

Amendment –XXI dated 15.05.2023 on the Request for Proposal Document and Transmission Service Agreement issued for selection of bidder as Transmission Service Provider to establish “Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part C1” through tariff based competitive bidding process

Sl. No.	Clause No.	Existing Provisions			New / Revised Clause		
1.	RFP & TSA	Scope of the Project			Scope of the Project		
		Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date	Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
		1	Establishment of 2x1500 MVA, 765/400kV & 2x500 MVA 400/220 kV pooling station at Ramgarh along with 2x240 MVAR (765kV) Bus Reactor & 2x125 MVAR (420kV) Bus Reactor, ± 2x300MVAR STATCOM along with MSC+MSR 765/400kV 1500 MVA ICTs: 2 nos. (7x500 MVA including one spare unit) 765kV ICT bays - 2 nos. 400/220 kV, 500 MVA ICT – 2 nos. 400 kV ICT bays – 4 nos. 220 kV ICT bays - 2 nos. 400 kV line bays - 1 no. 220 kV line bays: 2 nos. 765kV line bays -2 nos. 240 MVAR Bus Reactor-2 nos. (7x80 MVAR,	18	1	Establishment of 2x1500 MVA, 765/400kV & 2x500 MVA 400/220 kV pooling station at Ramgarh along with 2x240 MVAR (765kV) Bus Reactor & 2x125 MVAR (420kV) Bus Reactor, ± 2x300MVAR STATCOM along with MSC+MSR 765/400kV 1500 MVA ICTs: 2 nos. (7x500 MVA including one spare unit) 765kV ICT bays - 2 nos. 400/220 kV, 500 MVA ICT – 2 nos. 400 kV ICT bays – 4 nos. 220 kV ICT bays - 2 nos. 400 kV line bays - 1 no. 220 kV line bays: 2 nos. 765kV line bays -2 nos. 240 MVAR Bus Reactor-2 nos. (7x80 MVAR, including one spare unit) 765kV reactor bay- 2 nos.	18

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			<p>including one spare unit) 765kV reactor bay- 2 nos. 125 MVAR, 420kV bus reactor - 2 nos. 420 kV reactor bay - 2 nos. 400kV Sectionalization bay: 1 set <u>± 2x300MVAR STATCOM, 4x125 MVAR MSC, 2x125 MVAR MSR along with 2 nos. of 400 kV bays</u></p> <p>Future provisions: Space for 765/400kV ICTs along with bays: 5 nos. 765kV line bay along with switchable line reactor: 2 nos. 765kV Bus Reactor along with bays: 2 nos. 400/220 kV ICTs along with bays: 8 nos. 400 kV line bays along with switchable line reactor: 4 nos. 400 kV line bays: 3 nos. 400kV Bus Reactor along with bays: 2 nos. 400kV Sectionalization bay: 2 sets. ** 220 kV line bays: 13 nos. 220kV Sectionalization bay: 2 nos. **</p>		<p>125 MVAR, 420kV bus reactor - 2 nos. 420 kV reactor bay - 2 nos. 400kV Sectionalization bay: 1 set</p> <p>Future provisions: Space for 765/400kV ICTs along with bays: 5 nos. 765kV line bay along with switchable line reactor: 2 nos. 765kV Bus Reactor along with bays: 2 nos. 400/220 kV ICTs along with bays: 8 nos. 400 kV line bays along with switchable line reactor: 4 nos. 400 kV line bays: 3 nos. 400kV Bus Reactor along with bays: 2 nos. 400kV Sectionalization bay: 2 sets. ** 220 kV line bays: 13 nos. 220kV Sectionalization bay: 2 nos. **</p>	
		2	<p>Ramgarh PS – Bhadla-3 PS 765kV D/c line along with 240 MVAR Switchable line reactor at each circuit at Ramgarh end of Ramgarh PS – Bhadla-3 PS 765kV D/c line</p> <p>765 kV, 240 MVAR Switchable line reactor-2</p>		<p>2</p> <p>Ramgarh PS – Bhadla-3 PS 765kV D/c line along with 240 MVAR Switchable line reactor at each circuit at Ramgarh end of Ramgarh PS – Bhadla-3 PS 765kV D/c line</p> <p>765 kV, 240 MVAR Switchable line reactor-2</p> <p>Switching equipment for 765kV 240 MVAR switchable line reactor –2</p>	

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2.	2.7.1 of RFP	The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e. on or before 1500 hours (IST) on <u>15.05.2023</u> . In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of Lol	The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e. on or before 1500 hours (IST) on <u>30.05.2023</u> . In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of Lol															
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4.	2.13.1 of RFP	<p>.....</p> <p>Opening of Envelope (Technical Bid): 1530 hours (IST) on <u>15.05.2023</u></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1530 hours (IST) on <u>24.05.2023</u> in the office of CEA.</p>	<p>.....</p> <p>Opening of Envelope (Technical Bid): 1530 hours (IST) on <u>30.05.2023</u></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1530 hours (IST) on <u>08.06.2023</u> in the office of CEA.</p>																																								

Sl. No.	Clause No.	Existing Provisions	New / Revised Clause
5.	Clause 1 of specific technical specification of STATCOM of RfP & TSA.	<p>1. Introduction: </p> <p>The main building block of the STATCOM should be single phase VSC based convertor valve (multi-level) operating in a way to eliminate or minimize ac filter requirement to High pass filter only and connected to the xx kV bus through air core reactors. <u>The STATCOM may comprise of multiple identical STATCOM units (minimum two) operating in parallel.</u></p> <p>.....</p>	<p>1. Introduction: </p> <p>The main building block of the STATCOM should be single phase VSC based convertor valve (multi-level) operating in a way to eliminate or minimize ac filter requirement to High pass filter only and connected to the xx kV bus through air core reactors.</p> <p>.....</p>
6.	Clause B.3.1 of specific technical requirement of s/s of RFP & TSA	<p>B.3.1 AC & DC power supplies </p> <p>i) <u>For LT Supply at each new Substation, two (2) nos. of LT Transformers (minimum 800kVA for substations with highest voltage rating as 765kV and minimum 630kVA for substations with highest voltage rating as 400kV) shall be provided out of which one shall be connected with SEB/DISCOM supply and other one shall be connected to tertiary of Transformer.</u></p> <p>.....</p> <p>ii) 2 sets of 220V battery banks for control & protection and 2 sets of 48V battery banks for PLCC/ communication equipment shall be provided at each new Substation. Each battery bank shall</p>	<p>B.3.1 AC & DC power supplies </p> <p>i) <u>For LT Supply at each new Substation, two (2) nos. of LT Transformers (minimum 800kV for substation with highest voltage rating as 765kV and minimum 630kVA for substations with highest voltage rating as 400kV) shall be provided from independent sources as per the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007.</u></p> <p>.....</p> <p>ii) 2 sets of 220V battery banks for control & protection and 2 sets of 48V battery banks for PLCC/ communication equipment shall be provided at each new Substation. Each battery bank shall have a</p>

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		<p>have a float-cum-boost charger. Battery shall be of VRLA type. At new substation, sizing of 220 V battery and battery charger shall be done based on the number of bays specified (including future bays) as per CEA Regulations and relevant IS. 2 sets of 48 V battery banks for PLCC and communication equipment shall be provided at each new Substation with at least 10-hour battery backup and extended backup, if required.</p> <p>.....</p>	<p>float-cum-boost charger. At new substation, sizing of 220 V battery and battery charger shall be done based on the number of bays specified (including future bays) as per CEA Regulations and relevant IS. 2 sets of 48 V battery banks for PLCC and communication equipment shall be provided at each new Substation with at least 10-hour battery backup and extended backup, if required. <u>48 V can be achieved from 220 V battery bank also, if desired, without compromising backup time.</u></p> <p>.....</p>
7.	<p>Clause 8.1.2 of specific technical specifications of STATCOM of RfP & TSA.</p>	<p>8. STATCOM Station Main Components</p> <p>.....</p> <p>8.1.2 Semiconductor Switches:</p> <p>The electronic switches should be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station. The valve shall be designed with individual semiconductor switches applied in a conservative manner with regard to their basic design parameters. The semiconductor switch shall meet the requirements of IEC 60747 except where otherwise specified herein. <u>The proposed semiconductor switch shall be of a type which is in, or ready for, commercial operation with characteristics fully proven by recorded years of operation in other installations.</u></p> <p>.....</p>	<p>8. STATCOM Station Main Components</p> <p>.....</p> <p>8.1.2 Semiconductor Switches:</p> <p>The electronic switches should be designed with the aim to achieve operation according to the overall performance requirements of the STATCOM Station. The valve shall be designed with individual semiconductor switches applied in a conservative manner with regard to their basic design parameters. The semiconductor switch shall meet the requirements of IEC 60747 except where otherwise specified herein.</p> <p>.....</p>
8.	<p>Clause 8.1.3 of</p>	<p>8.1.3. Sub module for Multi-Module Topology</p>	<p>8.1.3. Sub module for Multi-Module Topology</p>

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	specific technical specification of STATCOM of RfP & TSA	<p>.....</p> <p><u>Sub module shall be designed to guarantee high maintainability with self-sealing type hydraulic valves and electrical plugs for ease of installation or un-installation.</u></p> <p>.....</p>	<p>.....</p> <p><u>Deleted.</u></p> <p>.....</p>
9.	Clause 8.7 of specific technical specification of STATCOM of RfP & TSA.	<p>8.7 Air Core Reactors</p> <p>.....</p> <p>e) The reactor shall be designed to withstand overloading due to over voltage as specified and shall also be subjected to excitation by harmonics; the reactor must be able to withstand such events without deterioration in normal life.</p> <p>f) <u>All internal (with in a reactor coil) current carrying connections shall be welded/Brazed or compressed joint.</u></p> <p>g) <u>All terminals shall be either tin plated or silver plated.</u></p> <p>h) <u>Lifting lugs shall be provided for handling of the reactor.</u></p> <p>i) <u>The reactor shall be vertically mounted.</u></p> <p>j) The reactors shall be subjected to type and routine tests in accordance with the latest issue of IEC-60076 as appropriate to the type of reactor provided.</p> <p>.....</p>	<p>8.7 Air Core Reactors</p> <p>.....</p> <p>e) The reactor shall be designed to withstand overloading due to over voltage as specified and shall also be subjected to excitation by harmonics; the reactor must be able to withstand such events without deterioration in normal life.</p> <p>f) <u>Deleted</u></p> <p>g) <u>Deleted</u></p> <p>h) <u>Deleted</u></p> <p>i) <u>Deleted</u></p> <p>j) The reactors shall be subjected to type and routine tests in accordance with the latest issue of IEC-60076 as appropriate to the type of reactor provided.</p> <p>.....</p>