



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)

Haridwar – 249403

Expression of Interest (EoI) from Suitable Vendors

for

**Design, Supply, Erection, Testing & Commissioning of ‘600 Ton
Self-Aligning Motorized Rotator Sets’ at HEEP, BHEL, Haridwar**

Date:-12/10/2026

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SECTION-1
DISCLAIMER

The information contained in this Expression of Interest (EoI) document provided to the Applicant(s), by or on behalf of Bharat Heavy Electricals Limited (BHEL) or any of its employees or advisors, on the terms and conditions set out in this EoI document and all other terms and conditions subject to which such information is provided.

1. The purpose of this EoI document is to provide the Applicant with information to assist the formulation of their proposal. This EoI document does not purport to contain all the information each Applicant may require. This EoI document may not be appropriate for all persons, and it is not possible for BHEL, its employees or advisors to consider the business/investment objectives, financial situation and particular needs of each Applicant who reads or uses this EoI document. Each Applicant should conduct his own investigations and analysis and should check the accuracy, reliability and completeness of the information in this EoI document and where necessary obtain independent advice from appropriate sources.
2. BHEL, its employees and advisors make no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the EoI document.
3. BHEL may, in its absolute discretion, but without being under any obligation to do so, modify, amend or supplement the information in this EoI document.
4. The issue of this EoI does not imply that BHEL is bound to select and shortlist any or all the Applicant(s). Even after selection of suitable Applicant, BHEL is not bound to proceed ahead with the Applicant and in no case be responsible or liable for any commercial and consequential liabilities in any manner whatsoever.
5. The Applicant shall bear all costs associated with the preparation, business/technical discussions/presentation and submission of response against this EoI. BHEL shall in no case be responsible or liable for these costs regardless of the conduct or outcome of the EoI process.
6. Canvassing in any form by the Applicant or by any other Vendors on their behalf shall lead to disqualification of their EoI.
7. Notwithstanding anything contained in this EoI, BHEL reserves the right to accept or reject any application and to annul the EoI process and reject all applications, at any time without any liability or any obligation for such acceptance, rejection or annulment and without assigning any reasons, thereof. In the event that BHEL rejects or annuls all the applications, it may at its discretion, invite all eligible Applicants to submit fresh applications.
8. BHEL reserves the right to disqualify any applicant during or after completion of EoI process, if it is found there was a material misrepresentation by any such applicant or the applicant fails to provide within the specified time, supplemental information sought by BHEL.
9. BHEL reserves the right to verify all statements, information and documents submitted by the applicant in response to the EoI. Any such verification or lack of such verification by BHEL shall not relieve the applicant of his obligations or liabilities hereunder nor will it affect any rights of BHEL.

SECTION-2

SCHEDULE OF EoI PROCESS & CONTACT DETAILS

A. SCHEDULE OF EoI PROCESS

The schedule of activities during the EoI Process shall be as follows -

S No.	Description	Date
1	Issue of EoI document	12.10.2026
2	Last date of submission of EoI	22.10.2026

In case any amendment/corrigendum to this EoI is issued, it shall be notified only at www.bhel.com

B. CONTACT DETAILS:

The Vendors shall submit/send their offer against the expression of Interest with all annexures duly signed at the following addresses:

Tender Room, 4th Floor
Main Admin Building
Heavy Electrical Equipment Plant,
Bharat Heavy Electricals Limited (BHEL), Ranipur, Haridwar 249403

Tel: +91-1334- 281348
E-mail: tendercell.heep@bhel.in

All the correspondences reg. any Scope/ Technical Clarification shall be addressed to the following official.

Mr. Rahul Kumar Gupta
Manager
Electrical Machines Technology (EMT)
Heavy Electrical Equipment Plant,
Bharat Heavy Electricals Limited (BHEL), Ranipur, Haridwar 249403

Tel: +91-1334- 281438
Mobile: +91 9758230020
E-Mail: rahulkg@bhel.in

SECTION – 3

DETAILS OF EXPRESSION OF INTEREST (EoI)

3.1 INTRODUCTION:

BHEL, HEEP, Haridwar, a Public Sector Undertaking, under the Government of India, seeks Expression of Interest from suitable vendors who are meeting the requirements of this EoI and are willing to be associated with BHEL for Design, Supply, Erection, Testing & Commissioning of ‘600 Ton Self-Aligning Motorized Rotator Sets’ at BHEL HEEP Haridwar.

Henceforth the term “Vendors” shall mean any suitable suppliers/ parties / agencies etc. who are eligible and willing to participate in this EOI as per the laid down terms and conditions in this EOI.

3.2 ABOUT BHEL & HEEP:

Bharat Heavy Electricals Limited (BHEL) (www.bhel.com) having its registered office at “BHEL House, Siri Fort, New Delhi – 110049 (India)”, is a Government of India Undertaking, Established in 1964. BHEL is an integrated power plant equipment manufacturer and one of the largest Engineering and Manufacturing Company of its kind in India. The company is engaged in the Design, Engineering, Manufacturing, Construction, Testing, Commissioning and servicing of a wide range of products and services for core sectors of the economy, viz. Power, Transmission, Industry, Transportation (Railways), Renewable Energy, Oil & Gas, Water and Defence with over 180 products offerings to meet the needs of these sectors. BHEL has been the bedrock of India's Heavy Electrical Equipment industry.

BHEL has a widespread network of 17 Manufacturing Divisions, 2 Repair Units, 4 Regional Offices, 8 Service Centres, 6 Overseas Offices, 6 Joint Ventures, 15 Regional Marketing Centres and current project execution at more than 150 project sites across India and abroad corroborates the humungous scale and size of its operations.

Adding to its achievements, BHEL has joined the elite club of select global giants having an installed base of over 170 GW of power generating equipment globally. BHEL also has a widespread overseas footprint in 78 countries with cumulative overseas installed capacity of BHEL manufactured power plants nearing 10,000 MW.

BHEL has technology tie-ups with leading companies in the world including General Electric Vernova, Siemens AG and Mitsubishi Heavy Industries Ltd., supported by technology developments in its own R&D centres. The quality & reliability of BHEL products at par with other Global players and adheres to international standards.

BHEL HEEP, Haridwar Unit BHEL Heavy Electrical Equipment Plant (HEEP), Haridwar is one of the Major Manufacturing Units of BHEL and caters the largest number of products under a single roof. Presently HEEP caters to a wide spectrum of business and higher rated equipment in Power, Gas & defence Sector like Steam Turbine, Gas Turbines, Nuclear Turbines, Generators, Heat Exchangers, etc.

3.3 Objective of EOI:

The objective of this EOI is to identify interested, experienced and technically competent vendors who are willing to associate with BHEL for Design, Supply, Erection, Testing & Commissioning of ‘600 Ton Self-Aligning Motorized Rotator Sets’ at BHEL HEEP, factory premises located at Ranipur, Haridwar-249403, under the following:

- i. Vendors will design and manufacture the rotator set and pre-inspection and approval by BHEL will be done before dispatch them to BHEL Factory premises.
- ii. Vendor shall undertake installation, testing, proving, commissioning at BHEL Haridwar premises.

Responses to this EoI shall be submitted in accordance with the terms defined herein and as may be modified, amended, or clarified by BHEL from time to time.

Upon receipt of responses, BHEL will study the proposals to assess the Vendor's suitability and identify the vendors for further discussions.

3.4 Process of EOI:

- i. Prospective Vendors who are meeting the Pre-Qualification Requirement (PQR) as per "section 3.5" shall submit their proposal for EOI for Design, Supply, Erection, Testing & Commissioning of '600 Ton Self-Aligning Motorized Rotator Sets' at BHEL Ranipur, Haridwar.
- ii. Vendors shall furnish all the duly filled in formats/ information/ documents/ credentials etc as sought in Annexure 2.
- iii. All the documents shall be submitted in English language only.
- iv. BHEL shall engage with the Vendor(s) who are fulfilling PQR, for further discussions, presentations etc. on their proposals.
- v. Subsequent to Identification, whenever required, BHEL shall float a formal tender as per BHEL's policies and formal order will be placed accordingly.
- vi. This Expression of Interest (EOI) itself is not an agreement and is not an offer or invitation to enter into an agreement/ tie-up/MOU of any kind with any party by BHEL.

3.5 Prequalification Requirements (PQRs):

Only those Vendors should apply against this EoI who satisfy the following PQR requirements:

I. Vendors who have supplied & commissioned at least one "Self- Aligning Motorized Rotator Set" of minimum capacity 450 Ton in the past twenty years.

The following information should be submitted by the vendor:

- Parameters of supplied 'Self- Aligning Motorized Rotator Set' supplied.
- Month & Year of commissioning.
- Copy of Purchase order for the supplied 'Self- Aligning Motorized Rotator Set' from the customer.
- Performance certificate from the customer(s) regarding satisfactory performance of referred machine supplied to them

3.6 Technical Requirements:

as per Annexure-1.

3.7 Instructions

- i. Interested agencies shall submit their duly filled complete response/ proposal along with covering letter and all supporting documents/ information as per Annexure-2 in soft copies addressed to Email IDs indicated in the contact details (Section-2: B) on or before due date of Submission.
- ii. The response to EoI shall also be accompanied with details on company background, technical features/ product catalogue, reference list of customers, details of current manufacturing facilities and relevant certificates, annual audited financial reports for last three (3) years.
- iii. All correspondences and documents related to the EoI response shall be in English only.

- iv. The Vendors shall abide by the terms & conditions, as applicable, of the EoI.
- v. All pages of the response against this EoI shall be duly signed & stamped by the authorised signatory.
- vi. BHEL/TPIA (Third party inspection Vendors) appointed by BHEL may at its discretion inspect the Vendor's works/office/reference site premises, as deemed necessary. BHEL's decision in this regard shall be final.
- vii. Any vendor which has been debarred/blacklisted by Indian Central/State Governments or by any entity controlled by Indian Central/State Governments from participating in any of their project, as on date of submission of EoI, shall not be eligible to submit the EoI.
- viii. BHEL shall receive applications pursuant to this EoI in accordance with the terms set forth herein, as modified, altered, amended and clarified from time to time by BHEL, and all applications shall be submitted in accordance with such terms on or before the date specified in this EoI for submission of applications. In case any amendment/corrigendum to this EoI is issued, it shall be notified only at www.bhel.com.
- ix. This Expression of Interest (EOI) is not an agreement and is not an offer or invitation to enter into an agreement/ tie-up/MOU of any kind with any party by BHEL.

3.8 Confidentiality:

- i. Information relating to the examination, clarification, evaluation and comparison of EoI and recommendations shall not be disclosed to Vendors. Any effort by Vendors to influence BHEL in processing of EoI may result in rejection of the response against EoI.
- ii. Discussions, deliberations and any information shared by BHEL to the applicants of EoI shall not be disclosed by applicants to any of the third party under any circumstances. Appropriate NDA (Non-Disclosure Agreement) shall also be sought from applicants as deemed by BHEL during the process of EoI.

3.9 Governing Laws & Jurisdiction:

In respect of all matters arising out of or pertaining to the EoI, the cause of action there of shall be deemed to have arisen only at Ranipur Haridwar, where BHEL – HEEP is situated. All legal proceedings pertaining to the above matters or dispute shall be instituted only in courts having territorial jurisdiction (of Haridwar Courts) over the place where BHEL-HEEP is situated and no other court shall have the jurisdiction.



TECHNICAL SPECIFICATION OF '600 TON SELF ALIGNING MOTORIZED ROTATOR SET'

Sl. No.	DESCRIPTION OF BHEL REQUIREMENT	QUANTITY
1.0	PURPOSE: -	
1.1	600 Ton capacity Self-aligning Motorized Rotator consists of one rotator block at fixed end and second rotator block at adjustable end to suit the different lengths of stator, will be used for the rotation of the wound stator of large size Turbo generators to facilitate winding, laying and assembly operations.	
1.2	450 Ton capacity self-Aligning Motorized Rotator set is available at BHEL, Haridwar works. The same can be examined by the vendor before submitting the offer, if desired.	
2.0	SCOPE :-	
	The scope of supply includes design, manufacturing, supply, erection, commissioning and proving of 600 Ton capacity self-Aligning Motorized Rotator set at BHEL Haridwar works.	2 sets
3.0	DIMENSIONAL DETAILS OF THE WOUND STATOR (JOB) REQUIREMENT:	
3.1	- Outer diameter of wound stator at sitting surface on the rotator: 3500 mm minimum & 4700 mm maximum. - The wound stator has protrusions along the stator body length, apart from the sitting surface. Maximum diameter of protrusion on wound stator other than at the sitting surface: 5250 mm (Refer Annexure-C) - Overall length of wound stator: 7500 mm minimum & 12000 mm maximum. - Weight of wound stator: 600 Ton maximum. - Rotation of job (wound stator) for minimum & maximum diameter: 1 R.P.M.	
4.0	TECHNICAL SPECIFICATION OF 600 TON SELF-ALIGNING MOTORIZED ROTATOR SET: -	
4.1	DESIGN CONSIDERATION: - The rotator set should be designed with 1.25 times safety factor. Operating load is 600 Ton maximum i.e. rotator set should be designed for minimum 750 Ton capacity. Each rotator block shall have operating load carrying capacity of 300 Ton. However, each rotator shall be designed for minimum 375 Ton capacity.	
4.1.1	OPERATIONAL DETAILS:	
4.1.1.1	Rotator shall be suitable for both clockwise & anti-clockwise rotation of the job. Suitable arrangement shall be provided on each rotator to avoid thrust on the worm shaft during immediate requirement of changing the direction of rotation of the job. There should be time lag of 4 second after giving command to rotate the rotator in clockwise/anticlockwise directions. A common trip alarm shall be provided for the motors. Tripping of any one motor shall automatically switch off all other motors.	
4.1.1.2	Provision for operating the rotator set from either end, shall be made. The rotator set can be operated either from the fixed end or from the adjustable end. Safety provision i.e. inter locking shall be provided so that the rotator set is operated from one end, the rotator cannot be operated from the other end at the same time.	

	All controls like directional control, interlocking, inching, overloading etc. must be through suitable control panels. Two number operator-friendly pendent should be provided on both ends of rotator set.	
4.1.1.3	The driving roller of the rotator block shall be motor operated through gears, worm wheel & worm shaft and bearing arrangement. Chain pulley or belt driven arrangements shall not be accepted.	
4.2	<u>STRUCTURE OF ROTATOR BLOCK:-</u> Fabricated steel structure shall be provided in the manufactured rotator blocks, duly stress relieved after fabrication. Certificate in this regard is to be submitted along with the supporting documents before dispatch of the rotator. The base plate of rotator blocks should be as per the drawing given in Annexure -B having oblong slots of approx. 150 mm length. So, that fine adjustment of different Wound Stator length can be done while fixing these rotators. Note: - If there is a change in the design of Base plate of Rotator blocks, the same should be informed by the vendor with new foundation details (refer cl. 5.0)	
4.2.1	The holes for pin for self-alignment of the wheels should be machined in both the front end and rear end plates, in one sitting. The variation in the center to the center distance in both the plates should not exceed the tolerance $\pm 0.03\text{mm}$. Inspection report in this regard, is to be submitted to BHEL before dispatch of the rotator.	
4.2.2	Suitable lifting hooks/ Eye bolts are to be provide at suitable location of the rotator block for lifting / handling the rotator block with the help of overhead crane.	
4.3	<u>WHEELS AND DRIVE :</u>	
4.3.1	Each rotator block shall be designed with the 2 nos. driving wheel and 2 nos. idler wheels. Thus, there will be total 4 no. wheels and 2 nos. drive motor in one rotator block. A set of 2 nos. such rotator block will be in the scope of supply for one complete set of Rotator. Idler wheel should have provision to rotate the wheel by hand (using detachable handle), for checking free movement manually.	
4.3.2	<u>WHEEL DIMENSION: -</u> Diameter – Suitable diameter of Wheel to be used in the Rotator blocks for handling job diameter of minimum 3500 and Maximum 4700 mm. (clause no. 3.1). The rotator wheel faces shall be accurately aligned with the centerline of the oblong holes provided in the base plate of the rotator, in accordance with the details shown in Annexure-A, Annexure-B and Annexure-C. Note: - Maximum height of the rotator block at any location should not exceed 1650 mm from the floor for any job radius given in the range of 3500 – 4700 mm. Width of Wheel: 155 mm; Load bearing length 130 mm with 25 mm thick collar at one end. Dimension of wheel is to be indicated in the General Arrangement drawing (Ref. clause no. 6.1) Note: - (1) Load bearing length of wheel should be 130 mm so that our existing Technological rings can be used. (2) RPM of wheels corresponding to required RPM of job as per clause no. 3.1, to be furnished by vendor in the offer. (3) If there is a change in the design of Base plate of Rotator blocks, the same should be informed by the vendor with new foundation details (refer cl. 5.0)	
4.3.3	<u>Material of wheels:</u> Alloy Steel Forging -Material Grade 55C8 (IS 1570 Part 2) or better material for operating load requirement of 600 Ton.	

	Note: - The certificate for material used in the wheel should be from NABL certified Lab or government Agency and to be submitted with supply.	
4.3.4	Main Driving Shaft and Idler Wheel Shaft:	
4.3.4.1	The main driving shaft shall be designed and manufactured to ensure uniform stress distribution under full load conditions, thereby avoiding any localized stress concentration or fatigue failure.	
4.3.4.2	The shaft material shall be forged steel of grade EN-353 or superior, duly heat-treated, to meet the strength and toughness requirements for safe operation under a total operating load of 600 Ton capacity.	
4.3.4.3	The wheel and all associated shafts shall be positively locked using suitable mechanical locking arrangements (e.g., keyways, shrink fit, or equivalent) to eliminate any possibility of relative motion between the shaft and wheel during operation.	
4.3.4.4	The dimensions of all main driving shaft shall be kept identical to ensure interchangeability and ease of maintenance. Similarly, dimensions of all idler wheel shaft to be kept identical to ensure interchangeability and ease of maintenance.	
4.3.4.5	Note: - The certificate for material used in the Shaft should be from NABL certified Lab or government Agency and to be submitted with supply.	
4.3.5	NOTE: Material Certificate of the wheels, Main & Idler Driving Shaft is to be submitted to BHEL before dispatch of the rotator set.	
4.3.6	The inner wheel must not touch the bottom base of the frame at NO LOAD CONDITION.	
4.3.7	A motor of minimum 7.5 kW capacity, conforming to IEC 60034, preferably of IE-3 class, of Siemens / Bharat Bijlee / Kirloskar make shall be provided on the rotator. Technical specification of motor is to be indicated in General Arrangement Drawing (Ref. clause no. 6.1). The motor shaft will be coupled to Heli-worm reducer with suitable speed reduction ratio. Note: - The motor shaft and its diameter shall be adequately designed and sized to safely transmit the required torque and withstand the load corresponding to 600 Ton capacity without any failure or permanent deformation.	
4.3.8	Design calculation for the selection of drive motor capacity for the rotation at 1 RPM for operating load=600 Ton with minimum 1.25 times safety factor (i.e. 750 Ton) and maximum diameter 4700 mm, is to be furnished.	
4.3.9	All the heli-worm units should be of Shanti/ New allenberry/ Radicon/ Elecon make. The gears, worm wheels, worm shaft & bearing arrangement should be lubricated properly with suitable lubricating oil & double seal system for preventing the leakage / seepage of oil.	
4.4	BEARING: Only SKF/FAG/NTN/INA make bearing shall be supplied. Suitable covers shall be provided for dust protection of the bearings.	
4.5	EXISTING FOUNDATION STEEL PLATES:	
4.5.1	We have 450 Ton Capacity Rotators available in shop. The same foundation to be used for the installation of the proposed 600 Ton Rotator set. Each rotator block of 600 Ton Rotator set shall be mounted on existing foundation steel plates as per the existing arrangement , with locations and hole patterns provided in Annexure-A . The vendor shall study the existing foundation steel plate arrangement and design the rotator block base plates as per Annexure-B such that it can be installed and operated on the available foundation steel plates.	

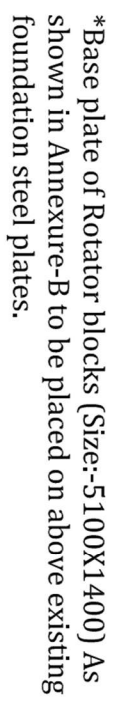
4.5.2	The 600 Ton Rotator set shall be compatible with four different stator frames of 500 MW, 600 MW, 800 MW, and 1000 MW ratings, with respective lengths of 9110 mm, 10160 mm, 10300 mm, and 11315 mm, including 140 mm rotating rings on both sides. The design of the rotator must ensure safe and reliable operation for all four Wound stator types using the existing foundation steel plates . A scheme showing the placement of Wound Stator (Job) on Rotator set is attached as Annexure-C .	
4.5.3	The vendor shall consider the location of holes, T-slots, and other fixing provisions on the existing foundation steel plates to allow mounting of the rotator set at the different positions required for all stator lengths.	
4.5.4	The base plate of the rotator blocks shall be designed and manufactured strictly as per the drawing provided in Annexure-B to ensure proper fitment on the existing foundation steel plates.	
4.6	EXISTING FOUNDATION: -	
4.6.1	The rotator shall be designed for installation on the existing foundation over which steel plates are already erected. The vendor shall thoroughly study the existing steel plate layout, the arrangement, dimensions, and hole locations of which are provided in Annexure-A , and design the base plate of rotator set to suit the available configuration without requiring any modification to the existing structure.	
4.6.2	The vendor shall submit the preliminary layout drawing of the rotator set, showing mounting on the existing foundation steel plates (Annexure-A), for BHEL's approval within one month from the date of Purchase Order.	
4.6.3	The final layout drawing, incorporating BHEL's comments (if any), along with complete design details such as load distribution, static/dynamic load data, and mounting requirements, shall be submitted within two months of BHEL's approval of the preliminary layout.	
4.6.4	Since the existing foundation and steel plates are to be utilized, no new foundation construction shall be required. However, the vendor shall ensure the suitability of the existing foundation and indicate any specific leveling, shimming, or alignment requirements necessary for proper installation.	
4.6.5	The vendor shall arrange all tools, instruments, and equipment necessary for checking levels, alignment, and fitment verification during installation and commissioning.	
4.6.6	The vendor may, if desired, visit and examine the existing foundation and steel plate arrangement at BHEL Haridwar before submission of the offer.	
5.0	NEW FOUNDATION REQUIREMENTS: -	
5.1	The Clause numbers 4.5 and 4.6 reflect BHEL's expectations and requirements, and the vendor should make all efforts to design the foundation and layout of the 600-Ton rotators accordingly. However, if the vendor is unable to meet these foundation requirements, they must inform BHEL and submit new foundation details accordingly.	
5.2	Vendor shall submit the preliminary layout drawing for getting BHEL's approval within one month from the date of P.O. Complete Foundation Design including details viz. static / dynamic load details etc. and Final Layout drawing shall be submitted by the supplier within two months after getting BHEL's approval. The layout should consist of all requirements pertaining to complete Rotator set including positioning of steel plates (refer cl. 4.5.2). BHEL shall construct complete foundation for the rotator set under supervision of supplier and at supplier's responsibility. Vendor should arrange	

	equipment's required for the testing of foundation, leveling of steel blocks, height gauges etc. if required. The vendor shall also indicate detailed specifications of grouting compound and Grouting procedure etc. for foundation bolts of the 600 Ton Rotator sets.	
6.0	GENERAL ARRANGEMENT DRAWING OF '600 TON CAPACITY SELF-ALIGNING MOTORIZED ROTATOR SET':	
6.1	General Arrangement drawing of 600 Ton capacity Self-Aligning Motorized Rotator indicating all the details such as overall size & weight of each rotator block, center height of the wound stator (for diameter 4700 mm maximum & 3500 mm minimum) when placed on the rotator, wheel dimensions (clause no. 4.3.2), location of motor & gear box, make & article no. of the bearings, location of control panel, total power requirement etc. are to be furnished in the offer.	
6.2	HEIGHT OF THE ROTATOR BLOCK:	
6.2.1	Permissible center height of job (wound stator) is to be maintained at a height 3000 mm (maximum) from the floor when wound stator (operating diameter 4700 mm) is placed on the rotator. Accordingly, the height of rotator block is to be designed.	
6.2.2	Maximum height of the rotator block at any location should not exceed 1650 mm from the floor for any Wound Stator Radius given in the range of 3500 – 4700 mm.	
6.3	General Arrangement Drawing with details as mentioned in clause no. 6.1, is to be submitted for BHEL approval within one month after placement of Purchase Order.	
7.0	OPERATIONAL AND MAINTENANCE MANUAL OF 600 TON CAPACITY SELF ALIGNING MOTORIZED ROTATOR: -	
7.1	3 sets of operational & maintenance manual in English language, will be supplied with the 600 Ton capacity self-Aligning motorized rotator.	
7.2	NOTE: In addition to other information, O&M manual should contain the following also:	
7.2.1	Erection manual.	
7.2.2	Details Operation Manual.	
7.2.3	Details maintenance manual, instruction for assembly & dis-assembly of the main items of 600 Ton capacity self-Aligning motorized rotator.	
7.2.4	Electrical wiring circuit of the rotator.	
7.2.5	Constructional and general arrangement drawing (clause no. 6.1) of the rotator set.	
7.2.6	Make, article No. and technical specification details of motor used in the Rotator.	
7.2.7	Sectional views of worm shaft and worm wheels with details including the module, No. of teeth, center distances of gears and worm- shaft, worm wheels etc.	
7.2.8	Material specification and dimensional details of Main Driving Shaft and Idler Wheel Shaft.	
7.2.9	Make & details of worm wheel, worm shaft.	
7.2.10	Material specification and dimensional details of the wheel.	
7.2.11	Make & specification details of the grease and lubricating oil.	
7.2.12	Make, part no. and specification of the bearings provided in the rotator set.	
7.2.13	Safety instruction for the operation of the 600 Ton capacity self-Aligning motorized rotator.	
8.0	POWER SUPPLY:	
8.1	BHEL will provide input power supply 3 phase, 3 wire, 415 +/- 15% volt, 50+/- 3% HZ to Isolator Switch (BHEL scope) nearby control panel of the 600 Ton self-Aligning motorized rotator set. Cable connection (approx. 10 meter) from isolator switch to control panel and remaining cabling/ wiring for the 600 Ton self-Aligning motorized rotator & other equipment if any, will be in the scope of vendor.	

	There will be no neutral wire and Earthing will be provided through shop structure column.	
9.0	ENVIRONMENTAL CONDITION: -	
9.1	Ambient Temperature: 2°C to 50°C	
9.2	Relative humidity- 30 to 95 %	
9.3	Voltage fluctuation- +/- 15 %	
10.0	SPARES :-	
10.1	Following mandatory spares are to be supplied with 600 Ton self-aligning Rotator set: - (Item wise price to be quoted)	
10.1.1	Gear box as specified in clause no. 4.3.9 :-Qty=01 no.	
10.1.2	Bearings as specified in clause no. 4.4 :-Qty=02 nos. of each type	
10.1.3	Main Driving Shaft (clause no. 4.3.4): - QTY=02 nos.	
10.1.4	Idle wheel Shaft (Clause no. 4.3.4): - QTY=01 no.	
10.1.5	Pendent (clause no. 4.1.1.2): - Qty=02 nos.	
10.1.6	Seals used in the Rotator set:- QTY= 1 Set	
10.2	Vendor may also quote other recommended list of spares (if any) required for 2 years trouble free operation of the 600Ton capacity self-Aligning Motorized Rotator set.	
10.3	The offer for the spares should be valid for two years after erection and commissioning of the 600 Ton capacity self-Aligning motorized rotator set from maintainability point of view.	
11.0	PAINTING :	
11.1	600 Ton capacity self-Aligning motorized rotator and control panel will be painted to RAL 7038 Grey paint or mutually agreed.	
11.2	NOTE: vendor will repair the paint with original paint in case the same is damage in transit / erection, before commissioning the 600 Ton capacity self-Aligning motorized rotator.	
12.0	PRE-ACCEPTANCE OF 600 TON CAPACITY MOTORIZED ROTATOR SET AT VENDOR'S WORKS:	
12.1	600 Ton capacity self-Aligning motorized rotator will be inspected by BHEL engineers on following points at vendor's works: -	
12.1.1	Overall dimensions of each rotator block, location of Motor and coupling arrangement, make & specification of Motor, details of worm wheel & worm shaft, base plate dimension and hole position of rotator blocks etc. with reference to the approved General Arrangement drawing (clause no. 6.1) and Foundation Drawing.	
12.1.2	All operations of the rotator sets to be checked.	
12.1.3	Functions like interlocking, rpm of wheels, Rotation of wheels as mentioned in clause no. 4.1 are to be checked. Location of lifting hooks as per clause no. 4.2.2 to be checked.	
12.1.4	Certificates like stress relieving of fabricated steel structure (clause no. 4.2), material grade of wheels and shaft (clause no. 4.3.3 & 4.3.4.2) etc. to be checked.	
12.1.5	Inspection report of tolerances of holes for pin for self-alignment of wheels in front and rear end plates as per clause no. 4.2.1 to be checked.	
12.1.6	Check the Base Plate of the Rotator Blocks is as per clause no. 4.2.	
12.1.7	Availability of spares as per clause no. 10.1 to be checked.	
13.0	ERECTION & COMMISSIONING OF THE 600 TON CAPACITY SELF ALIGNING MOTORIZED ROTATOR SET:	
13.1	Vendor shall take full responsibility for carrying out the erection and commissioning of the '600 Ton self-aligning rotator set' at BHEL Haridwar works.	

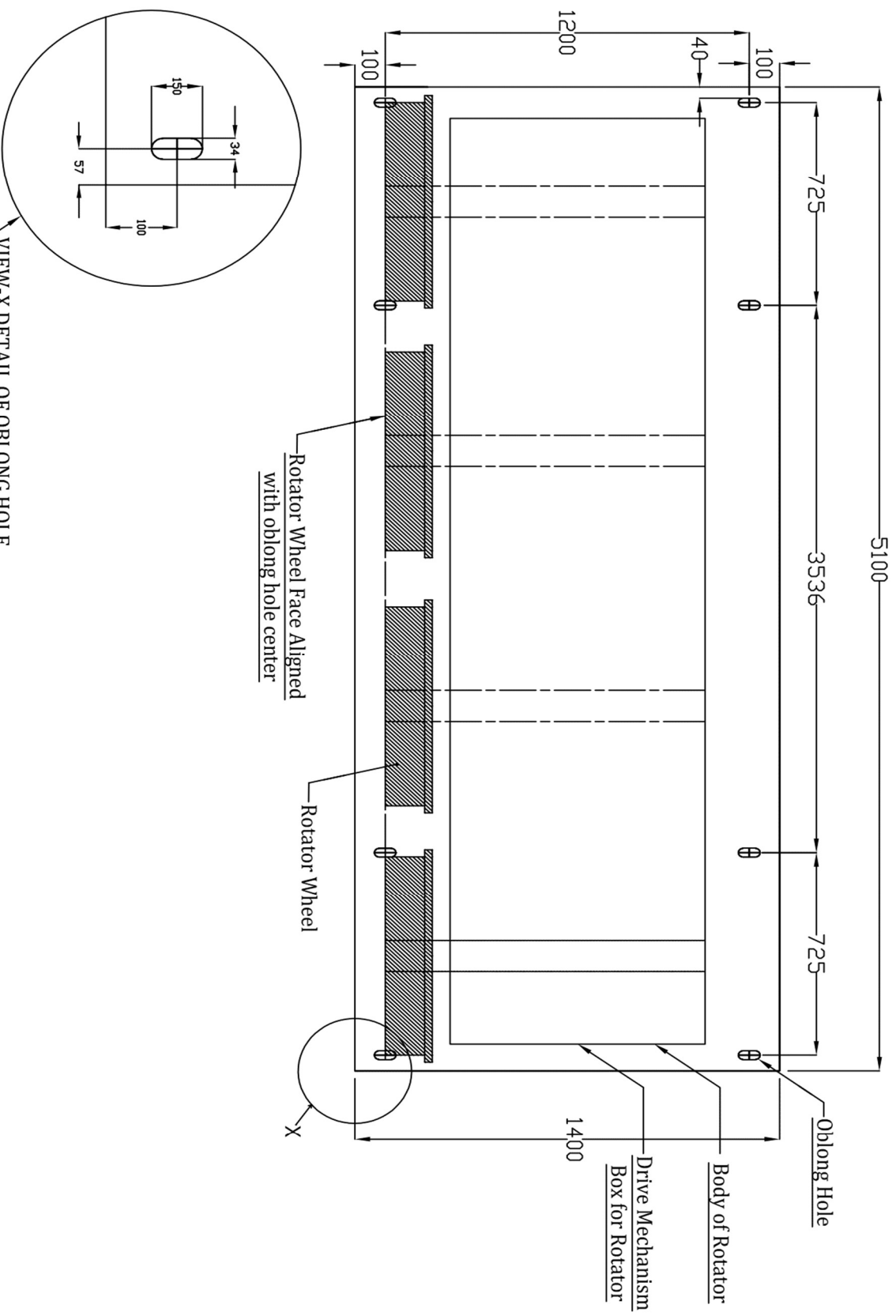
13.2	BHEL will provided overhead cranes facility, Compressed air & electrical supply (refer Clause no. 8.1) to the panel of the rotator set.	
14.0	JOB PROVING AND FINAL ACCEPTANCE OF THE 600 TON CAPACITY SELF ALIGNING ROTATOR SET AT BHEL HARIDWAR WORKS:	
14.1	Final acceptance of the 600-ton capacity Self-Aligning Motorized Rotator Set shall be carried out at BHEL Haridwar Works. The rotator set will be tested on an 800 MW or higher rating wound stator and will be accepted only after it has successfully completed 48 hours of intermittent load testing.	
14.2	First filling of all oils, grease etc. shall be in the vendor's scope of supply.	
15.0	NOISE LEVEL: -	
	Maximum noise level of the Rotator set during operation must be below 85 dB (A), one meter away from the system with correction factor for background noise.	
16.0	WARRANTY:	
	Warranty for the '600 Ton capacity self-Aligning Motorized rotator' and the other supplied items for 24 months from the date of final acceptance (clause no. 14.1) of the rotator set.	
17.0	PACKING:	
	Rigid packing shall be provided for all the items of 600 Ton capacity Self ALIGNING ROTATOR, Control panel and other accessories to avoid any damage/ loss in transit. All small and loose items like spares etc., should be suitably packed in wooden boxes.	

500MW

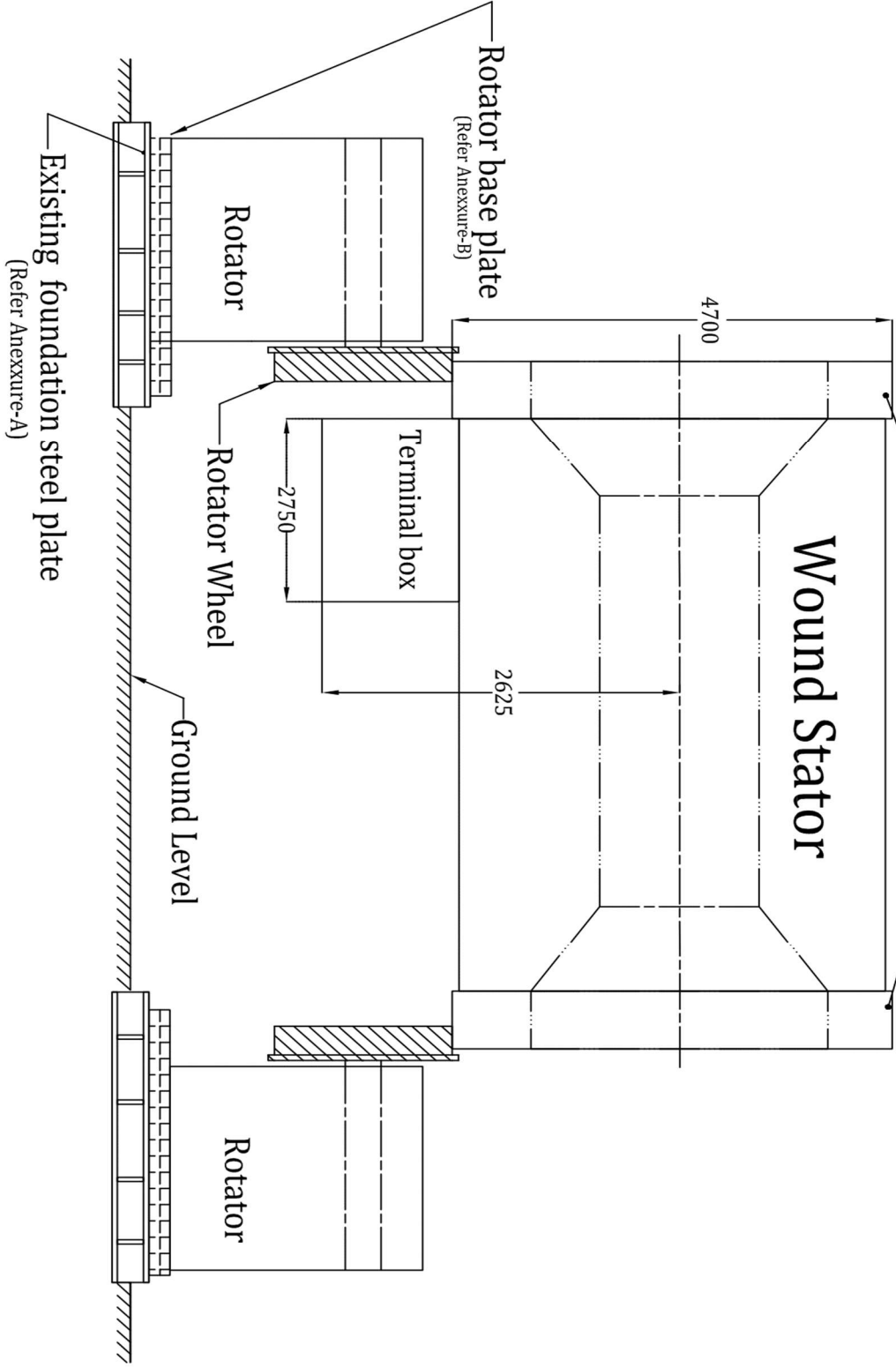


EXISTING FOUNDATION STEEL PLATE DETAIL

Annexure-B



BASE PLATE OF ROTATOR & WHEEL POSITION



SCHEME FOR WOUND STATOR PLACEMENT ON ROTATOR SET



Annexure- 2

Documents to be submitted by Vendors

S. No.	Description	Documents to be submitted	Confirmation (Y/N)
1.	Cl. 3.5 (Pre-Qualification Requirement)	Documents in support of Prequalification Requirements.	
2.	Cl. 3.7: Instructions	Documents in support to as sought in Section 3.7 For Financial documents CA certification is mandatory.	
3.	Confirmation to sign BHEL's Non-Disclosure Agreement (NDA) at a Later stage.	Declaration by Authorized Signatory on a Letterhead.	
4.	Acceptance of EOI Proposal	Submission of signed and stamped copy of EOI.	
5.	Time Schedule for supply, Installation & commissioning of Machine	Submission of Time Schedule.	



Annexure- 3

General Information

Date: _____

Legal Name of the Vendor/Supplier Company	
Legal Address	
Mobile No. of concerned Official	
Email ID of concerned Official	