



पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
Power Grid Corporation of India Limited



सूचना का अधिकार अभिनियम 2005 के अंतर्गत केन्द्रीय लोक सूचना अधिकारी
Central Public Information Officer under the RTI Act, 2005
केन्द्रीय कार्यालय, 'सौदामिनी', प्लॉट नं.2, सेक्टर-29, गुडगांव, हरियाणा-122007
Corporate Centre, 'Saudamini', Plot No. 2, Sector-29, Gurgaon, Haryana-122007

CP/RTI/2016/778

Date: 10th April, 2017

Shri Vikas Bhalchandra Patharkar,
M/s Lustre Engineering Corporation,
R-208, TTC Industrial Area,
MIDC, Rabale,
Navi Mumbai – 400 701

Sub: Information under Right to Information Act, 2005.

Dear Sir,

This has reference to your online RTI request received on 18th March, 2017 seeking information under RTI Act, 2005.

The information sought is attached as **Annexure-I**.

First Appeal, if any, against the reply of CPIO may be made to the first appellate Authority within 30 days of the receipt of the reply of CPIO. Details of Appellate Authority at Corporate Centre, Gurgaon, under RTI Act, 2005 is as below:

Shri Ashwani Jain
Executive Director (CMG) & Appellate Authority
Corporate Centre, Power Grid Corporation of India Limited
"Saudamini", Plot No. 2, Sector-29, Gurgaon – 122007, Haryana.
Email ID: aj@powergridindia.com
Phone No. 0124-2571962

Thanking you,

भवदीय,

(अजय होलानी)

अपर महाप्रबंधक (के.आ.) एवं के.लो.सू.अधिकारी

Email ID: cpio.cc@powergrid.co.in

Following equipment shall be offered from the manufacturer(s) who meets the technical requirements as stipulated here, provided the same equipment are not covered under the Bidder's Qualifying requirement of the Bidding Documents.

Legend:

- * : voltage class of respective equipment as applicable.
- # : satisfactory operation means certificate issued by the Employer/Utility certifying the operation without any adverse remark.
- @ : **Circuit Breaker Bay** means a bay used for controlling a line or a transformer or a reactor or a bus section or a bus coupler and comprising of at least one circuit breaker, one disconnecter and three nos. of single phase CTs / Bushing CTs
- NOA: means Notification Of Award

24.1

Technical requirements for 765/400/220/132/110kV* Air Insulated Switchgear (AIS) Equipment* (i.e Circuit Breaker, Isolator, Current Transformer, Capacitive Voltage transformer, Inductive Voltage transformer, Surge Arrester and Wave Trap)

- (i) The manufacturer(s) whose 765/400/220/132/110kV* equipment(s) are offered, must have, manufactured, type tested (as per IEC/IS or equivalent standard) and supplied 715/345/220/132/110kV* or higher voltage class equipment(s), which are in satisfactory operation# for atleast two (2) years as on the date of NOA.
- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India for the offered equipment and not meeting the requirement stipulated in (i) above, can also be considered provided that
 - a) 715/345/220/132/110kV* or higher Voltage class equipment(s) must have been manufactured in the above Indian works & type tested (as per IEC/IS standard) and supplied as on the date of NOA.
 - b) Contractor shall furnish performance guarantee for an amount of 10% of the ex-works cost of the equipments(s) and this performance guarantee shall be in addition to the contract performance guarantee to be submitted by the contractor.

24.2

Technical Requirement for 765kV class Transformer

- (i) The Manufacturer whose 765kV Transformer(s) are offered must have designed, manufactured, tested & supplied 715 kV or higher voltage class one (1) number three phase Transformer of atleast 500 MVA capacity (or equivalent capacity in a bank of three (3) numbers single phase units). These transformer(s) must have been in satisfactory operation# for atleast two (2) years as on the date of NOA.
- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that

- a) 715kV or higher voltage class one (1) number three phase Transformer of atleast 500 MVA capacity (or equivalent capacity in a bank of three (3) numbers single phase units) must have been manufactured in the above Indian works based on technological support of collaborator, type tested (as per IEC/IS standard) and supplied as on the date of NOA
- b) The collaborator meets the requirements stipulated in (i) above. A valid collaboration agreement for technology transfer / license to design, manufacture, test and supply 765kV transformer in India, shall be submitted.
- c) the collaborator shall furnish performance guarantee for an amount of 10% of the ex-works cost of such equipment(s) and this performance guarantee shall be in addition to contract performance guarantee to be submitted by the contractor.

24.3

Technical Requirement for 765kV class Reactor

- (i) The Manufacturer whose 765kV Reactor(s) are offered must have designed, manufactured, tested & supplied 715kV or higher voltage class one (1) number three phase Reactor of atleast 240 MVAR capacity (or equivalent capacity in a bank of three (3) numbers single phase units). These Reactor(s) must have been in satisfactory operation* for atleast two (2) years as on the date of NOA.

OR

The Manufacturer must have designed, manufactured, tested & supplied 715kV or higher voltage class one (1) number three phase Transformer of atleast 500MVA capacity (or equivalent capacity in a bank of three (3) numbers single phase units). These Transformer(s) must have been in satisfactory operation* for atleast two (2) years as on the date of NOA. And the manufacturer must have designed, manufactured, tested & supplied 345kV or higher voltage class one (1) number three phase Reactor of atleast 50MVAR capacity (or equivalent capacity in a bank of three (3) numbers single phase units). These Reactors must have been in satisfactory operation* for atleast two (2) years as on the date of NOA.

- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that

- a) 715kV or higher voltage class one (1) number three phase Reactor of atleast 240MVAR capacity (or equivalent capacity in a bank of three (3) numbers single phase units) must have been manufactured in the above Indian works based on technological support of collaborator, type tested (as per IEC/IS standard) and supplied as on the date of NOA.
- b) The collaborator meets the requirements stipulated in (i) above. A valid collaboration agreement for technology transfer/license to design, manufacture, test and supply 765kV Reactor in India, shall be submitted.
- c) the collaborator shall furnish performance guarantee for an amount of 10% of the ex-works cost of such equipment(s) and this performance guarantee shall be in addition to contract performance guarantee to be submitted by the contractor.

24.4 Technical Requirement for 400kV, 220kV, 132kV and 110kV class Transformer

- (i) The manufacturer whose transformer(s) are offered must have designed, manufactured, tested and supplied 400kV/220kV/132kV/110kV* or higher voltage class transformers. These Transformer(s) must have been in satisfactory operation[#] for atleast two (2) years as on the date of NOA.
- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
 - a) 220kV (applicable for supply of 400kV and 220kV class Transformer)/ 132kV (applicable for supply of 132kV & 110kV class Transformer) or higher voltage class transformers must have been designed, manufactured in the above Indian works based on technological support of collaborator, type tested (as per IEC/IS standard) and supplied as on the date of NOA.
 - b) The collaborator meets the requirements stipulated in (i) above. A valid collaboration agreement for technology transfer / license to design, manufacture, test and supply 400kV/220kV/132kV/110kV* transformer in India, shall be submitted.
 - c) the collaborator shall furnish performance guarantee for an amount of 10% of the ex-works cost of such equipment(s) and this performance guarantee shall be in addition to contract performance guarantee to be submitted by the contractor.

24.5 Technical Requirement for 400kV, 220kV and 132kV class Reactor

- (i) The Manufacturer whose 400kV/220kV/132kV* Reactor(s) are offered must have designed, manufactured, tested & supplied 400kV/220kV/132kV* or higher voltage class. These Reactor(s) must have been in satisfactory operation[#] for atleast two (2) years as on the date of NOA.
- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
 - a) Such manufacturer has designed, manufactured based on technological support of collaborator, type tested (as per IEC/IS standard) and supplied 400kV class transformer or 220kV or above class shunt reactors as on the date of NOA.
 - b) The collaborator meets the requirements stipulated in (i) above. A valid collaboration agreement for technology transfer/license to design, manufacture, test and supply the Reactor in India, shall be submitted.
 - c) the collaborator shall furnish performance guarantee for an amount of 10% of the ex-works cost of such equipment(s) and this performance guarantee shall be in addition to contract performance guarantee to be submitted by the contractor.

- (i) The manufacturer(s) whose 765kV GIS equipment(s) are offered must have designed, manufactured, tested (as per IEC or equivalent standard), supplied and supervised erection & commissioning of atleast one (1) GIS substation having atleast two (2) Circuit Breaker bays[®] of 715 kV or higher voltage class, which must have been in satisfactory operation[#] for atleast one (1) year as on the date of NOA.
- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
- a) atleast one (1) 765kV GIS Circuit Breaker bay[®] must have been manufactured based on the technological support of the Collaborator, and either supplied or type tested (as per IEC or equivalent standard) the above GIS bay as on the date of NOA.
 - b) Collaborator must have been designed, manufactured, tested (as per IEC or equivalent standard), supplied and supervised erection & commissioning of atleast one (1) GIS substation having atleast one (1) Circuit Breaker bay[®] of 715kV or higher voltage class, which must have been in successful operation[#] for atleast one (1) year as on the date of NOA.
 - c) A valid collaboration agreement for technology transfer/ license to design, manufacture, test and supply 765kV GIS equipment in India, shall be submitted.
 - d) Collaborator shall furnish performance guarantee for an amount of 10% of the ex-works cost of such equipment(s) and this performance guarantee shall be in addition to contract performance guarantee to be submitted by the contractor.

24.7 Technical Requirement for 400kV/220kV/132kV/110kV Gas Insulated Switchgear (GIS)

- (i) The manufacturer(s) whose 400kV/220kV/132kV/110kV* GIS equipment(s) are offered, must have designed, manufactured, tested (as per IEC or equivalent standard), supplied and supervised erection & commissioning of atleast two (2) number of GIS substations having cumulatively atleast twelve (12) circuit breaker bays* of 345kV/220kV/132kV/110kV* or higher voltage class and atleast one (1) number of above GIS substation must have been satisfactory operation[#] for atleast one (1) year as on the date of NOA.
- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
- a) atleast one (1) 400kV/220kV/132kV/110kV* GIS Circuit Breaker bay[®] must have been manufactured based on the technological support of the Collaborator, and either supplied or type tested (as per IEC or equivalent standard) the above GIS bay as on the date of NOA.

- b) The collaborator meets the requirements stipulated in (i) above. A valid collaboration agreement for technology transfer/ license to design, manufacture, test and supply the Reactor in India, shall be submitted.
- c) Collaborator shall furnish performance guarantee for an amount of 10% of the ex-works cost of such equipment(s) and this performance guarantee shall be in addition to contract performance guarantee to be submitted by the contractor.

24.9

Technical Requirement for 400 kV Grade XLPE Power Cables

- (i) The manufacturer(s) whose XLPE Power Cables are offered must have designed, manufactured, type tested and supplied in a single contract atleast 15 (fifteen) km of single core, 400kV grade XLPE insulated cable which must be in operation for atleast 2 (two) years as on the date of NOA.
 - (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
 - a) The manufacturer must have designed, manufactured, type tested and supplied 400kV grade XLPE insulated cable and which must be in satisfactory operation* for atleast one (1) year as on the date of NOA.
- OR
- b) The manufacturer must have designed, manufactured, type tested and completed Pre-qualification (PQ) tests as per IEC for 400kV grade XLPE insulated Cable as on the date of NOA.

24.10

Technical Requirement for 220KV Grade XLPE Power Cables

- (iii) The manufacturer(s) whose XLPE Power Cables are offered must have designed, manufactured, type tested and supplied in a single contract atleast 15 (fifteen) km of single core, 220kV or higher grade XLPE insulated cable which must be in operation for atleast 2 (two) years as on the date of NOA.
 - (iv) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
 - c) The manufacturer must have designed, manufactured, type tested and supplied 220kV or higher grade XLPE insulated cable and which must be in satisfactory operation* for atleast one (1) year as on the date of NOA.
- OR
- d) The manufacturer must have designed, manufactured, type tested and completed Pre-qualification (PQ) tests as per IEC for 220kV or higher grade XLPE insulated Cable as on the date of NOA.

Technical Requirement for 132KV/110KV/66KV Grade XLPE Power Cables

- (i) The manufacturer(s) whose XLPE Power Cables are offered must have designed, manufactured, type tested and supplied in a single contract atleast 15 (fifteen) km of single core, 132KV/110KV/66KV* or higher grade XLPE insulated cable which must be in satisfactory operation* for atleast two (2) years as on the date of NOA.
- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
 - a) The manufacturer must have designed, manufactured, type tested and supplied 132KV/110KV/66KV* or higher grade XLPE insulated cable and which must be in satisfactory operation* for atleast one (1) year as on the date of NOA.

24.10 Technical Requirement for 1.1 KV Grade PVC Control Cable

The manufacturer(s), whose PVC control cables are offered, must have designed, manufactured, tested and supplied in a single contract atleast 100 Kms of 1.1 KV grade PVC insulated control cables as on the originally scheduled date of bid opening. Further the manufacturer must also have designed, manufactured, tested and supplied atleast 1 km of 27C x 2.5 Sq.mm or higher size as on the date of NOA.

24.11 Technical Requirement for 1.1 KV Grade PVC Power Cable

The manufacturer(s), whose PVC Power Cables are offered, must have designed, manufactured, tested and supplied in a single contract atleast 100 Kms of 1.1 KV or higher grade PVC insulated power cables as on the date of NOA/award. Further the manufacturer must also have designed, manufactured, tested and supplied atleast 1 km of 1C x 150 Sq. mm or higher size as on the date of NOA.

24.12 Technical Requirement for 1.1 KV Grade XLPE Power Cables

The manufacturer(s), whose XLPE Power cables are offered, must have designed, manufactured, tested and supplied in a single contract atleast 25 Kms of 1.1 KV or higher grade XLPE insulated power cables as on the date of NOA/award. Further the manufacturer must also have designed, manufactured, tested and supplied atleast 1 km of 1C x 630 Sq. mm or higher size as on the date of NOA.

24.13 Technical Requirement for LT Switchgear

- i) The manufacturer whose LT Switchgear(s) are offered, must be a manufacturer of LT Switchboards of the type and rating being offered. He must have designed, manufactured, tested and supplied atleast 50 nos. draw out circuit breaker panels, out of which atleast 5 nos. should have been with relay and protection schemes with current transformer. He must have also manufactured atleast 50 nos. MCC panels comprising of MCCBs (ie Moulded Case Circuit Breakers) modules of the type offered which must be in satisfactory operation* as on the date of NOA.
- ii) The Switchgear items (such as circuit breakers, fuse switch units, contactors etc.), may be of his own make or shall be procured from reputed manufacturers and of proven design, atleast one hundred circuit breakers of the make and type being offered must have been in satisfactory operation* as on the date of NOA.

24.14 Technical Requirements for Battery

The manufacturer whose Batteries are offered, must have designed, manufactured and supplied DC Batteries of the type specified and being offered, having a capacity of atleast 600 AH and these must be satisfactory operation* for

at least two (2) years in power sector or industrial installations as on the date of NOA.

24.15 Technical Requirements for Battery Charger

The manufacturer, whose Battery Chargers are offered, must have designed, manufactured and supplied Battery Chargers generally of the type offered, with static automatic voltage regulators and having a continuous output of atleast ten (10) KW and these must have been in satisfactory operation[#] as on the date of NOA.

24.16 Technical Requirements for LT Transformer

- i) The manufacturer, whose LT transformer(s) are offered, must have designed, manufactured, type tested including short circuit test as per IEC/IS or equivalent standards and supplied transformer(s) of atleast 33kV class of 630kVA or higher. The transformer must have been in satisfactory operation[#] for atleast two (2) years as on the date of NOA.
- ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
 - a) At least 33kV class of 630 kVA or higher rating LT transformer(s) must have been designed, manufactured in the above Indian works, type tested (as per IEC/IS standard) including short circuit test and supplied as on the date of NOA.
 - b) the contractor shall furnish performance guarantee for an amount of 10% of the ex-works cost of the equipment(s) and this performance guarantee shall be in addition to contract performance guarantee to be submitted by the contractor.

24.17 Technical Requirements for Composite Long Rod Polymer Insulator (765kV & 400kV)

- (i) The manufacturer whose Composite Long rod Insulator are offered, must have designed, manufactured, tested and supplied Composite Long rod Insulator of 120KN or higher electro-mechanical strength for 765kV/400kV* or higher voltage class and the same must have been in satisfactory operation[#] for atleast two (2) years as on the date of NOA.
- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
 - a) The manufacturer must have designed, manufactured, type tested and supplied Composite Long rod Insulator of 120KN or above electro-mechanical strength for 765kV/400kV* or higher voltage class and the same must have been in satisfactory operation[#] as on the date of NOA.
 - b) Contractor shall furnish performance guarantee for an amount of 10% of the ex-works cost of the equipments(s) and this performance guarantee shall be in addition to the contract performance guarantee to be submitted by the contractor.

24.18

Technical Requirements for Control, Relay & Protection System and Sub-station Automation System

The manufacturer whose Control, Relay & Protection System (Control & protection Intelligent Electronic Devices (IEDs)), and Sub-station Automation System (as applicable) are offered, must have designed, manufactured, tested, installed and commissioned Control, Relay & Protection system along with Sub-station Automation System which must have been in satisfactory operation[#] on (i) 400 kV system [applicable for 765kV substation] & (ii) specified voltage level or above [applicable for 400kV & below substation] for atleast two (2) years as on the date of NOA.

AND

The Manufacturer or their joint venture or subsidiary company or parent company must be a manufacturer of control and protection IEDs and must have established repair, testing and integration (atleast for 4 bays) facilities for Control, Relay & Protection System and Sub-station Automation System in India.

24.19

Technical Requirements for analog and digital PLCC panels (765 kV, 400 kV, 220 kV & 132 kV)

- (i) The manufacturer whose PLCC panels are offered, must have designed, manufactured, tested, supplied and commissioned PLCC panels for (i) 400kV system or above [applicable for 765 kV & 400 kV substation], (ii) 220 kV System or above [applicable for 220 kV Substation] & (iii) 132 kV system or above [applicable for 132 kV substation] and the same must have been in satisfactory operation[#] for atleast two (2) years as on the date of NOA.
- (ii) Alternatively, the manufacturer, who have established manufacturing and testing facilities in India and not meeting the requirement stipulated in (i) above, can also be considered provided that
 - c) PLCC panels must have been manufactured in the above Indian works based on technological support of collaborator, type tested (as per IEC/IS standard) and supplied as on the date of NOA.
 - d) collaborator shall furnish performance guarantee for an amount of 10% of the ex-works cost of such equipment(s) and this performance guarantee shall be in addition to contract performance guarantee to be submitted by the contractor.
 - e) The collaborator meets the requirements stipulated in (i) above. A valid collaboration agreement for technology transfer / license to design, manufacture, test and supply PLCC panels in India, shall be submitted.

24.20

Technical Requirement of "Indian Associate" for execution of on shore supply and services for 765 kV Transformer & Reactor package

Indian associate must have erected at least two (2) or more circuit breaker equipped bays of 345 kV or above voltage level or at least two (2) nos. of 345 kV or above voltage class transformer/reactor; during last seven (7) years and above bays/transformer/reactors must be in satisfactory operation[#] as on the date of NOA.