

**Clarification No. - 01 dated 06/03/2024 to the Bidding Documents of 765kV Reactor Package 7RT-02-BULK for 7X 110 MVAR, 765kV, (1-Ph) Reactors under Bulk Procurement of 765kV & 400kV class Transformers & Reactors of various Capacities (Lot-7).
Spec. No.: CC/NT/W-RT/DOM/A00/24/01670**

Sl. No.	Volume/ Section/ Clause	Description as per Bid Document	Bidder's Query / Clarification	POWERGRID's Reply
Volume-I of Bidding Documents				
1.	ITB Clause No. 11.3 [BDS Sl. No. 23]	i) After decision in respect of Destination has been taken by Employer, Contractor shall be asked to submit F&I charges for the finalized destination along with documentary evidence towards justification of prices such as copy of Rate Contract entered into by Contractor, Quotation etc. This activity shall be started preferably five months prior to the scheduled dispatch of the Equipment.	Due to our companies rules and regulation, we will not be able to share any internal documents like PO of transporter to the customer. We will provide price justification of the transport price.	Bidder to quote as per provisions of bidding documents.
2.	ITB Clause No. 11.3 [BDS Sl. No. 23]	iii) All the activities pertaining to finalization of F&I charges shall be finished preferably three months prior to the scheduled dispatch of the Equipment	we request you to provide site details at the time of finalization of L2 schedule to smoothen the execution process.	Bidder to quote as per provisions of bidding documents.
Section Project [Volume-II of Bidding Documents]				
3.	Cl. No. 2.2 (d) (i)	FO cable: 300 m per 1-phase 765KV class Reactor unit	This cable will be used for connection from ODS to CMB. Please confirm	Bidder to quote as per provisions of bidding documents.
	Cl. No. 2.2 (d) (i)	Cable length	Kindly provide the below distance for cable length consideration - Distance between CMB1 to CMB2. - Distance between spare transformer to CMB1 or CMB2. Or	Power & Control cable a) Transformer accessories (body mounted) to IMB. b) IMB to CMB Included in the scope of contractor. Please refer clause no 2.2 e) of section project, wherein cable of each 1-phase 765kV Reactor/ Transformer

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			<p>- Please confirm the cable mentioned in BPS (Price schedule) is meant for cabling between Reactor to IMB to CMB</p>	<p>c) Spare Transformer IMB to CMB</p> <p>Power & Control cable</p> <p>i) CMB to RTCC panel and Switchyard Panel Room (as applicable)</p> <p>ii) CMB1 to CMB2</p>	<p>required for interconnection shall be supplied as per BPS.</p> <p>Further, any special cable (IMB to CMB, CMB to CMB and CMB to RTCC and Switchyard panel room as applicable) is included in the scope of contractor.</p> <p>Not in the scope of contractor.</p> <p>However, if required, payment against those cables to Control Panel shall be paid separately, as per respective BPS items.</p>

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Technical Specification, Section–Project/Rev 00 [Volume-II of Bidding Documents]				
4.	Cl. 2.2 (d) (i) Pg 3 of 6	<p>(i) Cable of each 1-phase 765KV Reactor required for interconnection of IMB to CMB, shall be supplied as per BPS</p> <p>However, all cables (Power, Control, shielded twisted pair cable for 4-20mA signal & any special cable as required from individual Reactor unit to Individual Marshalling box (IMB) / any other cubicle (associated with 765KV Class Reactor as applicable) is deemed to be included & shall be treated as Part of each 1-phase 765KV class Reactor. This shall also include the following: FO cable: 300 m per 1-phase 765KV class Reactor unit</p>	<p>(i) From BPS we understand that requirement of bulk cable quantity (power, special, control) of upto 4km is under sub-station contractor scope. This is in-line to section project clause 3.0 exclusion sl.no. (v) that cables from CMB to control panel is not in our scope.</p> <p>And from section project we understand that, our scope is,</p> <p>(a) for supply of 300m FO cables for 4-20mA signal cable from CMB to control panel per each 1-ph reactor and</p> <p>(b) Cable from tank mounted accessories to Marshalling Box (IMB) and IMB to CMB of each 1-phase 765KV Reactor only.</p> <p>(c) Further cable lying & cable trenches are also not in our scope.</p> <p>Please confirm our understanding is correct.</p>	<p>(i) Power & control cables from CMB to control panel are not envisaged under present scope. However, if required, payment against those cables to Control Panel shall be paid separately, as per respective BPS items.</p> <p>(a) Supply of 300m FO cables: Requirement is ample clear in Bidding documents. Provisions of bidding document shall prevail.</p> <p>(b) Please refer to Clause 2.2 d) Cables & Accessories: in the Section-Project of the Technical specification.</p> <p>(c) Supply & Laying of Cables, to be governed by respective BPS items, is in the scope of the contractor. However, Civil work for Cable Trench is not envisaged under present scope.</p>
5.	Cl. 2.2 (d) (i) Pg 3 of 6	o One No. CMB shall be supplied for 2 x 1-Ph or 3 x 1-Ph 765KV Class Reactor unit at one location.	As per present scope, total 7Nos 1Ph reactors are to be supplied, so total 2Nos CMB (1per 3-single ph bank reactor) will be supplied.	Requirement is ample clear in Bidding documents. Provisions of bidding document shall prevail.
6.	Cl. 4.0 pg 5 of 6	PHYSICAL AND OTHER DESIGN DATA	<p>Kindly provide below details for site location.</p> <p>1. Site location</p> <p>2.Coastal area requirement applicability.</p>	<p>1. Please refer Clause 1.3 SPECIAL NOTE: in the Section-Project of the Technical specification.</p> <p>2. Subject Reactors are envisaged for non-coastal area. Further, for other queries, Bidder</p>

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			3. RTV coating applicability. 4. Seismic zone per each site.	may Quote as per provisions of bidding document. 3. RTV coating applicability: NO 4. Refer to Clause 4: PHYSICAL AND OTHER DESIGN DATA: in the Section-Project of the Technical specification. Offered Reactors shall be designed for SIESMIC-Zone-IV as per IS 1893 (Part 1).
7.	Cl. 4.0 pg 5 of 6	Seismic zone as per IS 1893 (Part 1) Seismic Zone upto Zone-IV	For 800kV/2500A OIP Bushing, suppliers don't have the seismic test reports suitable for Zone IV, hence we propose to use 800kV/2000A RIP bushing instead of 800kV/2500A OIP bushing. kindly accpet deviation in current rating and proposed RIP bushing.	Kindly refer clause no 11.2 of Section:765kV Shunt Reactor, Rev-08, RIP/RIS/OIP Bushings are technically acceptable. However, other technical parameters including current rating are to be complied as per TS requirement.
Technical Specification, 765kV Shunt Reactor C/ENGG/MODEL-SPEC/765kV SR Rev. 08 [Volume-II of Bidding Documents]				
8.	Cl. 15.1 Pg 25 of 141	15.1 Buchholz Relay, Magnetic Oil Level Gauge, Pressure Relief Device & Sudden pressure relay to be wired through unarmoured cable of 1.5 sq.mm (minimum), inside GI conduit, with no part exposed. Cable shall be protected by flexible stainless steel pipe, at both ends as per requirement. Proper sealing arrangement to be provided at both ends to avoid ingress of water. STANDARD TECHNICAL DATA SHEET - 1.1 kV GRADE PVC CONTROL CABLES sl.no.13	As per past supply to various sites of PGCIL and CEA guidelines, for all equipments mounted on reactor, we will provide armoured cable in cable tray(till IMB), which is suitable for outdoor applications instead of mentioned conduit. Kindly accpet. Also as per STANDARD TECHNICAL DATA SHEET - 1.1kV GRADE PVC CONTROL CABLES sl.no.13, it is mentioned all the control cables are armoured. Hence, kindly accept armoured cable with cable tray.	Bidder to comply the requirement mentioned in technical specifications.

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9.	Cl. No 7.1.2 Page 8 of 66	The requirement of post weld heat treatment of tank/stress relieving shall be based on recommendation of IS 10801.	IS 10801 is applicable to pressurize piping and pressure vessel. As inside pressure of transformer tank is approx. 1 kg/cm ² , reactor tank does not come in pressure vessel category. Hence, this clause is not applicable.	Bidder to quote as per provisions of bidding documents.										
10.	Cl. No 7.1.6 Page 8 of 66	The base of each tank shall be so designed that it shall be possible to move the complete transformer unit by skidding in any direction without damage when using plates or rails and the base plate shall have following minimum thickness: <table border="1" data-bbox="533 799 882 895"> <thead> <tr> <th>Length of tank (m)</th> <th>Minimum plate thickness (mm)</th> </tr> </thead> <tbody> <tr> <td>Flat bases</td> <td></td> </tr> <tr> <td>over 2.5m but less than 5m</td> <td>20</td> </tr> <tr> <td>over 5m but less than 7.5m</td> <td>26</td> </tr> <tr> <td>exceed 7.5m</td> <td>32</td> </tr> </tbody> </table>	Length of tank (m)	Minimum plate thickness (mm)	Flat bases		over 2.5m but less than 5m	20	over 5m but less than 7.5m	26	exceed 7.5m	32	'MS Plate IS 2062:2011 refer IS 1730:1989 for dimension of steel plate. 26mm thk Plate is not in IS standard, alternate solution is 25mm thk plate. Hence requesting for length of tank over 5m but less than 7.5m plate thickness shall be 25 mm thk. Kindly accept.	Bidder to quote as per provisions of bidding documents.
Length of tank (m)	Minimum plate thickness (mm)													
Flat bases														
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exceed 7.5m	32													
11.	Cl. No 14.7.2 Page 25 of 66	All valves shall be painted with a shade (preferably red or yellow) distinct and different from of main tank surface and as per the painting system and procedure specified.	There is no such painting system and procedure specified in technical specification and in Annexure- E. Painting specification shall be followed as per PGCIL approved supplier recommendation. Customer acceptance required. Gate and Globe valve only handle to be painted for identification. Kindly confirm	The proposal from the bidder for painting procedure for valves as applicable to POWERGRID approved vendors shall also be acceptable.										
12.	Cl. No. 16.3 of Technical Specification, SECTION- 765 KV SHUNT REACTOR,	The Individual Marshalling Box, Common Marshalling Box, Junction box and all other outdoor cubicles shall be made of stainless-steel sheet of minimum grade	Costal Area Consideration is not mentioned in Section project hence we are not considering the same in these tenders. Please confirm	Bidder understanding is generally in order.										

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	C/ENGG/MODEL-SPEC/765kV SR Rev. 8 Page 25 of 66 & Section Project cl no. 4	of SS304 (SS 316 for coastal area) and of minimum thickness of 1.6 mm. <table border="1"> <tr> <td>Altitude</td> <td>Less than 1000 meter above mean sea level (MSL)</td> </tr> <tr> <td>Snow fall</td> <td>NIL</td> </tr> <tr> <td>Seismic Zone</td> <td>As per IS 1893 (Part 1) - Seismic Zone upto Zone - IV</td> </tr> <tr> <td>Wind Zone</td> <td>NBC 2016- 47 m/s</td> </tr> <tr> <td>Min./Max. Ambient Temperature</td> <td>0 / 50 degree centigrade</td> </tr> </table>	Altitude	Less than 1000 meter above mean sea level (MSL)	Snow fall	NIL	Seismic Zone	As per IS 1893 (Part 1) - Seismic Zone upto Zone - IV	Wind Zone	NBC 2016- 47 m/s	Min./Max. Ambient Temperature	0 / 50 degree centigrade		
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Min./Max. Ambient Temperature	0 / 50 degree centigrade													
13.	Price Schedule-1 (BPS)													
14.	S. No. 3	Air core Neutral Grounding Reactor (NGR) dry type with support structure and terminal connector: 1Set	As per present scope, total 7Nos 1Ph reactors are to be supplied, so total 2Nos NGR (1per 3-single ph bank reactor) will be supplied. Please review and confirm	Bidder to quote as per Bid Price Schedule (BPS).										
15.	S. No. 4	132 kV Surge Arrester along with support structure & terminal connector.	As per present scope, total 7Nos 1Ph reactors are to be supplied, so total 2Nos surge arrestors (1per 3-single ph bank reactor) will be supplied. Please review and confirm.	Bidder to quote as per Bid Price Schedule (BPS).										