




ENDORSEMENT SHEET FOR QP		
REFERENCE / STANDARD / FIELD QUALITY PLAN (RQP / SQP/RFQP/SFQP)		
<i>TO BE FILLED IN BY SUPPLIER AT TIME OF SUBMISSION</i>		 To be filled in by NTPC
PROJECT NAME	NPGCL, NABINAGAR (3X660 MW)	REVIEW & ENDORSEMENT BY NTPC PROJECT SPECIFIC QP NUMBER ALLOTTED QP NO.: 0370-207-QVE-G-202 REV. NO.: 02 DATE: 30-03-2016 ** 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. ①
CONTRACT NO	CS-0370-207-2-FC-COA-003	
CONTRACT NAME	GENERATOR BUSDUCTS AND ASSOCIATED EQUIPMENT, MV BUSDUCTS PACKAGE	
MAIN SUPPLIER	BHARAT HEAVY ELECTRICALS PVT.LTD – RUDRAPUR(UK)	
MANUFACTURER WORKS & ADDRESS	M/S BHARAT HEAVY ELECTRICALS LTD RUDRAPUR, US NAGAR, UTTARAKHAND-263153	
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE / SIZE /RATING etc.	SEGREGATED PHAS E BUSDUCT AND ASSOCIATED EQUIPMENTS	
APPROVED QP NO.: 0000-999-QVE-T-032	0000-999-QVE-T-032 - REV. NO.:0 DATED**:23.02.16	
<i>Confirmation by Main Supplier (TICK WHICHEVER APPLICABLE)</i>		<i>(TICK APPLICABLE)</i>
I. That the item/ component is identical to that considered for QP approval. OR. ✓		The QP is endorsed for this project without any change ✓
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		
III. 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.		The QP is endorsed for this project with changes as indicated.
		<u>DISTRIBUTION OF ENDORSEMENT OF</u> 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
 SIGN.: (Main Supplier) DATE: 29.02.16	 SIGN.: (Manufacturer):	NTPC (Reviewed /Approved by/ Date & Seal)



NTPC LTD.
(ENGINEERING DIVISION)
ENGINEERING OFFICE COMPLEX
A-8A, SEC-24, NOIDA, U.P. 201301
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TRANSMITTAL FOR DOCUMENTS

FROM : AGM (QA-SPL)

REF. : 01/CQA/0000-SPL-01

DATE : 23/02/2016

**: M/s. BHEL, COMPONENT
FABRICATION PLANT
RUDRA PUR**

CC: RIO -

Please find enclosed following documents for necessary action at your end as indicated in purpose code

	Item	RQP No	Rev No	No. of Copies	Purpose code	Remarks
01	SPBD(SEGREGATED PHASE BUSDUCT)	0000-999-QVE-T-032	00	01	11	




- 1.Approved in CAT-1
- 2.Approved in CAT-II With comments resubmit
- 3.Not APPROVED- CAT-III
- 4.Approved in CAT-IV(For information only)
- 5Released for Fabrication/Construction

- 6.for your comments
- 7.Revised as per your comments
8. For your approval
- 9.for your information
- 10.As-built
- 11.Approved for Reference subject to approval of Endorsement sheet


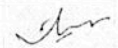
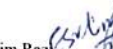
SIGNATURE :

NAME :




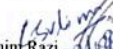

B.C.ROY

SUPPLIER'S NAME AND ADDRESS:		REFERENCE FIELD QUALITY PLAN					TO BE FILLED IN BY NTPC				
 BHEL, COMPONENT FABRICATION PLANT, RUDRAPUR		SYSTEM / EQUIPMENT: SPBD (SEGREGATED PHASE BUSDUCT)		QP NO.: BHE/RU/RFQP/SPBD	SIGNATURE OF SUPPLIER'S  Ajit Ku. Sahay, Mgr(FES/PPC)		QP No: 0000-999-QVE-T-032		REVIEWED BY	APPROVED BY  K M Jain	
		SUB SYSTEM: APPLICABLE FOR 500 MW, 660 MW, 800 MW		REV. NO.: 0			DATE : 29.12.2015	REV: 0	DATE: 22.02.2016		
PAGE : 1 of 4		VALID UPTO: 21.02.2019									
SL. NO.	ACTIVITY AND OPERATION	CHARACTERISTICS / INSTRUMENTS	CLASS OF CHECK	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	D*	REMARKS	
1.	2.	3	4	5	6	7	8	9	D*	10	
1.0	MATERIAL RECEIPT & STORAGE										
1.1		Unloading with use of strap belt/manila ropes near the support channel	C	Visual	100%	Instruction Manual	-	Logbook		Availability of the instruction manual, BoM, Erection and layout drawings, structural arrangements at site for storage, erection & commissioning to be ensured by BHEL.	
1.2		Check for packing condition, transit damages (puncture, bend, scratch etc.) and verification of items as per packing list & NTPC clearance. Compliance of CHP remarks to be ensured –if any	B	Physical	At the time of receipt & storage	Instruction Manual, Packing List / Challan	No physical damage. Material Damage Report (MDR) in case of damage	Logbook / MDR			
1.3		Check for completeness of supply viz.bus ducts, wall frame, support structure, bushings, rubber bellow, gaskets, splice plates, flexibles, etc. as applicable	B	Visual	Once at receipt	Instruction Manual, Packing List / Challan	Instruction Manual, Packing List / Challan	Logbook			
1.4		Ensure that busduct is not kept directly on ground and the exposed part such as palms are covered/wrapped properly. Storage on wooden sleepers / brick pedestal, etc., to ensure that the same is free from water logging. Ensure that BOIs, hardware, copper, electrical items etc are stored in store rooms.	C	Physical	Once at receipt	Instruction Manual / BHEL Document No: BD:15012P	Bus-duct to be stored free from water logging and covered with polythene sheet / BHEL Document No: BD:15012P	Logbook			

LEGEND : * RECORDS IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY BE INCLUDED BY SUPPLIER IN QA DOCUMENTATION
LEGEND TO BE USED: CLASS # A: CRITICAL, B: MAJOR, C: MINOR, "A" SHALL BE WITNESSED BY NTPC FQA, "B" SHALL BE WITNESSED BY NTPC ERECTION/CONSTRUCTION DEPARTMENT AND "C" SHALL BE WITNESSED BY ERECTIONS/SUPPLIER (A & B CHECK SHALL BE NTPC CHP STAGE)

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		PAGE : 2 of 4		VALID UPTO: 21.02.2019							
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1.	2.	3	4	5	6	7	8	9	D*	10	
2.0	PRE-ERECTION										
2.1		Before erection of the structure at site, visually material may be seen on random basis for the quality of the galvanization.	B	Measure	Random Check before erection	Instruction Manual	As per Specification	Logbook			
2.2		Dimensional and level checking of foundation	B	Measure	100%	NTPC Approved Drawings	Handing over protocols from Civil	Logbook			
2.3		Check the equipment for their physical condition and cleanliness	C	Visual	100%	-	Standard Practice				
2.4		Check for position & marking of supporting structures	C	Visual	Once before erection	NTPC Approved Drawings	NTPC Approved Drawings				
3.0	ERECTION										
3.1		Alignment of structure including verticality	B	Measure	100%	NTPC Approved Drawings	NTPC Approved Drawings	Logbook			
3.2		Layout of Bus Ducts and correct phase sequence	B	Physical	100%	NTPC Approved Drawings	NTPC Approved Drawings	Logbook		No iron hammering on bus bar joint bolts is allowed	
3.3		Check for tightness of bolts (Between enclosure, insulator and conductors)	B	Physical	100%	Instruction Manual	Instruction Manual	Logbook			
3.4		Installation of rain hoods at the joints of enclosure	C	Physical	0%	NTPC Approved Drawings / Instruction Manual	NTPC Approved Drawings				
3.5		Fixing of Wall frame Assembly with SOB	C	Physical	100%	NTPC Approved Drawings / Instruction Manual	NTPC Approved Drawings	Logbook			


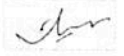

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SUPPLIER'S NAME AND ADDRESS:		REFERENCE FIELD QUALITY PLAN					TO BE FILLED IN BY NTPC		
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		SUB SYSTEM: APPLICABLE FOR 500 MW, 660 MW, 800 MW		REV. NO.: 0			QP No: 0000-999-QVE-T-032 REV: 0 DATE: 22.02.2016 VALID UPTO: 21.02.2019	REVIEWED BY S M Ibrahim Razi H SHEKHAR Sunil Malani	APPROVED BY   K.M. Jain
DATE :	29.12.2015		PAGE :	3 of 4					
SL. NO.	ACTIVITY AND OPERATION	CHARACTERISTICS / INSTRUMENTS	CLASS OF CHECK	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	REMARKS
1.	2.	3	4	5	6	7	8	9	10
3.6		Check for alignment of enclosure, conductor and SOB	B	Measure	100%	Instruction Manual	Instruction Manual	Logbook	
3.7		Check for fixing of splice plate, flexible etc	C	Physical	100%	NTPC Approved Drawings / Instruction Manual	NTPC Approved Drawings / Instruction Manual	Logbook	
3.8		Cleaning of conductor, Porcelain insulators and enclosure splice plates, flexible, SOB, etc	C	Physical	100%	Instruction Manual	Instruction Manual	Logbook	
3.9		Dimension & Alignment checking for Conductors, Enclosures, Cubicles, rain hoods, etc	B	Measure	100%	NTPC Approved Drawings / Instruction Manual	NTPC Approved Drawings / Instruction Manual		
3.10		Ensure only approved make electrodes and consumables are received and packed in sealed polythene cover	C	Physical	100%	Instruction Manual	Instruction Manual		If applicable
3.11		WPS &PQR	A	Verify	100%	NTPC approved WPS	NTPC approved WPS		
3.12		Clearance between phase conductor and enclosure before welding	B	Measure	100%	NTPC Approved Drawings	NTPC Approved Drawings	Logbook	
3.13		Ensure that welder qualification test is done and approved before actual welding work is taken up	A	Test	100%	NTPC approved WPS	ASME SEC-IX	Logbook	
3.14		Welding on conductor & enclosure: (a) Root Welding (for Conductor only) (b) Final welding	B	Physical	100%	NTPC approved WPS	NTPC approved WPS	Logbook	
3.15		NDT: DPT to be done for conductor & enclosure butt weld joints.	B	Test	As per NTPC Spec.	Welding Manual	Welding Manual	Logbook	
3.16		Radiography test on site welded joints of bus bar and enclosure	A	Test	As per NTPC Spec.	Welding Manual	Welding Manual	Logbook	
3.17		mV drop test on site welded joint / Splice plate	A	Test	100%	IS-5561	IS-5561	Logbook	v

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FORMAT - QS-01-QAI-P-10/F2-R0

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1.	2.	3	4	5	6	7	8	9	D*
3.18		IR value of each bus duct element before erection (Min. 2.5 KV Insulation Tester)	B	Test	100%	IS-8084	IS-8084	Logbook	
3.19		Positioning of rubber bellows & gaskets	C	Visual	100%	NTPC Approved Drawings	NTPC Approved Drawings		
3.20		Earthing of busducts, structure, etc	B	Verify	100%	NTPC Approved Drawings	NTPC Approved Drawings		
3.21		Setting of thermostats	B	Visual	100%	Instruction Manual	Instruction Manual	Logbook	
3.21		Drain plug assembly for effective drain out	C	Verify	100%	Instruction Manual	Instruction Manual		
3.22		Silica gel breather assembly	C	Verify	100%	NTPC Approved Drawings	NTPC Approved Drawings		
3.23		Completeness of Bus duct Assembly	B	Visual	100%	NTPC Approved Drawings	NTPC Approved Drawings		
3.24		IR of each completed bus duct section after erection	B	Test	100%	IS-8084	IS-8084	Logbook	v
NOTE: All commissioning tests are to be conducted as per NTPC Technical Specification.									

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