

CONTRACT QUALITY REQUIREMENTS (CQR) for CONTINUOUS MODULATING TYPE FAN BLADE PITCH**CONTROL ELECTRICAL ACTUATORS**

PROJECT: NTPC FGD Projects** PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (To be filled by OEM VENDOR) (**Refer Sl no: 10 in Page no: 07 of 07) for NTPC Project name, NTPC Contract No. and BHEL WO no. of respective NTPC FGD Projects)		CONTRACT QUALITY REQUIREMENTS (CQR) for CONTINUOUS MODULATING TYPE FAN BLADE PITCH CONTROL ELECTRICAL ACTUATORS NTPC FGD Projects (**Refer Sl no: 10 in Page no: 07 of 07) for NTPC Project name, NTPC Contract No. and BHEL WO no. of respective NTPC FGD Projects)	DOC.NO: BAP/QR/FGD : Blade Pitch Control Actuator /00 Rev NO.: 00 PAGE : Page 1 of 7 DATE: 06.03.2020	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:
Sl. NO.	DESCRIPTION	BHEL and Ultimate Customer - NTPC (National Thermal Power Corporation), India Quality Requirements		##Specific confirmations by the vendor

ITEM: Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators

01	Type Test Requirements	A. Vendor shall submit the type test reports of all the type tests as listed in SL NO: 01 (D) below and carried out within 10 years from the data of ultimate Customer NTPC bid opening dt 24.04.2019 . These reports should be for the test conducted on the identical/similar Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators to those proposed to be supplied under this enquiry and test (s) either should have been conducted at an independent laboratory (or) should have been witnessed by BHEL/BHEL AIA (BHEL Appointed Inspection Agency) (or) Ultimate customer NTPC (National Thermal Power Corporation) at respective Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators Manufacturer works.	
		B. However, if vendor is not able to submit the similar / identical type test report as per above condition in 01 (A) (or) in the case of type test reports are not found to be meeting the specification requirement and not acceptable to BHEL/BHEL AIA/ Ultimate Customer – NTPC , , the vendor shall conduct all these tests at no additional cost if any to BHEL either at reputed third party lab (or) Government approved lab (or) own lab in the presence of BHEL AIA (BHEL Appointed Inspection Agency) / BHEL /Ultimate client NTPC and submit the reports for BHEL / Ultimate Customer – NTPC review & approval.	
		C. Type Test reports review and approval by BHEL AIA (BHEL Appointed Inspection Agency) / BHEL / Ultimate client NTPC is must in line with NTPC approved data sheet / BOM (Bill of Material) /GA (General Arrangement) Drawing etc.	

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01	Type Test Requirement(Contd)	D. The following Type test reports to be submitted covering the following for above Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators as per relevant EN-15714-2 Class D standard. - Measurement of no load current, actuator duty performance (starts per hour). - Verification of marking / name plate showing manufacturer's name, model type, sl.no, voltage, current type, frequency, motor ratings, rated torque/thrust, enclosure protection, hazardous protection, fail safe action etc. - High Voltage and Insulation Resistance test of motor and assembled actuator. - Checking of electric wiring as per applicable European electrical standards/approved scheme / drawing (As applicable). - Checking sense of rotation - Testing of Operating time/output speed/velocity. - Checking of manual operation -Hand wheel operation. - Testing of Output torques/thrusts to validate manufacturer's design values- Rated torque, Stall torque and current test. - Calibration of torque/thrust limiting device. - Operation and setting of torque limiting device. - Operation and setting of travel limiting device. - Endurance test of actuator. - Enclosure protection test reports (As per Engg Spec requirement IP68 ie Clause no: 2.4 of TECI:BP:ACT:001 Rev 00 – Page no 03 of 09). - External corrosion protection test report. - Functional test of auxiliaries (as applicable) like - Local position indicator - Testing of Local/Remote(Open-Stop-Close) operation - Testing of Electronic Position transmitter output - Local control panel providing means of local control of actuator(open-stop-close), lockable selecting device(local-off-remote), push buttons, status indicating lamps - Electronic positioner circuit - Space heater - Auxiliary switches - Burn in test for electronic assemblies	
		E. The TCs/Test reports shall also be given as PDF file with index sheet & page control through Email & Soft Copy (File size to less than 9MB).	

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ITEM: Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators

02	Quality Plan Requirement	a. MQP (Manufacturing Quality Plan) is applicable for these Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators and accordingly continuous Modulating Type Fan Blade Pitch Control Electrical Actuators Manufacturer shall submit the MQP in ultimate customer – NTPC format (MQP format attached) for review and approval by BHEL / Ultimate Customer - NTPC.	
		b. If any of Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators manufacturer is having, ultimate customer NTPC approved MQP (Manufacturing Quality Plan) and having validity, the same is applicable for these Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators for inspection purposes subject to obtaining ultimate customer NTPC formal approval in the event of an order through endorsement sheet approval route as in sl no: 02 (c) below	
		c. Accordingly, Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators Manufacturer supplier shall submit the filled up Endorsement sheet (copy attached) with ultimate customer approved MQP with signature & seal in the event of a Purchase Order from BHEL for BHEL/Ultimate Customer – NTPC review and approval.	
		d. If Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators Manufacturer does not have MQP, they should submit a fresh MQP to BHEL/NTPC (in NTPC MQP format) for review & approval. (copy attached).	

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03	Inspection Methodology to be adopted at Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators Manufacturer works	a. All Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators are to be inspected by BHEL AIA (BHEL authorized inspection Agency) at Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators manufacture works as per approved MQP & approved data sheet/drg/spec/ as per relevant EN 15174-2 Class D Standard by BHEL / Ultimate Customer-NTPC	
		b. All Routine Tests (ie production verification) are to be witnessed by BHEL AIA (BHEL authorized inspection Agency) at Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators manufacture works as per approved MQP & approved data sheet/drg/spec/ as per relevant EN 15174-2 Class D Standard by BHEL / Ultimate Customer-NTPC	
		c. BHEL AIA (BHEL authorized inspection Agency) /Ultimate Customer-NTPC will also ensure Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators type tests reports review including Enclosure Protection Test Reports (IP 68) & acceptance as per approved MQP & approved data sheet / drg / spec / as per relevant EN-15174-2 Class D Standard.	
		d. BHEL AIA (BHEL authorized inspection Agency)) / Ultimate Customer-NTPC to witness / perform inspection at Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators Supplier works and submit all the inspection documents and routine & Type test reports including Enclosure Protection Test Reports (IP 68) as per approved MQP & approved data sheet / drg / spec / as per relevant EN-15174-2 Class D Standard	

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04	BHEL Authorized inspection Agency	Inspection Agency for Foreign Bidders and also for Indian Bidder but supplying / importing from Foreign Sources: (1) Any one of the following Third Party Inspection Agency (TPIA) shall be appointed by the bidder and same shall be furnished by the bidder in techno commercial bid itself. (2) The details of TPIA with contact details like Name of the official, Phone no, Email id shall also to be submitted during pre/post award. However cost for such inspection agency shall be borne by the bidder only. Inspection charges for such inspection agency shall be indicated separately so that if BHEL/Customer is undertaking the inspection by on their own, then these charges non-claimable by the bidder. List of TPIA 1.M/s Bureau Veritas 2.M/s TUV-Nord 3.M/s TUV-SUD 4.M/s TUV Rheinland 5.M/s Lloyds Register 6.M/s SGS 7.M/s Germanischer Lloyd 8.M/s QUEST 9.M/s Certification Engineers International 10.M/s Intertek 11.M/s IR Class Systems and Solutions 12.M/s DNV 13. M/s Fichtner 14. M/s ABS Inspection Services	
05	Packing / Seaworthy Packing	Packing / Seaworthy Packing shall be as per BHEL Packing schedule / approved drg / sketch (as applicable). This shall be ensured to take care of transit / handling / transshipment in Road / Sea / Air. Photographs are to be submitted for BHEL review before dispatching the material as per contract conditions.	

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06	Painting Requirements	Painting requirement if any like paint shade and painting thickness including no of coats if any are to be ensured by Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators Manufacture as per BHEL / Ultimate Customer -NTPC approved data sheet/drg/spec (As applicable)	
07	For Inspection call	Inspection call by Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators Manufacture to be raised for BHEL/BHEL AIA inspection / Ultimate Customer – NTPC including for type test witnessing if any to be ensured / addressed to Mr R Kesavan., DGM (QC-Proc)., Mobile no: +91 9443006303., Email id: kesavan@bhel.in and Mr Kovarathanan., DM (QC-Proc)., Mobile no: +91 8903502628., Email id: kovak@bhel.in including for inspection related activities for immediate response / resolution.	
08	Document Package / Dossier	Specific confirmation for Document Package in the event of an order (3 hard copies + soft copies in Pdf file) is to be given containing the following with proper linkages (.) (i) Index Sheet (ii) MQP Endorsement sheet (iii) TCs identified by BHEL/NTPC for record for “CHP ” (Customer Hold Point) Verification & Witness “W” portion as given in MQP / RQP / MQP (as applicable). (iv) Final Inspection Report + TC (v) BHEL AIA (BHEL Appointed Inspection Agency) / BHEL report + TC (As applicable) (vi) Ultimate customer NTPC (National Thermal Power Corporation) CHP (Customer Hold Point) / MDCC (Material Dispatch Clearance Certificate) (vii) Type test reports conducted/submitted (As applicable) with approval with approved data sheet and BOM with actual make used with Customer approved drgs.	
09	Important notes	<u>Inspection Categorization: III</u> COC by Main contractor (BHEL) to Ultimate Customer – NTPC based on inspection as in sl no:03 Any cost implication for conducting checks / tests including for witnessing of any of the tests at Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators Works by BHEL / BHEL AIA / Ultimate Customer – NTPC is in the scope of OEM Supplier only and no extra cost if any will be admissible in the event of an order and also during execution of the contract.	

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**** 10. Name of the NTPC project, NTPC Contract number, BHEL Internal work order for information purpose only**

** 10	Name of NTPC FGD Project	NTPC CONTRACT NO.	BHEL WO No.
	NABINAGAR FGD PROJECT (3X660MW)	CS-0370-109-(1A) -2-FC -NOA-0059	G609, G610, G611
	NABINAGAR FGD PROJECT (4X250MW)	CS-0270-109(1A) -2-FC/19-20/1819	G201,G202, G203, G204
	BARH STAGE-I FGD PROJECT (3X660MW)	CS-9558-109(1A)-2-FC-NOA-6724	G604, G605, G606
	BARH STAGE-II FGD PROJECT (2X660MW)	CS-9560-109(1B)-9-FC-NOA-6720	G607, G608
	NORTH KARANPURA FGD PROJECT (3X660MW)	CS-4410-109-2-FC/SC-NOA-6695/6696	G601, G602, G603
	MOUDA FGD PROJECT (2X500MW)	CS-9561-109(1B)-9-FC-NOA-6722	G503, G504
	RAMAGUNDAM FGD Stage I & II (3X 200 +3 X500)	CS-3120/3130-109 (3)-9-FC-NOA-6845	G208; G509, G510, G511
	NSPCL Bhilai FGD (2x250 MW)	CC/CC&M-C-568-FC/SC-COA-141/142	G211, G212
	KORBA FGD Stage I,II,III(3X200 + 4X500)	CS-2100-109(3)-9-FC/SC-COA-6844/6844	G505, G506, G507 G508

Supplier signature with seal

Necessarily to be filled up & submitted by the Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators vendor at the time of offer itself otherwise the offer may not be considered w.r.t Quality Requirements against Continuous Modulating Type Fan Blade Pitch Control Electrical Actuators being BHEL/ ultimate customer – NTPC (National Thermal Power Corporation Limited) specific requirements.