PROJECT : NORTH KARANPURA STPP



* Quantity shall be as per approved PID and Respective piping layouts.



VIEW - 'X'

TEST PRESSURE, bar

RATING		150
HYD	SHELL	30
	SEAT	22
AIR	SEAT	6.9

WEIR Weir Power & Industrial India
 (Weir BDK Valves - a unit of Weir India Pvt Ltd.)

DATE	09-02-2016	DRG. No.	TF0002-90092589	REV
W.O. No	30007692	SHEET No.	04 of 06	
PRODUCT	TRUNNION MOUNTED BALL VALVE			
	2 PIECE FULL BORE			
	FIRE SAFE - SOFT SEAT			
	GEAR OPERATED			
CUSTOMER	UNITECH MACHINES LIMITED.			
	Order No. P-332/B/15/00322 DT : 22/09/2015			
JOB/PROJECT	(3x660MW) NORTH KARANPURA ---NTPC			
	PROJECT			

THIS DOCUMENT CONTAINS INFORMATION WHICH IS PROTECTED BY COPYRIGHT AND IS CONFIDENTIAL TO WEIR BDK VALVES. IT SHOULD NOT BE COPIED OR DISCLOSED (IN WHOLE OR IN PART) TO PARTIES OTHER THAN THE RECIPIENT WITHOUT THE EXPRESS WRITTEN PERMISSION OF WEIR BDK AUTHORIZED PERSONNEL.

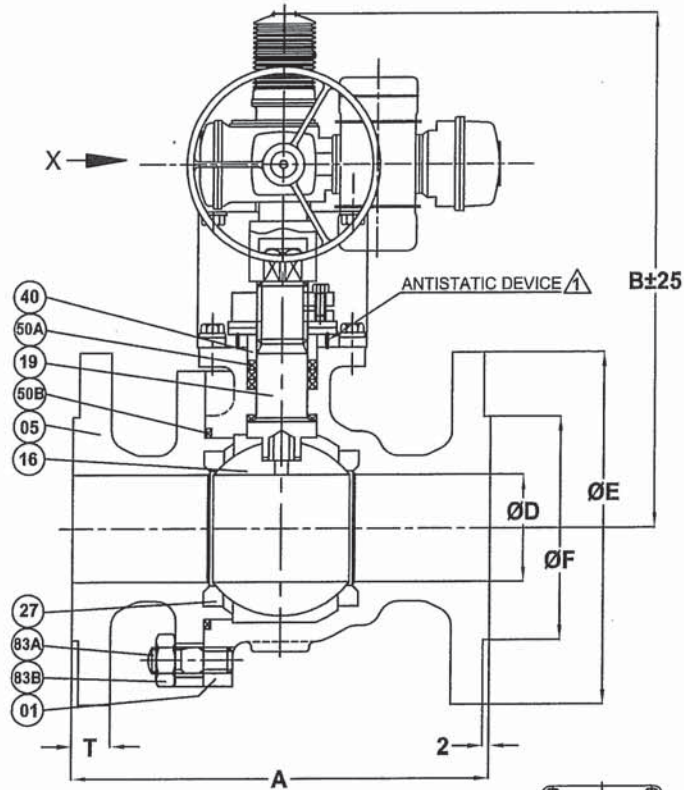
CUSTOMER COMMENTS.

REFERENCE DOC FOR QUANTITY AND LOCATION OF VALVES:

1. 4410-001-131-FO-PVM-L-002, P&ID FOR LDO SYSTEM
2. 4410-001-131-FO-PVM-P-002, PIPING LAYOUT IN & AROUND PUMP HOUSE AND ROAD TANKER UNLOADING AREA
3. 4410-001-131-FO-PVM-P-003, PIPING LAYOUT IN & AROUND STORAGE TANK FARM AREA

2

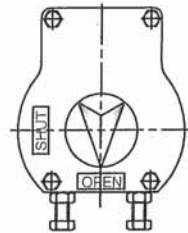
THIS IS A SYSTEM GENERATED DRAWING



2
 WORKING PRESSURE: 5.0 KG/CM²
 DESIGN PRESSURE: 7.5 KG/CM²
 WORKING TEMPERATURE: AMBIENT
 DESIGN TEMPERATURE: 50 DEG. C

DESIGN STD. : BS EN ISO 17292 (BS 5351)
 TESTING STD. : EN 12266 - 1 (BS: 6755 - 1)

RATING	150
SIZE	200
A	292
B	760
C	385
Ø D	203
Ø E	345
Ø F	269.9
T	29
DRILLING	HOLES 8
	HOLE Ø 22.2
	PCD 298.5
Approx. Wt.-kg. 135	



OPEN / CLOSE POSITION INDICATOR.

VIEW 'A'

Size x Class	Quantity	P.O Line Item No	W.O. Line No.	Service	TAG No.
200 x 150	*	1	--	-	IF-VL-VB-002113.1a

GEAR + ELECTRICAL ACTUATOR DETAILS

GEAR ACTUATOR DETAILS

MAKE PAC
 MODEL PAC02E

ELECTRICAL ACTUATOR DETAILS

MAKE Auma
 TYPE E-PAC (With Integral Starter)
 (Flame proof)
 MODEL SACEx12F10E45
 OPERATING TIME 13.5+5 Secs.
 WORKING PRESSURE 20 Bar.
 NUMBER OF TURNS 10

NOTES :

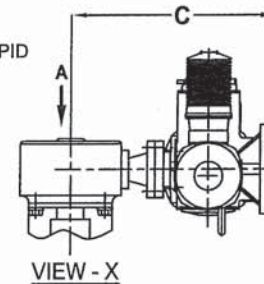
- 1) FACE TO FACE DIMENSION AS PER ASME B16.10. OTHER DIMENSIONS & WEIGHTS ARE INDICATIVE.
- 2) FLANGED END RAISED FACE - FINISH 125 TO 250 AARH DRILLED TO #150 - AS PER ASME B16.5
- 3) FIRE SAFE TEST AS PER API : 607 5th EDITION, WITH ANTISTATIC DEVICE IN SS 304.
- 4) VALVES ARE BI-DIRECTIONAL.
- 5) ALL DIMENSIONS ARE IN mm.
- 6) TESTING & INSPECTION SHALL BE AS PER APPROVED NTPC QAP.
- 7) LEAKAGE RATE - CLASS VI (TIGHT SHUTOFF) AS PER ANSI / FCI 70-2.
- 8) VALVE TORQUE - 590N-m.
- 9) ACCESSORIES MOUNTING ARRANGEMENT INDICATIVE ONLY, MAY VARY DURING ASSEMBLY.



NTPC Doc.No.- 4410-001-131-FO-PVM-Y-005
 BHEL Doc.No.- PE-V0-405-166-A015
 PACKAGE :- FUEL OIL HANDLING SYSTEM (P-332)
 PROJECT : NORTH KARANPURA STPP



* Quantity shall be as per approved PID and Respective piping layouts.



VIEW - X

TEST PRESSURE, bar		
RATING		150
HYD	SHELL	30
	SEAT	22
AIR	SEAT	6.9

PT.NO.	PART NAME	MATERIAL
01	BODY	ASTM A216 Gr. WCB
05	END PIECE	ASTM A216 Gr. WCB
16	BALL	ASTM A351 Gr. CF8M
19	STEM (ANTI BLOW OUT)	ASTM A276 TYPE 316
27	SEAT	PTFE
40	GLAND	SS 316
50A	STEM SEAL	GRAFOIL (FIRE SAFE)
50B	BODY SEAL	SPW 316 + GRAPHITE (FIRE SAFE)
83A	STUD	A193 Gr. B7
83B	NUT	A194 Gr. 2H

WEIR Weir Power & Industrial India
 (Weir BDK Valves - a unit of Weir India Pvt Ltd.)

DATE	09-02-2016	DRG. No.	F20155-90062923	REV
W.O. No	30007692	SHEET No.	05 of 06	△

PRODUCT	FLOATING BALL VALVE
	2 PIECE FULL BORE
	FIRE SAFE - SOFT SEAT
	GEAR + ELECTRICAL ACTUATOR OPERATED

CUSTOMER	UNITECH MACHINES LIMITED.
----------	---------------------------

Order No.	P-332/B/15/00322 DT : 22/09/2015
-----------	----------------------------------

PROJECT.	(3x660MW) NORTH KARANPURA ---NTPC
----------	-----------------------------------

PACKAGE.	PROJECT
----------	---------

THIS DOCUMENT CONTAINS INFORMATION WHICH IS PROTECTED BY COPYRIGHT AND IS CONFIDENTIAL TO WEIR BDK VALVES. IT SHOULD NOT BE COPIED OR DISCLOSED (IN WHOLE OR IN PART) TO PARTIES OTHER THAN THE RECIPIENT WITHOUT THE EXPRESS WRITTEN PERMISSION OF WEIR BDK AUTHORIZED PERSONNEL.

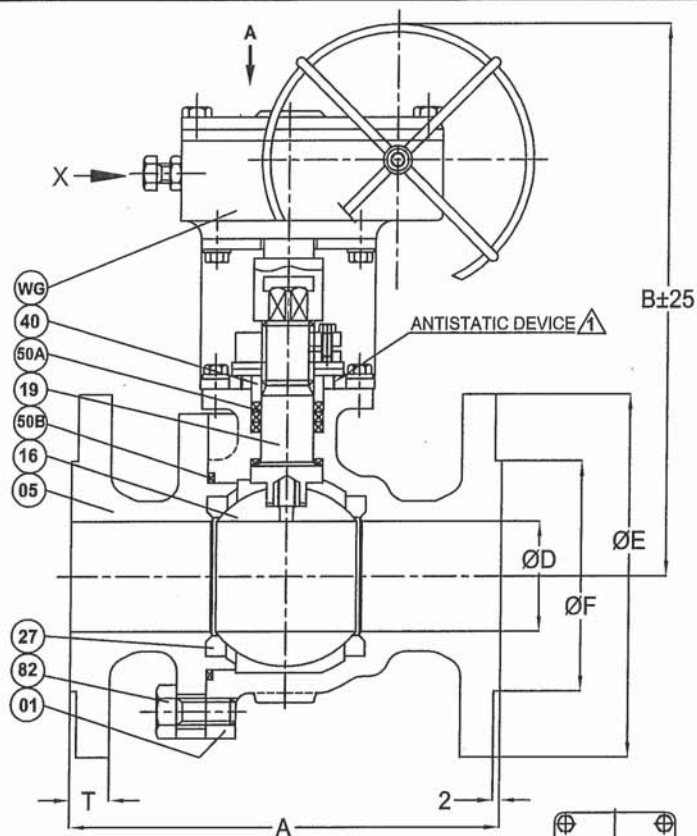
CUSTOMER COMMENTS.

REFERENCE DOC FOR QUANTITY AND LOCATION OF VALVES:

1. 4410-001-131-FO-PVM-L-002, P&ID FOR LDO SYSTEM
2. 4410-001-131-FO-PVM-P-002, PIPING LAYOUT IN & AROUND PUMP HOUSE AND ROAD TANKER UNLOADING AREA
3. 4410-001-131-FO-PVM-P-003, PIPING LAYOUT IN & AROUND STORAGE TANK FARM AREA

2

THIS IS A SYSTEM GENERATED DRAWING

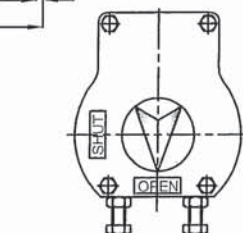


2

WORKING PRESSURE: 5.0 KG/CM²
 DESIGN PRESSURE: 7.5 KG/CM²
 WORKING TEMPERATURE: AMBIENT
 DESIGN TEMPERATURE: 50 DEG. C

DESIGN STD. : BS EN ISO 17292 (BS 5351)
 TESTING STD. : EN 12266 - 1 (BS: 6755 - 1)

RATING		150
SIZE		150
A		267
B		538
C		230
Ø D		152
Ø E		280
Ø F		215.9
T		25.9
Ø W		450
DRILLING	HOLES	8
	HOLE Ø	22.2
	PCD	241.3
Approx. Wt.-kg.		72



OPEN / CLOSE POSITION INDICATOR.

VIEW 'A' ▲

▲ * Quantity shall be as per approved PID
 and Respective piping layouts.

Size x Class	Quantity	P.O Line Item No	W.O. Line No.	Service	TAG No.
150 x 150	*	04	--	--	IF-VL-VB-00025 3.1.d

▲

GEAR BOX DETAILS

MAKE	PAC
MODEL	PAC02
VALVE TORQUE	345 N-m
GEAR RATED TORQUE	882 N-m
GEAR RATIO	40:1
DESIGN STANDARD	AWWA C504

PT.NO.	PART NAME	MATERIAL
01	BODY	ASTM A216 Gr. WCB
05	END PIECE	ASTM A216 Gr. WCB
16	BALL	ASTM A351 Gr. CF8M
19	STEM (ANTI BLOW OUT)	ASTM A276 TYPE 316
27	SEAT	PTFE
40	GLAND	SS 316
50A	STEM SEAL	GRAFOIL (FIRE SAFE)
50B	BODY SEAL	GRAFOIL (FIRE SAFE)
82	HEX.SCREW	A193 Gr. B7
WG	GEAR BOX HOUSING	CI-IS:210 Gr.FG220
	WORM WHEEL	DUCTILE IRON SGI 600/3
	WORM / WORM SHAFT	EN8

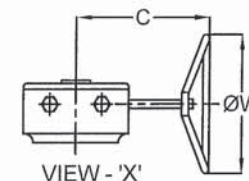
▲

NOTES :

- 1) FACE TO FACE DIMENSION AS PER ASME B16.10. OTHER DIMENSIONS & WEIGHTS ARE INDICATIVE.
- 2) FLANGED END RAISED FACE - FINISH 125 TO 250 AARH DRILLED TO #150 - AS PER ASME B16.5
- 3) FIRE SAFE TEST AS PER API : 607 5th EDITION, WITH ANTISTATIC DEVICE (SS304) ▲
- 4) VALVES ARE BI-DIRECTIONAL.
- 5) ALL DIMENSIONS ARE IN mm.
- 6) TESTING & INSPECTION SHALL BE AS PER APPROVED NTPC QAP. ▲
- 7) LEAKAGE RATE - CLASS VI (TIGHT SHUTOFF) AS PER ANSI / FCI 70-2.

▲

NTPC Doc.No.- 4410-001-131-FO-PVM-Y-005
 BHEL Doc.No.- PE-V0-405-166-A015
 PACKAGE :- FUEL OIL HANDLING SYSTEM (P-332)
 PROJECT : NORTH KARANPURA STPP



VIEW - 'X'

TEST PRESSURE, bar		
RATING		150
HYD	SHELL	30
	SEAT	22
AIR	SEAT	6.9

WEIR Weir Power & Industrial India
 (Weir BDK Valves - a unit of Weir India Pvt Ltd.)

DATE	09-02-2016	DRG. No.	F20004-90032687	REV	
W.O. No	30007692	SHEET No.	6 of 6	▲	
PRODUCT	FLOATING BALL VALVE				
	2 PIECE FULL BORE				
	FIRE SAFE - SOFT SEAT				
	GEAR OPERATED				
CUSTOMER	UNITECH MACHINES LIMITED.				
Order No.	P-332/B/15/00322 DT : 22/09/2015				
JOB/PROJECT	(3x660MW) NORTH KARANPURA ---NTPC PROJECT				

THIS DOCUMENT CONTAINS INFORMATION WHICH IS PROTECTED BY COPYRIGHT AND IS CONFIDENTIAL TO WEIR BDK VALVES. IT SHOULD NOT BE COPIED OR DISCLOSED (IN WHOLE OR IN PART) TO PARTIES OTHER THAN THE RECIPIENT WITHOUT THE EXPRESS WRITTEN PERMISSION OF WEIR BDK AUTHORIZED PERSONNEL.

CUSTOMER COMMENTS.

REFERENCE DOC FOR QUANTITY AND LOCATION OF VALVES:

1. 4410-001-131-FO-PVM-L-002, P&ID FOR LDO SYSTEM
2. 4410-001-131-FO-PVM-P-002, PIPING LAYOUT IN & AROUND PUMP HOUSE AND ROAD TANKER UNLOADING AREA
3. 4410-001-131-FO-PVM-P-003, PIPING LAYOUT IN & AROUND STORAGE TANK FARM AREA

2

WEIR		MANUFACTURER'S NAME AND ADDRESS		REFERENCE QUALITY PLAN						NTPC		TO BE FILLED IN BY NTPC			
M/S. WEIR BDK VALVES, A UNIT OF WEIR INDIA PVT.LTD. 47/48, GOKUL ROAD, HUBLI - 580 030 KARNATAKA, INDIA.		ITEM	BALL VALVES (FORGED - CS & SS and CAST - CS & SS)			QP. No.	RQP-BV-01		SIGN. OF MFGR	QP. No.	0000-999-QVM-Q-465			REVIEWED BY:	APPROVED BY:
		REV.	01			REV. NO	0	DATE		12.12.2014		U.SUDEEP			
		DATE	02.12.2014			PAGE NO.	1 OF 2			RAJEEV GARG					
		TYPE	MANUAL / ELECTRIC / PNEUMATIC OPERATED			VALID UPTO		: 11.12.2017			M. K. ASTHANA				
		MATERIAL	FORGED CS & SS			SIZE	DN ≤ 50 NB		PR. RATING	UP TO 800 #					
	CAST CS & SS				50 TO 400 NB			UP TO 150 #							
SN	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY	REMARKS					
1.	2.	3.	4.	5.	M	C/N	7.	8.	9.	D	10.	11.			
1.0	RAW MATERIAL INSPECTION														
1.1	FORGED / CAST BODY, END PIECE	CHEMICAL PROPERTIES	MAJOR	CHEMICAL ANALYSIS	1 SAMPLE / HEAT	RELEVANT MATERIAL SPECIFICATION AS PER APPROVED DATA SHEET & DRAWING	MTC	√	P	V	V				
		HEAT TREATMENT (WHEREVER APPLICABLE)	MAJOR	REVIEW OF HT CHART / FOUNDRY TC	100%										
		MECHANICAL PROPERTIES	MAJOR	MECHANICAL TESTING	1 SAMPLE / HEAT / HT BATCH										
		RADIOGRAPHY FOR BODY/BONNET (ONLY FOR PR CLASS > 600)	MAJOR	RADIOGRAPHY	100%	ASME B16.34 ANNEXURE- B	RT FILM & REPORTS	√	P	V	V		FILM REVIEW BY NTPC CHP		
		DIMENSIONS	MAJOR	MEASURE	100%	COMPONENT DRAWINGS	IR		P	-	-				
		SURFACE DEFECTS	MAJOR	VISUAL	100%	MSS SP-55	IR		P	-	-				
1.2	STEM, GLAND, BALL	CHEMICAL PROPERTIES	MAJOR	CHEMICAL ANALYSIS	1 SAMPLE / HEAT	RELEVANT MATERIAL SPECIFICATION AS PER APPROVED DATA SHEET & DRAWING	MTC / LAB TC	√	P	V	V				
		HEAT TREATMENT (WHEREVER APPLICABLE)	MAJOR	REVIEW OF HT CHART	100%										
		MECHANICAL PROPERTIES	MAJOR	MECHANICAL TESTING	1 SAMPLE / HEAT / HT BATCH										
		SUB-SURFACE DEFECTS ON BARS / FORGINGS	MAJOR	UT	100%	ASTM B 16.34	ASTM B 16.34 ANNEXURE E	IR	√	P	V	V	FOR DIA / THICKNESS ≥ 40 MM		
1.3	SEAT, SEAL	MATERIAL CHECK	MAJOR	CHEMICAL ANALYSIS	1/BATCH	RELEVANT MATERIAL SPECIFICATION AS PER APPROVED DATA SHEET & DRAWING	MTC / LAB TC	√	P	V	V				
		HARDNESS	MAJOR	HARDNESS CHECK	1/BATCH										
1.4	FASTENERS FOR PRESSURE CONTAINING PARTS	CHEMICAL PROPERTIES	MAJOR	CHEMICAL ANALYSIS	1/BATCH	RELEVANT MATERIAL SPECIFICATION AS PER APPROVED DATA SHEET & DRAWING	SUPPLIER TC	√	P	V	V				
		MECHANICAL PROPERTIES	MAJOR	MECHANICAL TESTING											
1.5	GEAR BOX	MODEL & MAKE	MAJOR	REVIEW OF MANF TC	100 %	APPRD DRG/ MANUFACTURER CATALOGUE/DRAWING	MANF TC	√	P	V	V	REFER NOTE - 1			
1.6	PNEUMATIC ACTUATOR	PORT LEAKAGE TEST & FUNCTIONAL TEST	MAJOR	REVIEW OF MANF TC	100%	APPRD DRG/ MANUFACTURER CATALOGUE/DRAWING	MANF TC	√	P	V	V	MAKE : ELOMATIC / ROTEX			
2.0	ELECTRIC ACTUATOR (IF APPLICABLE) – INSPECTION & TESTING AS PER SEPARATE QP. VERIFY CHP CLEARANCE														
3.0	IN PROCESS INSPECTION														
3.1	FORGED / CAST BODY, END PIECE, BALL AFTER MACHINING	DIMENSIONS & SURFACE FINISH	MAJOR	MEASUREMENT	100 %	-	MANUFACTURING DRAWING	IR	-	P	-	-			

LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.
 ** M: MANUFACTURER/SUB-SUPPLIER, C: MAIN SUPPLIER N: NTPC, P: PERFORM, W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS 'W'

NOTE: # NTPC INSPECTION ENGINEER TO CHECK, APPROVAL DATE / REVISION NO. OF REFERENCE DOCUMENTS AT THE TIME OF INSPECTION.

FORMAT NO.: QS-01-QAI-P-10/F1-R1

ENGG. DIV./QA&I

MANUFACTURER'S NAME AND ADDRESS		REFERENCE QUALITY PLAN						NTPC		TO BE FILLED IN BY NTPC				
M/S. WEIR BDK VALVES, A UNIT OF WEIR INDIA PVT.LTD. 47/48, GOKUL ROAD, HUBLI - 580 030 KARNATAKA, INDIA.		ITEM	BALL VALVES		QP. No.	RQP-BV-01	SIGN. OF MFGR	QP. No.	0000-999-QVM-Q-465		REVIEWED BY:	APPROVED BY:		
		(FORGED - CS & SS and CAST - CS & SS)		REV.	01	REV. NO		0	DATE	12.12.2014	U.SUDEEP			
				DATE	02.12.2014									
		TYPE	MANUAL / ELECTRIC / PNEUMATIC OPERATED					PAGE NO.	2 OF 2		RAJEEV GARG M. K. ASTHANA			
		MATERIAL	SIZE		PR. RATING		VALID UPTO : 11.12.2017							
FORGED CS & SS	DN ≤ 50 NB		UP TO 800 #											
		CAST CS & SS	50 TO 400 NB		UP TO 150 #									
SN	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY	REMARKS				
1.	2.	3.	4.	5.	6.	7.	8.	9.	D	10.	11.			
		SURFACE DEFECTS	MAJOR	DP ON M/C AREA OF BODY, END PIECE, BALL & STEM	100%	ASTM B 16.34	ASTM B 16.34 ANNEXURE D	IR	✓	P	V	V		
	GALVANISING OF BODY & END PIECE (WHEREVER APPLICABLE)	UNIFORMITY OF ZINC COATING, MASS OF ZINC COATING, ADHESION TEST	MAJOR	MEASUREMENT	1 SAMPLE PER GALVANISING BATCH	APPROVED DATA SHEET & DRAWING / IS 2629		IR	✓	P	V	V		
3.2	BALL & SEAT	GRINDING & LAPPING	MAJOR	BLUE MATCHING	100%	FULL LINE CONTACT AND MINIMUM 80% AREA CONTACT		IR	✓	P	V	V		
4.0 FINAL INSPECTION														
4.1	ASSEMBLED VALVE	VISUAL, OVERALL DIMENSION	MAJOR	VISUAL & MEASURE	100 %	SEE NOTE 2	APPLICABLE DESIGN & TESTING STANDARD / APPROVED DRAWING / DATA SHEET	TC	✓	P	W	W	CHP	
		SHELL TIGHTNESS TEST	CRITICAL	HYDRO TEST	100 %			TC	✓	P	W	W	W	CHP
		SEAT TIGHTNESS TEST	CRITICAL	HYDRO TEST	100 %			TC	✓	P	W	W	W	CHP
		SEAT TIGHTNESS TEST	CRITICAL	AIR	100 %			TC	✓	P	W	W	W	CHP
4.2	FUNCTIONAL TEST OF ASSEMBLE VALVE WITH JOB ACTUATOR (FOR ELECTRIC ACTUATOR OPERATED VALVES)	SMOOTH OPERATION, OPENING/CLOSING TIME & TORQUE SETTING (FOR ELECTRIC ACTUATOR OPERATED VALVES)	CRITICAL	OPERATION	100 %	SEE NOTE 2	APPROVED DATA SHEET / DRAWING	TC	✓	P	W	W	CHP	
4.3	MARKING	SIZE, RATING, VALVE SERIAL NO, ETC.	MAJOR	VISUAL	100 %	-	APPROVED DRAWING	IR	-	P	V	-		
4.4	PAINTING	PAINTING SHADE & DFT	MAJOR	VISUAL & MEASURE	100 %	-	TECHNICAL SPECIFICATION/APPROVED DRAWING / APPROVED PAINTING SCHEDULE	IR	-	P	V	-		
4.5	FIRE SAFE TEST (TYPE TEST)	FOR FIRE SAFE VALVES AS PER TECH SPEC REQUIREMENT, FIRE SAFE TEST CLEARANCE FROM NTPC ENGG SHALL BE REVIEWED AT THE TIME OF INSPECTION, IF CONDUCTED EARLIER, ELSE SHALL BE WITNESSED BY NTPC. FOR WHICH SEPARATE PROCEDURE SHALL BE APPROVED.												
NOTES														
1	GEAR BOX SHALL BE FROM M/S AMEYA TRANSMISSION, PUNE / PAC - HUBLI / MANUFACTURERS TEST CERTIFICATE, & TORQUE TESTING REPORTS WILL BE SUBMITTED.													
2	10% OF THE OFFERED QUANTITY (EACH SIZE) OR (MINIMUM 2 NO'S OF VALVES OF EACH SIZE WHICH EVER IS HIGHER) PER VISIT SHALL BE OFFERED FOR NTPC WITNESS													
3	CASTINGS & FORGINGS FROM WEIR BDK REGULAR / APPROVED SOURCES													

LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.
 ** M: MANUFACTURER/SUB-SUPPLIER, C: MAIN SUPPLIER N: NTPC, P: PERFORM, W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

FORMAT NO.: QS-01-QAI-P-10/F1-R1

NOTE: # NTPC INSPECTION ENGINEER TO CHECK, APPROVAL DATE / REVISION NO. OF REFERENCE DOCUMENTS AT THE TIME OF INSPECTION.

ENGG. DIV/QA&I

REASON FOR CHANGE:

M/S UML HAS PLACED ORDER FOR ACTUATOR FOR GATE / GLOBE / CHECK VALVE ON M/S ROTORK FOR MANUFACTURING OF ACTUATORS AND ACCORDING ALL DOCUMENTS PERTAINING TO ACTUATORS WERE APPROVED BY NTPC.

ROTORK NOW HAS DECLINED TO SUPPLY THIS MODEL ACTUATOR AS THEIR BIS LICENSE HAS EXPIRED. ROTORK IS NOT OFFERING ACTUATOR FOR DIFFERENT MODEL FOR ABOVE VALVE. THERE IS NO CHANGE IN ACTUATOR DATASHEET FOR BALL VALVE.

NTPC IS REQUESTED TO REVIEW AND APPROVE THE DOCUMENT FOR SUPPLYING MATERIAL TO SITE.

15.11.17	3	SUBMISSION FOR APPROVAL	TUSHAR	SM	SM
03.07.17	2	SUBMISSION FOR APPROVAL DUE TO CHANGE IN ACTUATOR MODEL	TUSHAR	SM	SM
11.03.16	1	SUBMISSION FOR APPROVAL	BHARAT	SM	SM
30.01.16	0	SUBMISSION FOR APPROVAL	GAUTAM	SM	SM
Date		Description of Revision	ALT	CHD	APPD
PROJECT		3X660 MW NORTH KARANPURA STPP (UNIT NO. 1, 2 & 3)			
		CUSTOMER NATIONAL THERMAL POWER CORPORATION LIMITED			
		CONTRACTOR BHARAT HEAVY ELECTRICALS LTD PS-PEM, PPEI-BUILDING, SECTOR-16A, PLOT NO. 25, NOIDA-201301			
		FOHS SUPPLIER UNITECH MACHINES LIMITED UM HOUSE" PLOT NO. 35P, SECTOR - 44, GURGAON - 122002			
JOB No.	405	NTPC Doc. No. 4410-001-131-FO-PVE-Y-006A			Rev: 03
STATUS	CONTRACT	BHEL Doc. No: PE-V0-405-166-A048 UML Doc. No.: P332-FO-PVE-Y-006A			Rev: 03 Rev: 03
PACKAGE		FUEL OIL UNLOADING & STORAGE SYSTEM			
TITLE		Data Sheet & Wiring diagram of Electrical Actuator			
APPROVED BY		SM		31.01.2016	
CHECKED BY		SM		31.01.2016	

DATASHEET**Auma make Actuator for Ex-Proof On-Off duty type**

Vendor Name: AUMA INDIA LTD. a/c Weir BDK Valves	DATASHEET: WBDK/03
Contractor :-	REV.: 00 (Page 1 of 2)
Consultant :-	
Project :- NORTH KARANPURA	

ACTUATOR MODEL :- SACEx12E45/45rpm

DESCRIPTION	UNIT	DATA
ACTUATOR MANUFACTURER		AUMA (INDIA) PVT. LTD.
MODEL		SACEx12E45-45rpm
TORQUE RANGE & RPM		40-120 Nm, 45 RPM
DUTY CYCLE(ON-OFF/ REGULATING)		On-Off
LOCAL /REMOTE SELECTOR SWITCH(LOCKABLE)		YES PROVIDED.
ENCLOSURE / DEGREE OF PROTECTION		IP 68 (IS13947 (Part 1): 1993
Flame PROOF		Flameproof suitable for gas group IIA IIB as per IS/IEC-60079
ADMISSIBLE AMBIENT TEMPERATURE	°C	-20 TO +50
AVERAGE / NOMINAL OUTPUT	KW	0.55
RATED VOLTAGE	V	415 V AC
RATED FREQUENCY	Hz	50
No. OF PHASES/NO. OF WIRES	Ø	3 phase/ 3 wire
ADMISSIBLE VOLTAGE VARIATION	Ø	+10
ADMISSIBLE FREQUENCY VARIATION	Ø	±5
ADMISSIBLE VOLTAGE & FREQUENCY VARIATION	Ø	10 (Absolute)
NOMINAL CURRENT	A	1.5
STARTING CURRENT	A	9.0
FULL LOAD SPEED	RPM	2840
INSULATION CLASS		Class F with temp rise limited to class B
POWER FACTOR(AVERAGE LOAD)		0.71
AVERAGE LOAD EFFICIENCY	Ø	75
TEMPERATURE RAISE OVER AMBIENT TEMP OF 50°C	°C	70 (By resistance method)
CABLE GLAND SIZE/ NO: POWER (Double compression cable gland)		2XM32X1.5 (suitable for 3Cx2.5sqmm)
CABLE GLAND SIZE/ NO: CONTROL (Double compression cable gland)		2XM25X1.5 (suitable for 3Cx2.5sqmm)
GEAR BOX LUBRICATION		GREASE – EPO (SERVO GEM)
POSITION LIMIT SWITCHES		
a. QUANTITY	Nos.	4
b. No. OF CONTACTS	Nos.	2NO+2NC
TORQUE LIMIT SWITCHES		
a. QUANTITY	Nos.	2
b. No. OF CONTACTS	Nos.	2NO+2NC
VOLTAGE/CURRENT RATING OF SWITCHES	V/A	240 V AC – 5 A, 220 V DC – 0.5 A (Inductive)
POSITION TRANSMITTER ON-OFF DUTY	YES/NO	NOT APPLICABLE
POSITION TRANSMITTER REGULATING DUTY(IF PROVIDED)	YES/NO	NOT APPLICABLE

DATASHEET**Auma make Actuator for On-Off duty type**

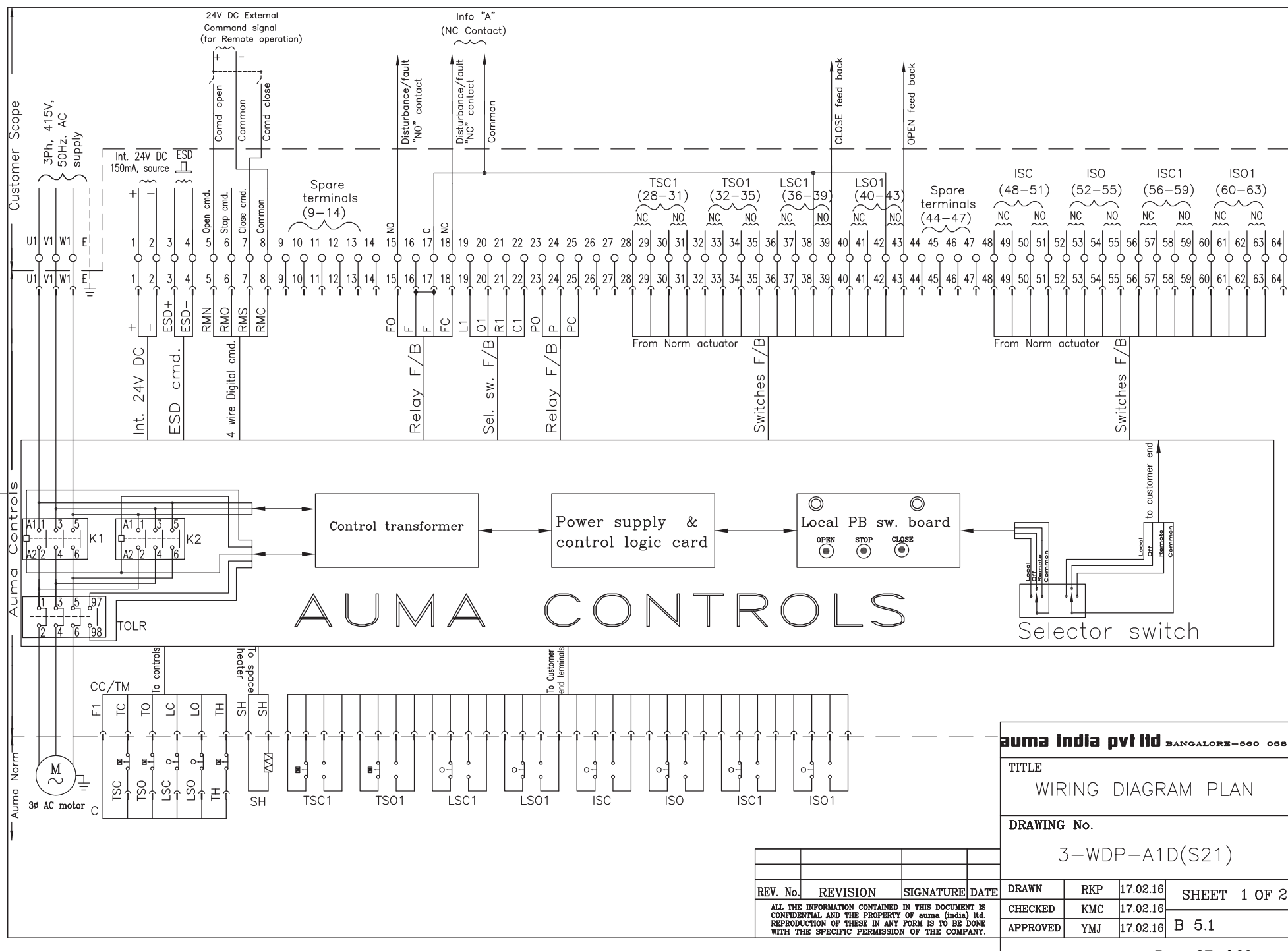
(Page 2 of 2)

DESCRIPTION	UNIT	DATA
SPACE HEATER POWER SUPPLY DETAILS		1phase, 110 V AC, 50 HZ, 10W (1 no.) Space Heater supply will be derived from main power supply available within the actuator
THERMOSTAT (ONE NO. IN EACH PHASE)	3 NOS.	3 Nos. – ONE IN EACH WINDING
INTERNAL WIRING CABLE SIZE		PVC 1.5 mm ²
CONTROL CIRCUIT DIAGRAM (ENCLOSED)	YES/NO	YES/ 3-WDP-A1D
INTEGRAL STARTER PROVIDED	YES/NO	YES PROVIDED
WEIGHT-ACTUATOR	Kg	92
MOTOR SUITABLE FOR ON-OFF/INCHING		60 starts/hr for On-Off duty
MOOTOR TYPE & REFERENCE STANDARD		Squirrel Cage Induction Motor & Tolerance of Motor Data as per IS 325
OLR SET VALUE (RECOMMENDED)	A	1.5
PLUG & SOCKET (INTEGRAL MOUNTED ON THE ACTUATOR)		Not applicable
THE COLOUR CODING OF CABLES FOR 9 PIN PLUG & SOCKET SUITABLE FOR 4 PAIR, 0.5 SQ.MM COPPER CABLES.		Not applicable
SINGLE PHASE PROTECTION PROVIDED	YES/NO	YES PROVIDED
WRONG PHASE SEQUENCE PROTECTION PROVIDED	YES/NO	YES PROVIDED
PAINT SHADE		Epoxy Paint, RAL 5012
Handwheel		Yes provided
Position indication		Mechanical position indicator is provided.
Opto coupler	YES/NO	YES PROVIDED

Name & Seal of vendor with Signature



Tag no. :- 30EGB40AA061 & 30EGB40AA062



Information (A):-

Actuator disturbance/Collective fault details ("NC" contact during healthy indication)
(This "NC" contact becomes "NO" when any one of the following fault occurs)

- Thermoswitch trip
- Torque switch trip
- Thermal over load relay trip
- Power supply failure/Single phasing fault annunciation
- Actuator in Local/Off mode

Note:-

For disturbance/fault with "NC" contact, refer terminal Nos. "18 & 17".

For disturbance/fault with "NO" contact, refer terminal Nos. "15 & 17".

Legend for Customer end terminals for Epac modules as applicable:-

- U1,V1,W1 - Terminals for main power supply from Customer end
 +, - - Internally generated 24V DC, 150mA for Customer use
 L1,O1,R1,C1 - Local/Off/Remote selector switch feedback
 FO,F,FC - Relay information feedback
 RMO, RMS, RMC, RMN - 4 wire Remote operation terminals for OPEN/STOP/CLOSE commands
 ESD - Emergency shut down command
 TSC1/TSO1 - Torque switch, in tandem operation with TSC/TSO
 LSC1/LSO1 - Limit switch, in tandem operation with LSC/LSO
 ISC - Intermediate limit switch-CLOSE
 ISO - Intermediate limit switch-OPEN
 ISC1/ISO1 - Intermediate limit switch, in tandem operation with ISC/ISO

Legend for accessories as applicable (Norm-Epac)

- TM - Terminator board used for Explosion proof actuators controls
 TSC - Torque switch, closing, clock wise rotation
 TSO - Torque switch, opening, counter-clock wise rotation
 LSC - Limit switch, closing, counter-clock wise rotation
 LSO - Limit switch, opening, counter-clock wise rotation
 TH - Thermoswitch (3 thermoswitches connected in series, embedded in motor winding, in each coil)
 SH - Space heater
 M - 3 Ph. AC Squirrel cage induction motor
 K1 & K2 - Reversing contactors
 TOLR - Thermal over load relay

Contact development:-

CONTACT	PARTICULARS	FULL CLOSED	VALVE TRAVEL	FULL OPEN
*	TSO			
L 32-35	TSO1			
*	TSC			
L 28-31	TSC1			
*	LSO			
L 40-43	LSO1			
*	LSC			
L 36-39	LSC1			
L 52-55	ISO			
L 60-63	ISO1			
L 48-51	ISC			
L 56-59	ISC1			

■ indicates contact closed

* For internal use

auma india pvt ltd BANGALORE-560 058

TITLE

INDEX

DRAWING No.

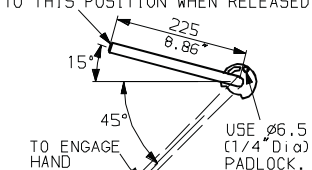
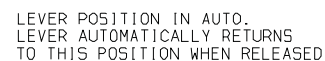
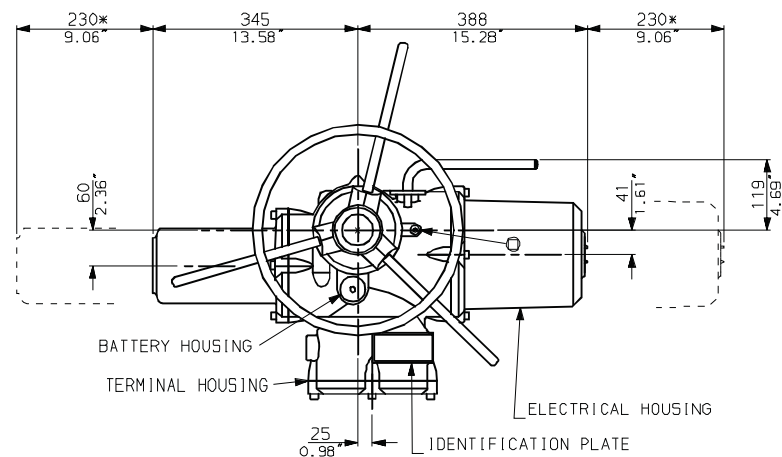
3-WDP-A1D(S21)

REV. No.	REVISION	SIGNATURE	DATE	DRAWN	RKP	17.02.16	SHEET 2 OF 2
				CHECKED	KMC	17.02.16	
				APPROVED	YMJ	17.02.16	B 5.1

ALL THE INFORMATION CONTAINED IN THIS DOCUMENT IS
CONFIDENTIAL AND THE PROPERTY OF auma (india) Ltd.
REPRODUCTION OF THESE IN ANY FORM IS TO BE DONE
WITH THE SPECIFIC PERMISSION OF THE COMPANY.

VENDOR NAME: ROTORK / DATA SHEET REV No. 04 / Date : 06.11.2017			
PROJECT NAME: 3X660 MW NORTH KARANPURA STPP (UNIT NO. 1, 2 & 3) ,NTPC			
APPLICABLE TAG Nos: 30EGB60AA281 & 30EGB60AA282			
ACTUATOR MODEL: IQ25F14B4 + IB4/3:1 144 RPM, FLP IIA/IIB			
S.NO.	DESCRIPTION	UNIT	DATA
1	ACTUATOR MANUFACTURER		ROTORK CONTROLS INDIA (PVT) LTD
2	COMBINED TORQUE RANGE & RPM	KGM	15.49– 38.74 KGM, 144 RPM
3	DUTY CYCLE		S2-15 minutes
4	ENCLOSURE		
4A	TYPE		FLP to suit gas group IIA/IIB
4B	DEGREE OF PROTECTION		Watertight to IP68
4C	VENTILATION		Totally Enclosed Naturally cooled (TENV)
5	HAZARDOUS AREA CLASSIFICATION		FLP to suit gas group IIA/IIB
6	AVERAGE / NOMINAL OUTPUT	KW	1.19
7	RATED VOLTAGE	V	415
8	RATED FREQUENCY	Hz	50
9	No .OF PHASES		3
10	ADMISSIBLE VOLTAGE FLUCTUATION	%	±10
11	ADMISSIBLE FREQUENCY	%	±5
12	ADMISSIBLE VOLT.& FREQ. VARIATION	%	10
13	NOMINAL CURRENT (AVERAGE)	A	2.6
14	STARTING CURRENT	A	22
15	FULL LOAD SPEED	RPM	2880
16	INSULATION CLASS		F
17	POWER FACTOR (AVG. LOAD)		0.75
18	AVERAGE LOAD EFFICIENCY	%	85
19	ADMISSIBLE AMBIENT TEMP.	° C	-30 TO +70
20	TEMP.RAISE OVER AMBIENT TEMP 50	° C	70
21	TYPE		Actuator with integral starter
22	CABLE ENTRY /GLANDS		
22A	CABLE ENTRY		1X M40 & 3 X M25 cable entries provided
22B	CABLE GLAND		Type -Double compression , Flameproof.
			Size 3/4"(Qty =4nos) or suitable for 3Cx2.5sqmm cable
23	GEAR BOX LUBRICATION		SAE80EP
24	TYPE OF BEARING		Deep grooved sealed ball bearing lubricated for life.
25	POSITION LIMIT SWITCHES	Nos	8 Nos. Programmable relay provided
26	TORQUE SWITCHES	Nos	
27	RATING OF SWITCHES	A	5mA to 5A, 120V AC, 30V DC
28	CONTROL VOLTAGE	VDC	24VDC generated internally
29	CONTROL CIRCUIT DIAGRAM		3100-000
30	POSITION TRANSMITTER - ON / OFF		Not applicable
31	POSITION TRANSMITTER - INCHING		Not applicable
32	SPACE HEATER POWER SUPPLY		Not applicable
33	SPACE HEATER TERMINAL SUITABLE		Not required due to overall non intrusive design
34	THERMOSTAT		2nos provided as per standard IQ
35	INTERNAL WIRING		PVC 1.5 mm Sq.
36	WEIGHT- ACTUATOR	Kg	51.76 kgs (Actuator) & 16.34 kgs (Gear Box)
37	MOTOR SUITABLE FOR ON-OFF /		On-off duty (60 Starts per hour)
38	MOTOR TYPE & REF. STANDARD		Squirrel Cage Induction motor as per IS 325
39	OLR SET VALUE (RECOMMENDED)	A	Not applicable
40	MATERIAL OF HAND WHEEL HUB		Aluminum Alloy
41	PAINTING SHADE		RAL 5012(Blue)
42	SINGLE PHASE AND WRONG PHASE		Yes provided.





PADLOCKABLE HAND-AUTO LEVER

NOTES:

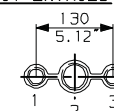
NOTES:
: DIMENSIONS WITH '*' INDICATE
COVER REMOVAL ALLOWANCE

: NETT WEIGHT = 68kg (150Lbs)

:  = OIL FILLER/DRAIN PLUG

THE INTERFACE PROVIDED FOR MOUNTING THE ACTUATOR OR SECOND STAGE GEARBOX ONTO THE VALVE SHOULD CONFORM TO GOOD ENGINEERING PRACTICES, ENSURING ADEQUATELY TOLERANCED LIMITS FOR PARALLELISM, PERPENDICULARITY AND CONCENTRICITY.

CONDUIT ENTRIES (N.T.S)



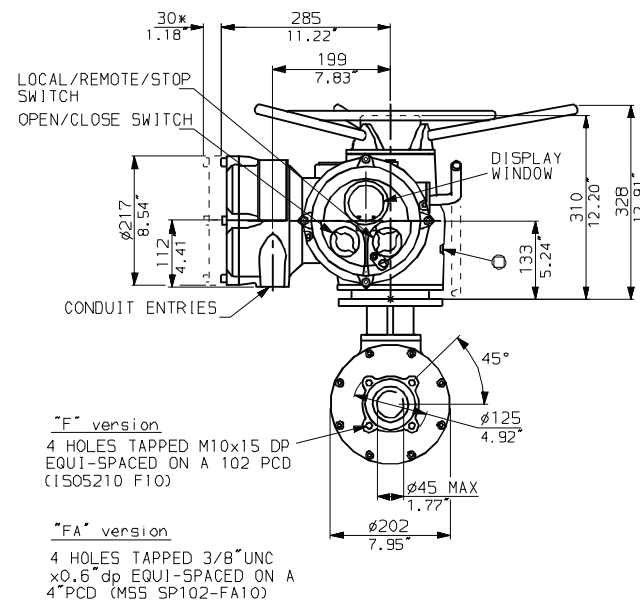
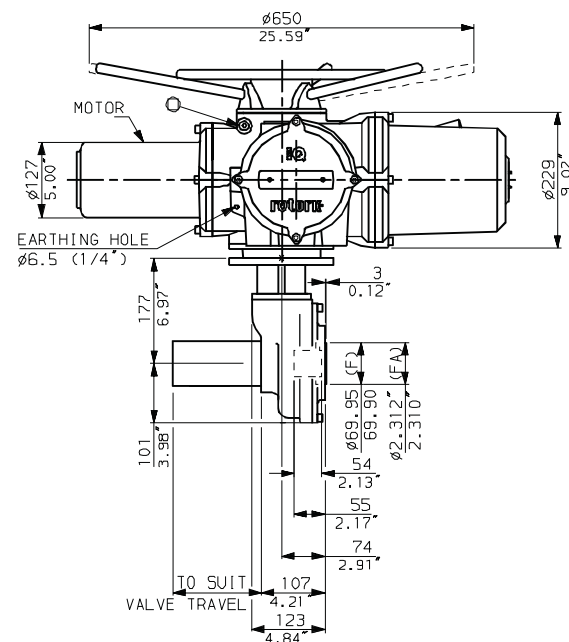
NOS. 1 & 3 TAPPED 1" NPT

No.2 TAPPED 1 1/2" NPT

STD ALTERNATIVES IF SPECIFIED

2 X M25, 1 X M40

2 X PG16, 1 X PG29

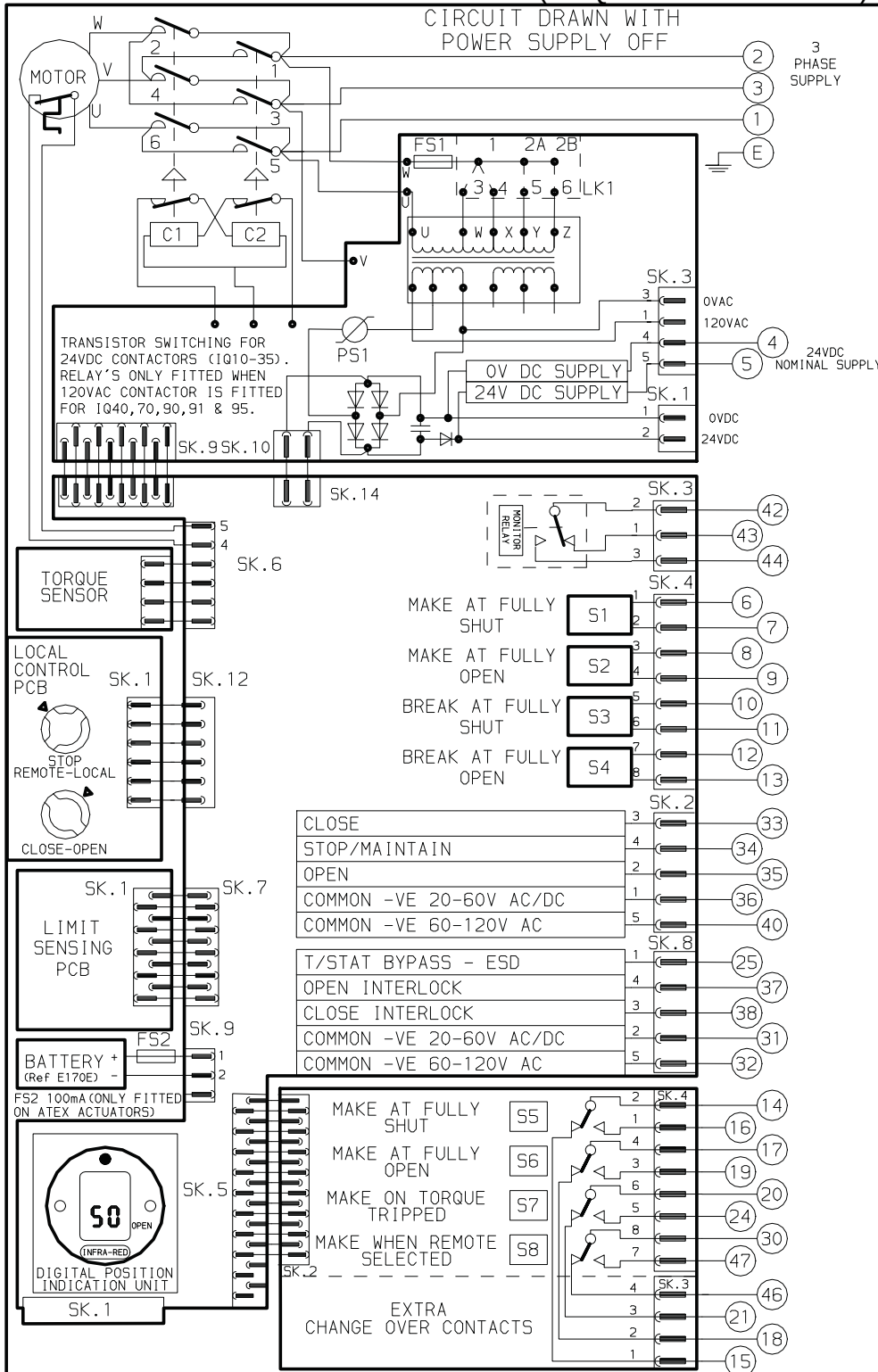


"F" version

4 HOLES TAPPED M10x15 DP
EQUI-SPACED ON A 102 PCD
(ISO5210 F10)

"FA" version

4 HOLES TAPPED 3/8"UNC
x0.6"dp EQUI-SPACED ON A
4"PCD (M55 SP102-FA10)



FOR TYPICAL REMOTE CONTROL
DETAILS SEE DOCUMENT
RWS300

TRANSFORMER TAPPING OPTIONS

TYPE 1

TAP	NOM 50/60HZ	50HZ	60HZ
W	220/230	176-242	198-259
X	380/400	304-418	342-446
Y	415/420	332-457	374-487
Z	440/460	352-484	396-517

FUSE FS1 - 250mA ANTI-SURGE

TYPE 2

TAP	NOM 50/60HZ	50HZ	60HZ
W	346/380	285-388	321-419
X	480/500	406-552	432-564
Y	240/240	192-261	216-282
Z	550/575	445-605	501-654

FUSE FS1 - 250mA ANTI-SURGE

TYPE 3

TAP	NOM 50/60HZ	50HZ	60HZ
X	660/660-690	534-726	600-726
Y	690/---	558-759	

FUSE FS1 - 150mA ANTI-SURGE

ALL TRANSFORMER TYPES - PS1 SELF
RESETTING
FUSE

NOTE

REFER TO PUBLICATION E170E FOR
APPROVED FUSES FS1 AND FS2.

MAX EXTERNAL LOAD ON TERMINALS
4 & 5 TO BE 5W.

CONTROL SIGNAL THRESHOLD VOLTAGES
TO BE MINIMUM 'ON' 20V AC/DC
MAXIMUM 'OFF' = 3V
MINIMUM CONTROL SIGNAL DURATION
TO BE 300ms.

CURRENT DRAWN FROM EACH REMOTE
CONTROL SIGNAL IS 5mA ON 24V DC
OR 12mA ON 120V AC

WIRES ARE IDENTIFIED AT EACH END
BY TERMINAL No. OR TAG No.

INDICATION CONTACTS S1-S4 AND EXTRA
INDICATION CONTACTS S5-S8 ARE SHOWN
IN THEIR DEFAULT CONFIGURATION.
CONTACTS MAY BE CONFIGURED FOR ANY
OF THE FUNCTIONS DESCRIBED IN E170E

05/01/2016		SUBMISSION FOR APPROVAL	RA	HG	HG
Date		Description of Revision	ALT	CHD	APPD
PROJECT		3X660 MW NORTH KARANPURA STPP (UNIT NO. 1, 2 & 3)			
		CUSTOMER NATIONAL THERMAL POWER CORPORATION LIMITED			
		CONTRACTOR BHARAT HEAVY ELECTRICALS LTD PS-PEM, PPEI-BUILDING, SECTOR-16A, PLOT NO. 25, NOIDA-201301			
		FOHS SUPPLIER UNITECH MACHINES LIMITED UM HOUSE" PLOT NO. 35P, SECTOR - 44, GURGAON - 122002			
JOB No.	405	NTPC Doc. No. 4410-001-131-QVE-Q-001			Rev: 01
STATUS	CONTRACT	BHEL Doc. No: PE-V0-405-166-A036			Rev: 01
		UML Doc. No.: P332-QVE-Q-001			Rev: 01
PACKAGE		FUEL OIL UNLOADING & STORAGE SYSTEM			
TITLE		QAP- Electrical Actuator			
PREPARED BY		RA		05/01/2016	
CHECKED BY		HG		05/01/2016	
APPROVED BY		HG		05/01/2016	

ENDORSEMENT SHEET FOR QP

REFERENCE / STANDARD / FIELD QUALITY PLAN (RQP / SQP / RFQP / SFQP)

TO BE FILLED IN BY SUPPLIER AT TIME OF SUBMISSION



To be filled by NTPC

PROJECT NAME	3X660 MW NORTH KARANPURA STPP (UNIT NO. 1, 2 & 3)
CONTRACT NO	NKP-M1627:15:LOI-S-4453/54
MAIN SUPPLIER/SUB-SUPPLIER	M/S BHEL/ UNITECH MACHINES LTD
MANUFACTURER WORKS & ADDRESS	M/S AUMA (INDIA) Pvt.Ltd. No.39-B II Phase, Peenya Industrial Area ,Bangalore-560058
ITEM / EQUIPMENT / SYSTEM / SUBSYSTEM DETAILS i.e MODEL TYPE/SIZE/RATING etc	ELECTRIC ACTUATORS SA/ SAR 3,6,12,15,25,30,50,60,100
APPROVED QP NO : RQP/SQP/RFQP/SFQP	0000-999-QVIP-001 REV.NO:06 DATE:**27/10/2014

Confirmation by Main Supplier (TICK WHICHEVER APPLICABLE)

I. That the item / component is identical to that considered for QP approval. OR ✓

II. That there are minor changes in the item/component with respect to that considered for QP approval, however the same do not affect the contents of QP. OR

II. That there are minor changes in the item/component with respect to that considered for QP approval, however the same affect the QP slightly as indicated below/in attached sheet.

REVIEW & ENDORSEMENT BY NTPC
PROJECT SPECIFIC QP NUMBER ALLOTTED

QP NO : 4410-001-131-QVE-Q-001

REV. NO. 01 DATE: 01/08/2017

** The RQP/SQP/RFQP/SFQP once endorsed for a particular contract shall remain valid even though the original QP may have expired or revised, unless / otherwise mutually agreed with the supplier.

(TICK APPLICABLE)

The QP is endorsed for this project without any change

The QP is endorsed for this project with change as indicated

DISTRIBUTION OF ENDORSEMENT OF

A) RQP /SQP:

1 MAIN SUPPLIER (WITH A COPY OF QP)

2. MANUFACTURER

3. RIO

4. CQA-SPL

5. CQA-O/C

B) RFQP/SFQP:

1. MAIN SUPPLIER (with a copy of QP)

2. MANUFACTURER

3 NTPC FQA (with a copy of QP)

4. NTPC Erection (with a copy of QP)

5. CQA-SPL

6. CQA-O/C

NOTE: FOR FLAME PROOF ACTUATORS, SAME RQP SHALL BE FOLLOWED. RELEVANT CMRI & CCOE (PESO) CERTIFICATES WILL BE SUBMITTED FOR REVIEW AT THE TIME OF FINAL INSPECTION.

Noted



Veeresh M S,

Senior Manager -QM

Auma India Private Limited

SIGN: (Main Supplier)

DATE:

SIGN : (Manufacturer)

DATE:

4/14/2015

NTPC (Reviewed / Approval by / Date & Seal)

Sl. No.		Component & operation	Characteristics	REFERENCE QUALITY PLAN		एनटीपीसी NTPC		TO BE FILLED BY NTPC							
				ITEM : ELECTRIC ACTUATORS	Q.P. No. 06 REV No. 07 DATE : 22.10.2014	SIGN OF MFR AUMA Veeresh MS Quality Management	Q.P. NO. : 0000-999-QVIP-001 REV No. : 06 DATE : 27.10.2014 VALID UP TO : 26.10.2017		REVIEWED BY P P Patil S Samanta	APPROVED BY M Jain Dt. 27.10.2017			Remarks		
							MANUFACTURER'S NAME & ADDRESS : Auma India Private Limited No.39-B, II Phase Peenya Industrial Area Bangalore - 560058	SUB SYSTEM: SA/SAR 3,6,12,15,25,30,50,60,100		Format of Records	Agency				
				Class	Type of Check	Quantum of Check		Reference Documents	Acceptance Norms	9	D*	M C N			11
						M	C/N					10**			
1	RAW MATERIAL														
1.1	ACTUATOR HOUSING CASTING	MECHANICAL PROPERTIES a. TENSILE STRENGTH b. HARDNESS c. SURFACE DEFECTS	MAJOR	MECHANICAL TESTING	ONE / HEAT	-	AIPL DRG. & IS 210	FG - 260 IS 210 & AIPL DRG	SUPPLIER TC & GRN	-	P/V	-	-	HEAT NUMBER ON CASTING	
			MAJOR	VISUAL	100%	-	IS 210	IS 210	GRN	-	P	-	-		
1.2	WORM WHEEL	CHEMICAL COMPOSITION MECHANICAL PROPERTIES a. TENSILE STRENGTH b. ELONGATION c. SURFACE DEFECTS	MAJOR	CHEMICAL ANALYSIS	ONE / HEAT	-	AIPL DRG, BS 1400 AB2/HTB1	AIPL DRG, BS 1400 AB2/HTB1	SUPPLIER TC & GRN	-	P/V	-	-		
			MAJOR	MECHANICAL PROPERTIES	ONE / HEAT	-				-	P/V	-	-		
			MAJOR	VISUAL	100%	-				-	P	-	-		
1.3	BEARING FLANGE CASTING	MECHANICAL PROPERTIES a. TENSILE STRENGTH b. HARDNESS c. SURFACE DEFECTS	MAJOR	MECHANICAL TESTING	ONE / HEAT	-	AIPL DRG. & IS 210	FG - 260 IS 210 & AIPL DRG	SUPPLIER TC & GRN	-	P/V	-	-		
			MAJOR	VISUAL	100%	-	IS 210	IS 210	GRN	-	P	-	-		
1.4	CLUTCH RING (FOR SA/SAR 3,6,12,15)	a. CHEMICAL COMPOSITION b. SURFACE DEFECTS	MAJOR	CHEMICAL ANALYSIS	ONE / HEAT	-	AIPL DRG. & IS 713 IS 713	ZnAl4Cu1, IS 713	SUPPLIER TC & GRN	-	P/V	-	-		
			MAJOR	VISUAL	100%	-				-	P	-	-		
1.4.2	CLUTCH RING (FOR SA/SAR 25,30,50, 60,100)	a. TENSILE STRENGTH b. HARDNESS c. ELONGATION d. SURFACE DEFECTS	MAJOR	MECHANICAL TESTING	ONE / HEAT	-	AIPL DRG. & IS 1865	SG - 400/15 SG - 500/7 IS 1865	SUPPLIER TC & GRN	-	P/V	-	-		
			MAJOR	VISUAL	100%	-	IS 1865	IS 1865	GRN	-	P	-	-		

LEGEND:
 * RECORDS, IDENTIFIED WITH "TICK (✓)" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION
 ** M-MANUFACTURER ; C- CONTRACTOR; N-NTPC; P-PERFORM; W-WITNESS; V-VERIFICATION OF DOCUMENTS;
 ALL "W" INDICATED IN COLUMN "N" SHALL BE "CHP" OF NTPC, AIPL - AUMA INDIA PVT LTD.
 NOTE: GRN'S / Supplier TC'S are maintained for every batch but cannot be linked to any particular order

NOTE: NTPC Inspection Engineer to check approval date of reference document vis-a-vis approval date of RQP at the time of inspection.

auma®		MANUFACTURER'S NAME & ADDRESS : Auma India Private Limited No.39-B, II Phase Peenya Industrial Area Bangalore - 560058		REFERENCE QUALITY PLAN			 QP NO. : 0000-999-QVIP-001 REV No. : 06 DATE : 27.10.2014 VALID UP TO : 26.10.2017		TO BE FILLED BY NTPC					
		ITEM : ELECTRIC ACTUATORS		QP No. 06 REV No. 07 DATE : 22.10.2014		SIGN OF MFR AUMA Veeresh MS Quality Management		REVIEWED BY P P Patil S Samanta		 APPROVED BY P P Patil S Samanta				
		SUB SYSTEM: SA/SAR 3,6,12,15,25,30,50,60,100												
Sl. No.	Component & operation	Characteristics	Class	Type of Check	Quantum of Check		Reference Documents	Acceptance Norms	Format of Records	Agency			Remarks	
1	2	3	4	5	M	C/N	7	8	9	D*	10**		11	
1.5	OUTPUT DRIVE STEM NUT (A - TYPE ONLY)	a. CHEMICAL COMPOSITION b. MECHANICAL PROPERTIES b.1 TENSILE STRENGTH b.2 ELONGATION c. SURFACE DEFECTS	MAJOR	CHEMICAL ANALYSIS	ONE / HEAT	-	AIPL DRG. & BS-1400	AB2/BS 1400 & AIPL DRG.	SUPPLIER TC & GRN	-	P/V	-	-	
			MAJOR	MECHANICAL TESTING	ONE / HEAT	-	BS 1400	AB2/BS 1400	SUPPLIER TC & GRN	-	P/V	-	-	
			MAJOR	VISUAL	100%	-	BS 1400	BS 1400	GRN	-	P	-	-	
1.6	BARSTOCK WORMSHAFT	a. CHEMICAL COMPOSITION b. MECHANICAL PROPERTIES c. SURFACE DEFECTS	MAJOR	CHEMICAL ANALYSIS	ONE SAMPLE/HEAT	-	4M-3532 R2 & AIPL DRG.	4M-3532 R2 & AIPL DRG.	NABL LAB / SUPP. TC / GRN	-	P/V	-	-	
			MAJOR	HARDNESS	ONE SAMPLE/HEAT	-	AIPL DRG.	AIPL DRG.	GRN	-	P/V	-	-	
			MAJOR	VISUAL	100%	-	BS 970	BS 970	GRN	-	P	-	-	
1.7	HOLLOW DRIVE SHAFT	a. CHEMICAL COMPOSITION b. SURFACE DEFECTS	MAJOR	CHEMICAL ANALYSIS	ONE SAMPLE/HEAT	-	4M-3532 R2 & AIPL DRG.	4M-3532 R2 & AIPL DRG.	SUPPLIER TC & GRN	-	P/V	-	-	
			MAJOR	VISUAL	100%	-	BS 970	BS 970	GRN	-	P	-	-	
1.8	PINION	a. CHEMICAL COMPOSITION b. MECHANICAL PROPERTIES c. SURFACE DEFECTS	MAJOR	CHEMICAL ANALYSIS	ONE SAMPLE/HEAT	-	4M-3532 R2 & AIPL DRG.	4M-3532 R2 & AIPL DRG.	NABL LAB / SUPP. TC / GRN	-	P/V	-	-	
			MAJOR	HARDNESS	ONE SAMPLE/HEAT	-	AIPL DRG.	AIPL DRG.	GRN	-	P/V	-	-	
			MAJOR	VISUAL	100%	-	BS 970	BS 970	GRN	-	P	-	-	
1.9	DRIVE SHAFT	a. CHEMICAL COMPOSITION b. MECHANICAL PROPERTIES c. SURFACE DEFECTS	MAJOR	CHEMICAL ANALYSIS	ONE SAMPLE/HEAT	-	4M-3532 R2 & AIPL DRG.	4M-3532 R2 & AIPL DRG.	NABL ACCREDITED LAB / SUPPLIER TC	-	P/V	-	-	
			MAJOR	HARDNESS	ONE SAMPLE/HEAT	-	AIPL DRG.	AIPL DRG.	GRN	-	P/V	-	-	
			MAJOR	VISUAL	100%	-	BS 970	BS 970	GRN	-	P	-	-	
2	IN - PROCESS CONTROL (MACHINED ITEMS)													
2.1	ACTUATOR HOUSING	a. DIMENSIONS b. SURFACE FINISH	MAJOR	MEASUREMENT	One / batch	-	AIPL COMP. DRG./FIR	AIPL COMP. DRG./FIR	GRN/ MCN/FIR	-	P	-	-	
			MAJOR	VISUAL	100%	-	AIPL COMP. DRG.	AIPL COMP. DRG.	GRN / MCN	-	P	-	-	

LEGEND:
 * RECORDS, IDENTIFIED WITH "TICK (✓)" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION
 ** M-MANUFACTURER ; C- CONTRACTOR; N-NTPC; P-PERFORM; W-WITNESS; V-VERIFICATION OF DOCUMENTS;
 ALL "W" INDICATED IN COLUMN "N" SHALL BE "CHP" OF NTPC, AIPL - AUMA INDIA PVT LTD.
 NOTE: GRN'S / Supplier TC'S are maintained for every batch but cannot be linked to any particular order

Batch - Quantity Purchased by M/s Auma from manufacturer in single order.

		MANUFACTURER'S NAME & ADDRESS :		REFERENCE QUALITY PLAN				TO BE FILLED BY NTPC						
		Auma India Private Limited No.39-B, II Phase Peenya Industrial Area Bangalore - 560058		ITEM :	QP No. 06 REV No. 07 DATE : 22.10.2014	SIGN OF MFR AUMA Veeresh MS Quality Management		QP NO. : 0000-999-QVIP-001 REV No. : 06 DATE : 27.10.2014 VALID UP TO : 26.10.2017		REVIEWED BY P P Patil S Samanta		APPROVED BY J. Jain Dt. 27/10/2014		
SUB SYSTEM: SA/SAR 3,6,12,15,25,30,50,60,100		ELECTRIC ACTUATORS												
Sl. No.	Component & operation	Characteristics	Class	Type of Check	Quantum of Check		Reference Documents	Acceptance Norms	Format of Records	Agency			Remarks	
1	2	3	4	5	M	C/N	7	8	9	D*	M	C	N	11
					6						10**			
2.2	WORM WHEEL	a. DIMENSIONS b. ROLL CHECK c. SURFACE FINISH d. MATCHING	MAJOR MAJOR MAJOR MAJOR	MEASUREMENT ROLL CHECK VISUAL VISUAL	One / batch One / batch 100% One / batch	- - - -	AIPL COMP. DRG./FIR AIPL COMP. DRG./FIR AIPL COMP. DRG. 4-M-3335	AIPL COMP. DRG./FIR AIPL COMP. DRG./FIR AIPL COMP. DRG. 4-M-3335	GRN/ MCN/FIR GRN/ MCN/FIR GRN / MCN GRN / MCN	- - - -	P P P P	- - - -	- - - -	
2.3	BEARING FLANGE	a. DIMENSIONS b. SURFACE FINISH	MAJOR MAJOR	MEASUREMENT VISUAL	One / batch 100%	- -	AIPL COMP. DRG./FIR AIPL COMP. DRG.	AIPL COMP. DRG./FIR AIPL COMP. DRG.	GRN/ MCN/FIR GRN / MCN	- -	P P	- -	- -	
2.4	OUTPUT DRIVE STEM NUT (A-TYPE)	a. DIMENSIONS b. SURFACE FINISH	MAJOR MAJOR	MEASUREMENT VISUAL	One / batch 100%	- -	AIPL COMP. DRG./FIR AIPL COMP. DRG.	AIPL COMP. DRG./FIR AIPL COMP. DRG.	GRN/ MCN/FIR GRN / MCN	- -	P P	- -	- -	
2.5	WORMSHAFT	a. DIMENSIONS b. HARDNESS AFTER NITRIDING c. SURFACE FINISH	MAJOR MAJOR MAJOR	MEASUREMENT TESTING VISUAL	One / batch One / batch 100%	- - -	AIPL COMP. DRG./FIR AIPL COMP. DRG. AIPL COMP. DRG.	AIPL COMP. DRG./FIR AIPL COMP. DRG. AIPL COMP. DRG.	GRN/ MCN/FIR SUPPLIER TC/GRN GRN	- - -	P P/V P	- - -	- - -	
2.6	HOLLOW DRIVESHAFT	a. DIMENSIONS b. SURFACE FINISH	MAJOR MAJOR	MEASUREMENT VISUAL	One / batch 100%	- -	AIPL COMP. DRG./FIR AIPL COMP. DRG.	AIPL COMP. DRG./FIR AIPL COMP. DRG.	GRN/ MCN/FIR GRN / MCN	- -	P P	- -	- -	
2.7	PINION	a. DIMENSIONS b. SURFACE FINISH	MAJOR MAJOR	MEASUREMENT VISUAL	One / batch 100%	- -	AIPL COMP. DRG./FIR AIPL COMP. DRG.	AIPL COMP. DRG./FIR AIPL COMP. DRG.	GRN/ MCN/FIR GRN / MCN	- -	P P	- -	- -	
2.8	DRIVE SHAFT	a. DIMENSIONS b. HARDNESS AFTER NITRIDING c. SURFACE FINISH	MAJOR MAJOR MAJOR	MEASUREMENT TESTING VISUAL	One / batch One / batch 100%	- - -	AIPL COMP. DRG./FIR AIPL COMP. DRG. AIPL COMP. DRG.	AIPL COMP. DRG./FIR AIPL COMP. DRG. AIPL COMP. DRG.	GRN/ MCN/FIR SUPPLIER TC/GRN GRN	- - -	P P/V P	- - -	- - -	

LEGEND:
 * RECORDS, IDENTIFIED WITH "TICK (✓)" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION
 ** M-MANUFACTURER ; C- CONTRACTOR; N-NTPC; P-PERFORM; W-WITNESS; V-VERIFICATION OF DOCUMENTS;
 ALL "W" INDICATED IN COLUMN "N" SHALL BE "CHP" OF NTPC, AIPL - AUMA INDIA PVT LTD.
 NOTE: GRN'S / Supplier TC'S are maintained for every batch but cannot be linked to any particular order

Batch - Quantity Purchased by M/s Auma from manufacturer in single order.

auma®		MANUFACTURER'S NAME & ADDRESS : Auma India Private Limited No.39-B, II Phase Peenya Industrial Area Bangalore - 560058		REFERENCE QUALITY PLAN			एनटीपीसी NTPC		TO BE FILLED BY NTPC				
		ITEM : ELECTRIC ACTUATORS		QIP No. 06 REV No. 07 DATE : 22.10.2014	SIGN OF MFR AUMA Veeresh MS Quality Management		QP NO. : 0000-999-QVIP-001 REV No. : 06 DATE : 27.10.2014 VALID UP TO : 26.10.2017		REVIEWED BY P P Patil S Samanta		APPROVED BY K M Jain Dt. 30/04/2020		
Sl. No.	Component & operation	Characteristics	Class	Type of Check	Quantum of Check		Reference Documents	Acceptance Norms	Format of Records	Agency			Remarks
1	2	3	4	5	6		7	8	9	D*	10**		11
					M	C/N					M	C	N
3	MOTORS (AUMA make)	a. RPM b. NO LOAD CURRENT c. IR / HV d. THERMO SWITCHES e. NOISE f. MOUNTING DIMENSIONS g. NAME PLATE i. TYPE TEST	MAJOR	ELECTRICAL	100%	-	IS 325	IS 325	AIPL INS. RECORD	-	P	-	-
			"	PERFORMANCE	"	-	"	"	"	-	"	-	-
			"	TEST	"	-	"	"	"	-	"	-	-
			"	"	"	-	"	"	"	-	"	-	-
			"	"	"	-	"	"	"	-	"	-	-
			MAJOR	DIMENSIONAL	ONE IN LOT	-	AS PER DRG	AS PER DRG	"	-	"	-	-
			"	VISUAL	100%	-	"	"	"	-	"	-	-
			MAJOR	TESTING	ONE/TYPE	-	IS 325	IS 325	Test Certificate	-	"	-	-
4	BOUGHT OUT ITEMS												
4.1	FASTENERS	a. DIMENSIONS b. GRADE	MINOR MAJOR	MEASUREMENT VISUAL	One / batch One / batch	-	IS 2269, IS 1364 IS 1363, IS 2500	IS 2269, IS 1364 IS 1363, IS 2500	GRN GRN	- P	P	- -	- -
4.2	LIMIT & TORQUE SWITCHES	a. CONTINUITY (MAKE/BREAK)	MAJOR	PERFORMANCE	One / batch	-	QC/QW.047	QC/QW.047	GRN	-	P	-	-
4.3	POTENTIOMETER	a. RESISTANCE VALUE	MAJOR	MEASUREMENT	One / batch	-	QC/QW.031	QC/QW.031	GRN	-	P	-	-
4.4	SPACE HEATER	a. IR b. HV	MAJOR MAJOR	MEASUREMENT MEASUREMENT	One / batch One / batch	-	QC/QW.045	QC/QW.045	GRN	-	P	-	-
4.5	ELECTRONIC POSITION TRANSMITTER	a. OUTPUT MEASUREMENT	MAJOR	MEASUREMENT	One / batch	-	CATALOGUE CHECK	CATALOGUE CHECK	GRN	-	P	-	-
4.6	BEARINGS	a. MAKE b. TYPE	MAJOR MAJOR	VISUAL VISUAL	One / batch One / batch	-	QC/QW-023, IS-2500 AIPL COMP. DRG	QC/QW-023	GRN	-	P	-	-
4.7	'O' RINGS AND QUADRINGS	a. MATERIAL IDENTIFICATION b. ELONGATION	MAJOR MAJOR	MEASUREMENT MEASUREMENT	One / batch One / batch	-	AIPL COMP. DRG AIPL COMP. DRG	QC/QW .024, IS 9975 QC/QW .024, IS 9975	GRN	-	P	-	-
													SKF, INA, ABC FAG, ZKL, NBR

LEGEND:
* RECORDS, IDENTIFIED WITH "TICK (✓)" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION
** M-MANUFACTURER ; C- CONTRACTOR; N-NTPC; P-PERFORM; W-WITNESS; V-VERIFICATION OF DOCUMENTS;
ALL "W" INDICATED IN COLUMN "N" SHALL BE "CHP" OF NTPC, AIPL - AUMA INDIA PVT LTD.
NOTE: GRN'S / Supplier TC'S are maintained for every batch but cannot be linked to any particular order

Batch - Quantity Purchased by M/s Auma from manufacturer in single order.

auma®		MANUFACTURER'S NAME & ADDRESS : Auma India Private Limited No.39-B, II Phase Peenya Industrial Area Bangalore - 560058		REFERENCE QUALITY PLAN			एनटीपीसी NTPC		TO BE FILLED BY NTPC					
		ITEM : ELECTRIC ACTUATORS		QP No. 06 REV No. 07 DATE : 22.10.2014		SIGN OF MFR AUMA Veeresh MS Quality Management		QP NO. : 0000-999-QVIP-001 REV No. : 06 DATE : 27.10.2014 VALID UP TO : 26.10.2017		REVIEWED BY P P Patil S Samanta		APPROVED BY K M Jain Dr. P. C. Noida		
Sl. No.	Component & operation	Characteristics	Class	Type of Check	Quantum of Check		Reference Documents	Acceptance Norms	Format of Records	Agency			Remarks	
1	2	3	4	5	M	C/N	7	8	9	D*	M	C	N	11
4.8	SPRINGS	DIMENSIONS	MAJOR	MEASUREMENT	One / batch	-	QC/QW.019 & DIN 2093	QC/QW.019 & DIN 2093	SUPPLIER TC/GRN	-	P	-	-	
5	ASSEMBLY INSPECTION													
5.1	WORM SHAFT ASSEMBLY	a. SURFACE DEFECTS b. FREE ROTATION	MAJOR MAJOR	VISUAL VISUAL	100% 100%	- -	4M - 3335 4M - 3335	4M - 3335 4M - 3335	AIPL LOG BOOK AIPL LOG BOOK	- -	P P	- -	- -	
5.2	WORM WHEEL ASSEMBLY	a. SURFACE DEFECTS b. FREE ROTATION	MAJOR MAJOR	VISUAL VISUAL	100% 100%	- -	4M - 3335 4M - 3335	4M - 3335 4M - 3335	AIPL LOG BOOK AIPL LOG BOOK	- -	P P	- -	- -	
6	FINAL TESTING	a. WIRING CONTINUITY b. PHASE SEQ. CORRECTION c. OPERATION & SETTING OF LIMIT & TORQUE SWITCH d. NO LOAD CURRENT e. HANDWHEEL - MANUAL & AUTO DECLUTCH OPERATION f. OUTPUT SPEED g. POTENTIOMETER h. SPACE HEATER i. MECHANICAL POSITION INDICATOR j. VOLTAGE VARIATION TEST k. INSULATION RESISTANCE l. HV TEST l.1 NORM ACT.: 1.6 kV, 1 min l.2 EPAC ACT.: 1.1 kV, 1 min	CRITICAL	FUNCTIONAL	100%	10%	NTPC APPRD. DATA SHEET; AIPL STD.	NTPC APPRD. DATA SHEET; AIPL STD.	QM-FINAL INSP. REPORT QC/FM.006	✓	P	W	V	Document review on 100 % basis by Contractor / TPIA and NTPC / Customer.

LEGEND:
* RECORDS, IDENTIFIED WITH "TICK (✓)" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION
** M-MANUFACTURER ; C- CONTRACTOR; N-NTPC; P-PERFORM; W-WITNESS; V-VERIFICATION OF DOCUMENTS;
ALL "W" INDICATED IN COLUMN "N" SHALL BE "CHP" OF NTPC, AIPL - AUMA INDIA PVT LTD.
NOTE: GRN'S / Supplier TC'S are maintained for every batch but cannot be linked to any particular order

Batch - Quantity Purchased by M/s Auma from manufacturer in single order.

		MANUFACTURER'S NAME & ADDRESS : Auma India Private Limited No.39-B, II Phase Peenya Industrial Area Bangalore - 560058		REFERENCE QUALITY PLAN					TO BE FILLED BY NTPC					
				ITEM : ELECTRIC ACTUATORS SUB SYSTEM: SA/SAR 3,6,12,15,25,30,50,60,100	QP No. 06 REV No. 07 DATE : 22.10.2014	SIGN OF MFR AUMA  Veeresh MS Quality Management	QP NO. : 0000-999-QVIP-001 REV No. : 06 DATE : 27.10.2014 VALID UP TO : 26.10.2017	REVIEWED BY P P Patil S Samanta	APPROVED BY  P. P. Patil					
Sl. No.	Component & operation	Characteristics	Class	Type of Check	Quantum of Check		Reference Documents	Acceptance Norms	Format of Records	Agency		Remarks		
1	2	3	4	5	M	C/N	7	8	9	D*	M C N	11		
	FINAL TESTING (Contd.)	m. GREASE LEAKAGE n. VISUAL INSPECTION o. ELECTRONIC POSITION TRANSMITTER p. STALL TORQUE and Current q. PAINTING and Rust Prevention r. MOUNTING DIMENSION		VISUAL VISUAL OUTPUT MEASUREMENT MEASUREMENT SHADE & DRY PAINT THICKNESS PHYSICAL	100% 1 PER TYPE One / batch 100%	10% 1 PER TYPE - 1 NO. PER BATCH	NTPC APPRD. DATA SHEET; AIPL STD. TD/QW.005 Tech.Spec. / NTPC Approved Data sheet AIPL DRG./CATALOGUE	NTPC APPRD. DATA SHEET; AIPL STD. TD/QW.005 Tech.Spec. / NTPC Approved Data sheet AIPL DRG./CATALOGUE	QM-FINAL INSP. REPORT QC/FM.006 DIMENSION REPORT	✓ ✓	P P	W V	V V	Document review on 100 % basis by Contractor / TPIA and NTPC / Customer.
7	ACCESSORIES PLUG & SOCKET	a. VISUAL b. ELECTRICAL	MAJOR MAJOR	VISUAL HV	One / batch One / batch	- -	CATALOGUE INSPECTION REPORT	CATALOGUE INSPECTION REPORT	GRN & INSP.REPORT GRN	- -	P P	- -	- -	WITH ACTUATOR
8	ELECTRICAL TEST FOR INTEGRAL STARTERS	a. HV TEST b. BURN IN TEST c. 24V DC OUTPUT d. OPERATIONAL CHECK	MAJOR	ELECTRICAL / FUNCTIONAL	100%	10%	AIPL STD.	AIPL STD.	SUPPLIER-TC	✓ -	P P	V W	V V	WITH ACUTATOR
9	SHIPPING INSPECTION	a. NAME PLATE b. PAINTING c. Rust Prevention d. ACCESSORIES e. ANCHORING					PACKING SLIP	PACKING SLIP	PACKING SLIP	-	P	-	-	

LEGEND:
 * RECORDS, IDENTIFIED WITH "TICK (✓)" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION
 ** M-MANUFACTURER ; C- CONTRACTOR; N-NTPC; P-PERFORM; W-WITNESS; V-VERIFICATION OF DOCUMENTS;
 ALL "W" INDICATED IN COLUMN "N" SHALL BE "CHP" OF NTPC, AIPL - AUMA INDIA PVT LTD.
 NOTE: GRN'S / Supplier TC'S are maintained for every batch but cannot be linked to any particular order

Batch - Quantity Purchased by M/s Auma from manufacturer in single order.

E-Tender Ref. No.: PSER: PUR: PMX: 392: 003: (ENQ: 20: PP: 0015: PUR: 5) Date: 30/04/2020**TAXES & DUTIES (Annexure-I)**

- a. All taxes excluding GST with applicable cess & BOCW Cess (mentioned elsewhere in the Tender) but including, Charges, Royalties, any State or Central Levy and other Taxes for materials if any obtained for the work and for the execution of the contract shall be borne by the bidder and shall not be payable extra by BHEL.
- b. Any increase in the above at any stage during execution including extension of the contract, if any, shall have to be borne by the contractor. Quoted/ accepted rates/ price shall be inclusive of all such requirements.
- c. GST with applicable Cess, legally leviable & payable by the successful bidder as per GST Law, shall be paid extra by BHEL. Hence, Bidder shall not include GST with applicable Cess in their quoted price.
- d. The successful bidder shall furnish proof of GST registration with GSTN Portal covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the successful bidder on BHEL for this project/ work.
- e. Since GST on output will be paid by BHEL separately as enumerated above, bidder's quoted rates/ price should be after considering the Input Credit under GST law at their end.
- f. TDS under Income Tax shall be deducted at prevailing rates on gross invoice value from the running bills unless exemption certificate from the appropriate authority/ authorities is furnished.
- g. TDS under GST (if/ as & when applicable later) shall be deducted at applicable rates on gross invoice value from the running bills. However as on date no TDS under GST is applicable.
- h. Bidder shall note that the GST Tax Invoice complying with GST Invoice Rules (Section 31 of GST Act & Rules referred there under) wherein the 'Bill To' details shall be as per following-

BHEL GSTN – 20AAACB4146P5ZP**NAME - BHARAT HEAVY ELECTRICALS LIMITED****ADDRESS - CONSTRUCTION MANAGER, BHEL SITE OFFICE, 3 X 660 MW NTPC NORTH KARANPURA PROJECT, SITE OFFICE: TANDWA, P.O. – TANDWA, DIST. – CHATRA, JHARKHAND, PIN-825321**

- i. Bidder to intimate immediately on the day of removal of Goods (in case of any supply of goods) to BHEL along with all relevant details and a scanned copy of Tax Invoice through following communication mode for enabling BHEL to meet its GST related compliances
Portal Address – Shall be intimated later and email Address – Shall be intimated later.
- j. In case of delay in submission of the above mentioned documents on the date of dispatch, BHEL may incur penalty /interest for not adhering to Invoicing Rules under GST Law. The same will be liable to be recovered from the successful bidder, if such delay is attributable to the bidder.
- k. In case of raising any Supplementary Tax Invoice (Debit / Credit Note) Bidder shall issue the same containing all the details as referred to in Section 34 read with Section 31 of GST Act & Rules referred there under.
- l. Bidder shall comply with the Time limit prescribed under the GST Law and rules thereof for raising of the tax invoice. If any supply of goods is applicable, Bidder shall also ensure prompt delivery of Goods after dispatch.
- m. Bidder shall note that in case GST credit is delayed/ denied to BHEL due to delayed / non receipt of goods and /or tax invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reasons attributable to the bidder, GST amount shall be recoverable from the bidder along with interest levied / leviable on BHEL, as the case may be.
- n. Bidder shall upload the Invoices raised on BHEL in GSTR-1 within the prescribed time as given in the GST Act. Bidder shall note that in case of delay in declaring such invoice in your return and GST credit availed by BHEL is denied or reversed subsequently as per GST Law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from the bidder along with interest levied / leviable on BHEL.
- o. Way Bill: Successful Bidder shall arrange way bill/e-waybill for any transfer of goods for the execution of the contract.
- p. The Bidder has to make their own arrangement at their cost for completing the formalities, if required, with Issuing Authorities, for bringing materials, plants & machinery at site for execution of the works under this contract, Road Permit/ Way Bill, if required, shall be arranged by the contractor and BHEL will not supply any Road Permit/ Way Bill for this purpose.
- q. Any new taxes & duties, if imposed subsequent to the due date of offer submission as per NIT & TCN, by statutory authority during contract period (including extensions for which delay is not attributable to the bidder), shall be reimbursed by BHEL on production of relevant supporting document to the satisfaction of BHEL. However, bidder shall obtain prior approval from BHEL before depositing any such new taxes and duties.
- r. Benefits and/or abolition of all existing taxes must be passed on to BHEL against new taxes, if any, introduced at a later date.
- s. As per Anti-profiteering clause bidder shall pass on the benefit to BHEL in case of any reduction of the GST rate. Further any Excise Duty, VAT, CST, Service tax, Entry Tax embedded in the price of the goods/Services shall be passed on to BHEL.

E-Tender Ref. No.: PSER: PUR: PMX: 392: 003: (ENQ: 20: PP: 0015: PUR: 5) Date: 30/04/2020

PART-E

PRICE BID

PLEASE REFER
E-PROCUREMENT PORTAL <https://bhel.abcprocure.com>

E-Tender Ref. No.: PSER: PUR: PMX: 392: 003: (ENQ: 20: PP: 0015: PUR: 5) Date: 30/04/2020

PART-E

UNPRICED PRICE BID

PLEASE REFER
E-PROCUREMENT PORTAL <https://bhel.abcpurchase.com>

E-Tender Ref. No.: PSER: PUR: PMX: 392: 003: (ENQ: 20: PP: 0015: PUR: 5) Date: 30/04/2020

PART-H:
FORMS AND PROCEDURES

F-01

RTGS FORMAT

Form for getting payment through RTGS (Real Time Gross Settlement)

01. NAME OF VENDOR:
02. ADDRESS:
03. VENDOR'S BANK A/C NAME:
04. VENDOR'S BANK A/C NO.:
05. NAME OF BANK:
06. NAME OF BRANCH:
07. BRANCH PH. NO.:
08. CITY:
09. IFSC CODE OF THE BRANCH:

THE CHARGES IF ANY FOR PAYMENT THROUGH RTGS MAY BE RECOVERED FROM THE BILL SUBMITTED BY US.

SIGNATURE OF AUTHORISED
REPRESENTATIVE OF VENDOR WITH DATE
& SEAL

CONFIRMATION BY BANKER WITH
OFFICE SEAL

Note: Incorrect information will create accounting complications and payment will be delayed.

E-Tender Ref. No.: PSER: PUR: PMX: 392: 003: (ENQ: 20: PP: 0015: PUR: 5) Date: 30/04/2020

F-02

VENDOR DETAILS

1. Name & address of the vendor/company:
2. PAN No. of the vendor/company (scan copy of PAN Card):
3. Contact Person for the vendor/company:
4. Mobile number & E-mail of the contact person:
5. VAT / TIN:
5. CST:

SIGNATURE OF THE BIDDER WITH DATE & SEAL

E-Tender Ref. No.: PSER: PUR: PMX: 392: 003: (ENQ: 20: PP: 0015: PUR: 5) Date: 30/04/2020**F-03****FORMAT FOR DETAILS OF BIDDER**

NAME OF BIDDER	
FAX NO.	
Registration Number*	
Name of Partners / Directors	
Bidder Type Indian/ Foreign*	
City*	
State*	
Country*	
Postal Code*	
PAN/TAN Number*	
Company's Establishment Year	
Company's Nature of Business*	
Company's Legal Status* {limited company/ undertaking/joint venture/partnership/other}	
Company Category* {micro unit as per MSME/small unit as per MSME/medium unit as per MSME/Ancillary unit/project affected person of this company/ssi/ other}	
Enter Company's Contact Person Details Title(Mr. / Mrs. / Ms. / Dr. / Shri)*	
Contact Name*	
Date Of Birth*	
Correspondence Email* (Correspondence Email ID can be same as your Login ID. All the mail correspondence will be sent only to the Correspondence Email ID.)	
Designation	
Phone*	
Mobile*	

SIGNATURE OF THE BIDDER WITH DATE & SEAL

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its Unit at Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700091 having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____¹ hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated² valued at Rs.....² (Rupees -----)for <Nature of Work>³ (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount Rs ----- (Rupees -----)⁴ without any demur, immediately on a demand from the Employer, . Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the contractors/supplier shall have no claim against us for making such payment.

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall remain in force upto and including.....⁵ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor/Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁶ (3 months more than the present date of validity of Bank Guarantee) we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁷
- b) This Guarantee shall be valid up to⁸
- c) Unless the Bank is served a written claim or demand on or before⁹ (3 months more than the present date of validity of Bank Guarantee) all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

Any claim or dispute arising under the terms of this document shall only be enforced or settled in the courts of at Kolkata only.

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF THE VENDOR / CONTRACTOR / SUPPLIER.

² DETAILS ABOUT THE NOTICE OF AWARD/ CONTRACT REFERENCE

³ PROJECT/SUPPLY DETAILS

⁴ BG AMOUNT IN FIGURES AND WORDS

⁵ VALIDITY DATE

⁶ DATE OF EXPIRY OF CLAIM PERIOD

⁷ BG AMOUNT IN FIGURES AND WORDS.

⁸ VALIDITY DATE

⁹ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.

2. In Case of Bank Guarantees submitted by Foreign Vendors-

a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India) can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.

b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)

b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.

b.2 In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.

- b.3** The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
- b.4** The BG should clearly specify that the demand or other document can be presented in electronic form.

List of Consortium Banks *			
	Nationalised Banks		Nationalised Banks
1	Allahabad bank	19	Vijaya Bank
2	Andhra bank		Public Sector Banks
3	Bank of Baroda	20	IDBI
4	Canara Bank		Foreign banks
5	Corporation bank	21	CITI Bank N.A
6	Central bank	22	Deutsche Bank AG
7	Indian Bank	23	The Hongkong and Shanghai Banking Corporation Limited
8	Indian Oversea Bank	24	Standard Chartered Bank
9	Oriental bank of Commerce	25	J P Morgan
10	Punjab National Bank		
11	Punjab & Sindh Bank		Private banks
12	State Bank of India	26	Axis Bank
13	State Bank of Hyderabad	27	The Federal Bank Limited
14	Syndicate Bank	28	HDFC
15	State Bank of Travancore	29	Kotak Mahindra Bank
16	UCO Bank	30	ICICI
17	Union Bank of India	31	Indusind Bank
18	United Bank of India	32	Yes Bank

* wef 22.03.2016