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TORRENT POWER LIMITED

375+ MW CCPP (Extension) at SUGEN, Surat, Gujarat State, India

INTERNATIONAL COMPETITIVE BIDDING

DETAILED QUALIFICATION REQUIREMENTS

Ref No.: TPL/SUGEN CCPP (Extension)/ Aug 2009

Date: 1st August 2009

1.0 Torrent Power Limited (TPL) is one of the leading Private Sector Power Companies of India. TPL distributes power to around 2 million customers in the cities of Ahmedabad, Gandhinagar and Surat of Gujarat State and Bhiwandi in Maharashtra in India. At present, it has a generation capacity of 1647.50 MW [500 MW at Ahmedabad and 1147.50 MW SUGEN Combined Cycle Power Plant (CCPP) commissioned recently]. TPL is in process of installation of fourth (4th) Unit of 375+ MW (Gross output at site conditions), at SUGEN CCPP similar to the three units recently commissioned. The proposed Unit will be located at the existing site of three Units.

2.0 TPL, the Owner, invites sealed bids from prospective Bidders on Engineering, Procurement and Construction (EPC) basis for implementing 375+ MW Gas-based Combined Cycle Power Plant comprising 1 block with Advance Class Gas Turbines at the existing site of three units, at SUGEN CCPP, village Akhakhol, District Surat, Gujarat State, India.

3.0 Brief Scope and Project Completion Schedule

3.1 Brief Scope

The Bidder shall be responsible for the basic and detailed design, engineering, manufacture, procurement, supply, transportation to site, project management, stores management, civil works, erection, installation, testing, commissioning, performance testing, putting into successful commercial operation and handing over of the 375+ MW Gas Based CCPP including auxiliaries on Engineering, Procurement and Construction (EPC) basis consisting of all the packages together defined below.

3.2 Scope divided in Packages

The Owner is open to considering implementation of the Project on limited package basis as briefly outlined here under with well defined terminal points and without any dilution of Guarantees / Warrantees.

Package-1: Main Plant (or Power Block) with LTSA

Package-2: Cooling Tower (CT)

Package-3: Water Treatment Plant (WTP)-Augmentation

Package-4: 400 kV Switchyard –Extension

Package-5: General Works including CW Pumps and Pump House



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Prospective Bidder may participate either as EPC Bidder or for any one or more of the above mentioned Five (5) Packages as he wishes. However, each Package, by itself, shall be executed on a turn-key basis by the respective Bidder upon being awarded Contract for the same.

The intent of the Owner is to operate the complete plant in a Combined Cycle mode in the shortest possible time frame.

Each Contractor shall guarantee the Performance of his Package, provide Warrantee for his Package and carry out Performance Test, in accordance with approved code/(s), to establish the Performance to be as guaranteed.

Each Contractor shall promptly furnish all technical and physical data pertaining to interface between his Package and other Packages.

Each Contractor shall be responsible for Project management of his Package, including project scheduling, progress reporting, interface coordination, site management participation in project meetings and design reviews, attendance at regular weekly site meetings and monthly progress meetings with the Owner/Owners Engineer, design review meetings as required and provision of a monthly progress report identifying progress against schedule and key issues impacting schedule and how these are being addressed.

3.3 Project Completion Schedule

The contractual time for completion from the date of Notice to Proceed would be;

Package	Activity	Contractual Time for Completion
1	EPC of all packages/ Main Plant (Power Block) with LTSA Completion of successful P.G. Test, Provisional Acceptance and handing over for commercial operation	One Hundred and Twelve (112) Weeks



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2	Cooling Tower - Ready for Operation	Seventy Eight (78) Weeks
3	Water Treatment Plat – Augmentation Completion of Reliability Operation & Provisional Acceptance	Seventy (70) Weeks
4	400 kV Switchyard – Extension Ready for Reliability Operation and back charging for providing start-up power	Seventy (70) Weeks
5	General Works including CW Pumps and Pump House	Seventy Eight (78) Weeks

4.0 Qualification Requirements

Qualification will be based on Bidders meeting all of the following criteria as detailed below (sub-clause 4.1 to sub-clause 4.6), comprising general experience and turnover, specific technical criteria, financial position, personnel and equipment capabilities, litigation history and other relevant information, which are further detailed in the tender documents.

Additional requirements to be fulfilled by Joint Venture/ Consortium (which are further detailed in Tender documents) are also mentioned in sub-clause 4.7.

4.1 General Experience and Turnover

The Bidder shall provide evidence that:

- a) he has been actively engaged in the Engineering, Procurement and Construction (EPC) works of the respective packages for a period of five (5) years between 2004 to 2009, in the role of Prime Contractor or as a partner of a Joint Venture/ member of a Consortium which is a Prime Contractor.



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- b) he has generated an Average Annual Turnover during the above mentioned period greater than the amount as specified here under for respective Contract;

Contract	Average Annual Turnover
EPC of all packages/ Main Plant (Power Block) with LTSA	US Dollars One Hundred (100) Million
Cooling Tower	INR Five Hundred (500) Million
Water Treatment Plat – Augmentation	INR Two Hundred and Fifty (250) Million
400 kV Switchyard – Extension	INR Two Hundred and Fifty (250) Million
General Works including CW Pumps and Pump House	INR Two Hundred and Fifty (250) Million

- c) The Average Annual Turnover is defined as the total of certified payment certificates for EPC works in progress or completed by the Bidder including Partners of Joint Venture/ Members of Consortium during 2004 to 2009 and divided by five (5) years. The amount to be reckoned for this purpose is the respective value of supplies/ services provided by the entity of the Bidder whether individually as a Prime Contractor or as a Partner of Joint Venture/ Member of Consortium, which is again a Prime Contractor.

4.2 Specific Technical Criteria

The Bidder shall provide evidence that he has successfully completed at least the number of Contracts and of a nature, complexity, and requiring technology and experience similar to the proposed Contract as more particularly described in the respective Annexures.

4.3 Financial Position

The Bidder shall demonstrate, to the satisfaction of the Owner:

- a) that he has access to, or has available, liquid assets, unencumbered real assets and other financial means to meet the cash flow requirements on works currently in progress and for future Contract commitments, including the subject Contract, on the basis of uncommitted cash flows, liquidity ratios and bank certificates for availability of adequate lines of credit (independent of any contractual advance payment) sufficient to meet the cash flow requirements at any time for the subject Contract of the minimum amount of 15% of the offered price for the respective Package.



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- b) If the Bidder, including one or more partners of a Joint Venture/ one or more members of a Consortium, is a subsidiary company and by itself does not meet any of the criteria stated in this clause 4.3, it should provide a guarantee from its parent company to takeover all liabilities arising from the Contract, provided the parent company demonstrates that it meets the above stated criteria.

4.4 Personnel Capability

The Bidder shall supply general information on the management structure of the firm, and shall make provision for suitably qualified personnel, with the required background and experience, to man the key positions during Contract implementation period and more particularly for package 1 i.e. EPC all package / Main Plant (Power Block) as detailed below: -

- a) A Project Manager or other Representative who is fully acquainted with the Project, with at least twenty (20) years of experience of which at least ten (10) years of relevant experience shall be in large EPC projects and who shall be proficient in English language and have the authority to administer this Agreement on behalf of the Bidder.
- b) A Construction Manager with Facility Site management skills with at least fifteen (15) years of experience of which at least ten (10) years are in EPC Contracts of large projects.
- c) Project team comprising of necessary professional engineers, licensed in accordance with applicable licensing requirements in India or by any other Governmental Instrumentality to perform engineering services pursuant to the Contract, from various disciplines including, project engineer and lead structural, mechanical, electrical, instrumentation and control, civil, scheduling, construction and start-up engineers and training instructors, with each having ten (10) years of experience of which at least five (5) years in successful EPC projects. They should have extensive combined cycle power plant experience in facilities of similar technology and magnitude and should be proficient in the English language and have knowledge of prudent utility practices, applicable laws and applicable permits.



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- d) A Qualified Warranty Engineer at the Facility Site during Warranty Period prescribed under the Contract (for total EPC Contract and Package-1 Main Plant only) with minimum five (5) years of relevant work experience.
- e) Quality Assurance Personnel with minimum five (5) years of relevant work experience, all of whom shall report directly to Bidder's home office managers and not to the Project personnel located at the Facility Site.

The Bidder shall supply information on a Prime candidate and on an alternate for each key position covered in (a) to (e) above, both of whom shall meet the background and experience requirements specified.

4.5 Equipment Capability

The Bidder shall own, or have assured access (through lease, hire purchase agreement other commercial means or approved Subcontracting) to key Construction Equipments, in full working order, as required for his scope of work under the Contract. He shall furnish the List of key Construction Equipments and their quantity envisaged by him for relevant Contract.

The Bidder must demonstrate that, based on known commitments, they will be available for timely use in the subject Contract. The Bidder may also list alternative types of equipment that he would propose for use for the Contract, together with an explanation of the proposal.

4.6 Litigation History

The Bidder shall provide accurate information about any litigation or arbitration (including those in progress) resulting from Contracts completed or ongoing under its execution over the last ten (10) years. A consistent history of awards or suits/ claims against the Bidder or any partner of a Joint Venture/ member of a Consortium may result in failure of the Bid.

4.7 Joint Venture/ Consortium Requirements

Bids submitted by a Joint Venture (JV) comprising not more than three (3) partners/ Consortium members shall comply with the following requirements:



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a) The Joint Venture/Consortium shall satisfy the qualification criteria mentioned in clauses 4.1 to 4.6 above. For this purpose the following data in respect of each partner of the Joint Venture/member of the Consortium may be added together to meet the collective qualifying criteria:

1. General Experience and Turnover (sub-clause 4.1);
2. Financial Capability: Cash flow requirements (sub-clause 4.3);
3. Personnel Capability: Record of Specialist Personnel (sub-clause 4.4);
4. Equipment Capability: Major construction equipment availability (sub-clause 4.5).

Each partner/member must satisfy the criteria concerning Litigation History (sub-clause 4.6) individually.

Also, Joint Venture/Consortium and its partners/members shall satisfy the Specific technical criteria mentioned in the Annexure 1.

- b) One of the partners/members of Joint Venture/Consortium shall be nominated as being Partner-in charge/leader.
- c) In case of EPC of all Packages or Main Plant Package, the Partner-in-charge/Leader of Joint Venture/Consortium shall be responsible for all of Work and Supplies including GT(s), ST(s), HRSG(s), Generator and associated auxiliary equipments, all technical and management services required to encompass the entire scope of Work and Supplies and financial obligations on a single Bidder responsibility basis. He shall be authorized to receive instructions, incur liabilities and principally deal for and on behalf of any and all partners of the Joint Venture/members of Consortium and such instructions received, liabilities incurred and dealings made shall be construed to be on behalf of himself and all other partners/members of Joint Venture/Consortium.
- d) All partners of the Joint Venture/members of Consortium shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms.



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5.0 Schedule of Issue of Tender Documents and Bid Submission:

Activity	Date and Time
Issue of Tender Documents	10 th August, 2009 onwards
Last date for receiving final Bid Submission	Up to 15:00 hrs. (IST) on 31 st August, 2009
Opening of Qualification, Technical, Commercial and Price Bids	To be intimated later to the Bidders

6.0 Bid Validity and Bid security:

6.1 Bid validity Date : 28th February, 2010

6.2 The Bidder shall furnish, as part of his Bid, a Bid Security valid up to 31st May, 2010 as mentioned in the following table:

Contract	Bid Security Amount
EPC of all packages/ Main Plant (Power Block) with LTSA	INR Two Hundred (200) Million
Cooling Tower	INR Five (5) Million
Water Treatment Plat – Augmentation	INR Two (2) Million
400 kV Switchyard – Extension	INR Two (2) Million
General Works including CW Pumps and Pump House	INR Two (2) Million

6.3 Bid Security shall be through an irrevocable Bank Guarantee or Demand Draft favoring 'Torrent Power Limited' (payable at Ahmedabad, India) and shall not be credited with any interest.

6.4 Bids not meeting the requirements as stated above and without Bid Security shall be rejected.

7.0 The Owner reserves the right to accept or reject any variation or deviation in the offer. Alternate offers will be summarily rejected.

8.0 The Owner in his absolute discretion has a right to amend / vary any of the conditions for invitation of the Bid.

9.0 Interested parties may collect a copy of Tender Documents on submission of a written application containing a brief description of its



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main activities, capabilities and experience, from the address for communication mentioned below, on all working days between 10:00 hrs. and 17:00 hrs. (IST) along with a non-refundable bid document fee of US\$ 2500 (US Dollar Two Thousand Five Hundred only) or INR 100,000 (Rupees One Hundred Thousand only) by Demand Draft in the name of 'Torrent Power Limited', payable at Ahmedabad, India. Documents requested by mail would be sent by courier to applicants. TPL will not be responsible for any postal/courier delays in any correspondence related to bid activities.

Address for Communication

Executive Director,

Torrent Power Ltd.,

Torrent House,

Off Ashram Road, Ahmedabad

Gujarat, India. PIN 380 009

Phone No: +91-79 2657 7377

Fax No: +91-79 2658 9581 E-mail: sugen@torrentpower.com

- 9.1 Issue of Tender Documents to any Bidder shall not be construed to mean that such Bidder is considered qualified.
- 9.2 Tender Documents are not transferable. Bids received from those who have not purchased the Tender Documents will be rejected and will not be opened. In case of Joint Venture/Consortium, Tender Documents should be purchased by a partner of the Joint Venture/member of the Consortium.
- 9.3 TPL reserves the right to accept/reject, at its sole discretion, any or all bids without assigning any reason. No further correspondence shall be entertained in this regard.
- 9.4 **BIDDERS ARE REQUESTED TO READ THE TENDER DOCUMENTS FOR COMPLETE DETAILS ON THE QUALIFICATION CRITERIA AS WELL AS OTHER TERMS AND CONDITIONS APPLICABLE TO THIS 'INVITATION FOR BIDDING'**



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ANNEXURE 1: SPECIFIC TECHNICAL CRITERIA FOR PACKAGE – 1
EPC FOR ALL PACKAGES / MAIN PLANT (POWER BLOCK)

1. The Bidder shall meet either of the three qualification criteria mentioned below:

- 1.1 **Criteria-1**

The Bidder shall be a Gas Turbine (GT) manufacturer satisfying the Qualification Criteria set forth in clauses 1.2.1 and 1.3 below and shall source for the Contract, the Gas Turbine (GT) from his own manufacturing facility and Steam Turbine (ST), Heat Recovery Steam Generator (HRSG) and Generator from manufacturers (whether from his own source or from others) satisfying the qualification criteria set forth in clauses 1.4, 1.5 and 1.6 respectively.

Criteria-2

The Bidder shall be a Joint Venture Company or Consortium:

- (a) Having as one of its partners/ members, as the case may be a Gas Turbine (GT) manufacturer satisfying the qualification criteria set forth in clause 1.3 (herein referred to as 'Qualifying GT Manufacturer') and in the event of being a Partner-in-charge of the Joint Venture / Leader of the Consortium*, meeting the qualifying EPC experience set forth in clause 1.2.1.

OR

Having as one of its partners/members, as the case may be, a Qualifying GT Manufacturer and having another partner/member, who is assuming the responsibility of Partner-in-charge of the Joint Venture / Leader of the Consortium, meeting the qualifying EPC experience in clauses 1.2.1 or 1.2.2;

AND

- (b) Having an adequate formal arrangement between the partners of the Joint Venture/ members of the Consortium to ensure the smooth conceptualization, designing, engineering (including detailed engineering), procuring, supplying, erection, installation, testing, commissioning, putting into successful commercial operation and handing over of 350-400MW Gas Based CCPP project



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with Advance Class Gas Turbine comprising single block with nominal capacity of 350-400 MW with the active participation of the Qualifying GT Manufacturer;

AND

- (c) Sourcing the Gas Turbine (GT) from the Qualifying GT Manufacturer who is a partner of the Joint Venture/ member of the Consortium, Steam Turbine (ST), Heat Recovery Steam Generator (HRSG) & Generator for the Contract from manufacturers satisfying the qualification criteria set forth in clauses 1.4, 1.5 and 1.6 respectively.

Criteria-3

The Bidder shall be an EPC Contractor meeting the qualification criteria in Clauses 1.2.1 and sourcing Gas Turbine, Steam Turbine, HRSG and Generator from manufacturers meeting the qualification criteria in 1.3, 1.4, 1.5 and 1.6 respectively.

AND

The Bidder shall have an adequate formal arrangement with the manufacturers of Gas Turbine, Steam Turbine, HRSG and Generator to ensure the smooth conceptualization, designing, engineering (including detailed engineering), procuring, supplying, erection, installation, testing, commissioning, putting into successful commercial operation and handing over of 350-400 MW Gas Based CCPP project with Advance Class Gas Turbine comprising single block with nominal capacity of 350-400 MW Gas Based with their active participation.

1.2 Qualifying EPC Experience:

- 1.2.1 Qualifying Engineering Procurement and Construction (EPC) experience for the purpose hereof means experience of having successfully executed projects on EPC basis (i.e., turnkey basis with total and complete responsibility for designing, engineering, procuring, supplying, erecting, installing, testing, commissioning, putting into successful commercial operation and handing over etc. in the role of a Prime Contractor or as a Partner-in-charge of a Joint Venture/Leader of a Consortium which was a Prime Contractor), a total of at least one (1) CCPP Blocks of 350 – 400 MW with Advance Class Gas Turbine along with all associated auxiliary equipments.



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- 1.2.2 Qualifying Engineering Procurement and Construction (EPC) experience for the purpose hereof means experience of having successfully executed major and complex projects on EPC basis (i.e. turnkey basis with total and complete responsibility for designing, engineering, procuring, supplying, erecting, installing, testing, commissioning, putting into successful commercial operation and handing over etc. in the role of a Prime Contractor or as a Partner-in-charge of a Joint Venture/Leader of a Consortium which was a Prime Contractor), in power and/or petrochemicals and/or fertilizer projects. The Bidder should have particularly and successfully executed on aforesaid EPC basis, at least one (1) such project of value exceeding US Dollars two hundred million (US\$ 200 million) in the last seven (7) years.
- 1.3 **Qualification required of a Manufacturer of Gas Turbines (GT):**
- 1.3.1 In case the Gas Turbine (GT) manufacturer is a Original Manufacturer of the type and brand of the GT that is offered for the Project :-
- 1.3.1.1 The Gas Turbine (GT) manufacturer shall have already designed, manufactured and supplied for at least two (2) CCPP Blocks of minimum three hundred and eighty (380) MW Gross or larger capacity each at ISO conditions, similar Advance Class Gas Turbine (GT) as offered for the project, which have been commissioned and performance proven with reliability and availability duly established in last five (5) years.
- 1.3.1.2 At least Two (2) of such CCPP Blocks as expressed in 1.3.1.1 above shall each have been in satisfactory commercial operation with the logged Actual Operating Hours, post handing-over after commissioning, totaling to at least Nine Thousand (9,000) in combined cycle mode in two (2) years period ending 31st July 2009.
- 1.3.2 In case the Gas Turbine (GT) manufacturer is a Licensee of a Original Manufacturer of the type and brand of the GT that is offered for the Project :-
- 1.3.2.1 The Original Gas Turbine (GT) manufacturer shall be meeting the criteria defined in clause 1.3.1 above.
- 1.3.2.2 The Licensee shall have already engineered, manufactured and supplied, at least two (2) similar Advance Class Gas Turbines (GT) as



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offered for the project for CCPP Blocks of minimum three hundred and eighty (380) MW Gross or larger capacity each at ISO conditions, which have been commissioned and performance proven with reliability and availability duly established in last three (3) years.

1.3.2.3 At least One (1) of such CCPP Blocks as expressed in 1.3.2.2 above, shall be in satisfactory commercial operation with the logged Actual Operating Hours, post handing-over after commissioning, totaling to at least Four Thousand and Five Hundred (4500) in combined cycle mode in one year period ending 31st July 2009.

1.3.2.4 The Licensee shall be in possession of a valid licensing agreement with the Original Gas Turbine (GT) manufacturer which is valid until 31st December, 2020.

1.4 Qualification required of a Steam Turbine (ST) Manufacturer:

1.4.1 In case the Steam Turbine (ST) manufacturer is a Original Manufacturer of the type and brand of the ST that is offered for the Project:

1.4.1.1 The Steam Turbine (ST) Manufacturer shall have already designed, manufactured and supplied for at least two (2) CCPP Blocks of minimum three hundred and eighty (380) MW Gross or larger capacity each at ISO conditions comprising of Advance Class Gas Turbine (GT), the similar Steam Turbine (ST) as offered for the project, which have been commissioned and performance proven with reliability and availability duly established in last five (5) years.

1.4.1.2 At least Two (2) of such CCPP Blocks as expressed in 1.4.1.1 above shall be in satisfactory commercial operation with the logged Actual Annual Availability in respect of the Steam Turbine (ST), post handing-over after commissioning, of at least Ninety Six (96) Percent since commissioning of the respective CCPP Blocks. The period of proving the performance of each Steam Turbine (ST) shall not be lesser than five (5) years as on 31st July 2009.

1.4.2 At least two (2) such Steam Turbines (ST) as expressed in 1.4.1.1 above shall be in totally trouble free commercial operation in similar single shaft CCPP since last two (2) years.



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1.4.3 In case the Steam Turbine (ST) manufacturer is a Licensee of a Original Manufacturer of the type and brand of the ST that is offered for the Project :-

1.4.3.1 The Original Steam Turbine (ST) manufacturer shall be meeting the criteria defined in clause 1.4.1. above.

1.4.3.2 The Licensee shall have already engineered, manufactured and supplied for at least two (2) CCPP Blocks of minimum three hundred and eighty (380) MW Gross or larger capacity each at ISO conditions comprising of Advance Class Gas Turbine (GT), the similar Steam Turbine (ST) as offered for the project, which have been commissioned and performance proven with reliability and availability duly established in last three (3) years.

1.4.3.3 At least One (1) of such Steam Turbine (ST) as expressed in 1.4.2.2 above, shall be in satisfactory commercial operation with the logged Actual Annual Availability, post handing-over after commissioning, of at least Ninety Six (96) Percent since commissioning of the respective CCPP Blocks. The period of proving the performance of each Steam Turbine (ST) shall not be lesser than three (3) years as on 31st July 2009.

1.4.3.4 The Licensee shall be in possession of a valid licensing agreement with the Original Steam Turbine (ST) manufacturer which is valid until 31st December 2020.

1.5 Qualification required of a Heat Recovery Steam Generator (HRSG) Manufacturer:

1.5.1 In case the Heat Recovery Steam Generator (HRSG) manufacturer is a Original Manufacturer of the type and brand of the HRSG that is offered for the Project :-

1.5.1.1 The Heat Recovery Steam Generator (HRSG) Manufacturer shall have already designed, manufactured and supplied, for at least two (2) CCPP Blocks of minimum three hundred and eighty (380) MW Gross or larger capacity each at ISO conditions comprising of Advance Class Gas Turbine (GT), the similar Heat Recovery Steam Generator (HRSG) as offered for the project, which have been commissioned and performance proven with reliability and availability duly established in last five (5) years.



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- 1.5.1.2 At least Two (2) of such CCPP Blocks as expressed in 1.5.1.1 above shall be in satisfactory commercial operation with the logged Actual Annual Availability in respect of the Heat Recovery Steam Generator (HRSG), post handing-over after commissioning, of at least Ninety Six (96) Percent since commissioning of the respective CCPP Blocks. The period of proving the performance of each Heat Recovery Steam Generator (HRSG) shall not be lesser than five (5) years as on 31st July 2009.
- 1.5.2 In case the Heat Recovery Steam Generator (HRSG) manufacturer is a Licensee of a Original Manufacturer of the type and brand of the HRSG that is offered for the Project:
- 1.5.2.1 The Original Heat Recovery Steam Generator (HRSG) manufacturer shall be meeting the criteria defined in clause 1.5.1 above.
- 1.5.2.2 The Licensee shall have already engineered, manufactured and supplied, for at least two (2) CCPP Blocks of minimum three hundred and eighty (380) MW Gross or larger capacity each at ISO conditions comprising of Advanced Class Gas Turbine (GT), the similar Heat Recovery Steam Generator (HRSG) as offered for the project, which have been commissioned and performance proven with reliability and availability duly established in last three (3) years.
- 1.5.2.3 At least One (1) of such Heat Recovery Steam Generator (HRSG) as expressed in 1.5.2.2 above, shall be in satisfactory commercial operation with the logged Actual Annual Availability, post handing-over after commissioning, of at least Ninety Six (96) Percent since commissioning of the respective CCPP Blocks. The period of proving the performance of each Heat Recovery Steam Generator (HRSG) shall not be lesser than three (3) years as on 31st July 2009.
- 1.5.2.4 The Licensee shall be in possession of a valid licensing agreement with the Original Heat Recovery Steam Generator (HRSG) manufacturer which is valid until 31st December 2020.
- 1.6 **Qualification required of the Electrical Generator Manufacturer:**
- 1.6.1 The Generator Manufacturer must be a Original Manufacturer of large capacity electrical generators of four hundred and fifty (450) MVA and



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above, Hydrogen Cooled, suitable for fifty (50) Hz power supply frequency,

- 1.6.2 The Generator Manufacturer shall have, manufactured and supplied at least twenty (20) such electrical generators of capacity four hundred and fifty (450) MVA or higher as expressed in 1.6.1 above for continuous power generation in utilities,
- 1.6.3 At least four (4) of such electrical generators as expressed in 1.6.2 above shall have been in satisfactory commercial operation without any history of failures since last eight (8) years in utility service, and
- 1.6.4 At least two (2) such electrical generators as expressed in 1.6.2 above shall be in totally trouble free commercial operation in similar single shaft CCPP since last two (2) years.

NOTE:

The Qualification Criteria specified in this Annexure may be relaxed by the Owner at his sole discretion in case of a deserving Bidder having excellent experience of EPC in similar projects, provided a sound Technical and Commercial offer has been received from such Bidder. Owner's decision in this regard shall be final and Owner shall not entertain any correspondence, presentation or discussion in this regard.



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ANNEXURE 2: SPECIFIC TECHNICAL CRITERIA FOR PACKAGE – 2
COOLING TOWER

1. The Bidder shall meet the following Technical qualifying experience criteria:

The Bidder should have successfully executed at least two (2) Nos. of RCC Natural Draft / Induced Draft Cooling Towers with cooling water (CW) flow capacity of at least Eighteen thousand m³/hr (18,000 m³/hr), cooling range of minimum nine (9) deg C and approach point not more than Five (5) deg C, on EPC basis (i.e. turnkey basis with total and complete responsibility for designing, engineering, procuring, supplying, erecting, installing, testing, commissioning, putting into successful commercial operation and handing over etc.) in the role of a Prime Contractor and achieved the guaranteed performance; and which tower shall be in successful commercial operation continuously for not less than three (3) years.

NOTE:

The Qualification Criteria specified in this Annexure may be relaxed by the Owner at his sole discretion in case of a deserving Bidder having excellent experience of EPC in similar projects, provided a sound Technical and Commercial offer has been received from such Bidder. Owner's decision in this regard shall be final and Owner shall not entertain any correspondence, presentation or discussion in this regard.



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ANNEXURE 3: SPECIFIC TECHNICAL CRITERIA FOR PACKAGE – 3
WATER TREATMENT PLANT - AUGMENTATION

1. The Bidder shall meet the following Technical qualifying experience criteria:
 - 1.1 The Bidder should have successfully executed:
 - a) at least Two (2) nos. of Water Clarifiers having capacity of Six hundred m³/hr (600 m³/hr), and
 - b) at least Two (2) nos. of semi automatic Demineralising plants with minimum chain capacity of Thirty Five m³/hr (35 m³/hr).
 - 1.2 The Plants at 1.1(a) and 1.1(b) above shall be in successful commercial operation continuously for not less than five (5) years.
 - 1.3 Cation and Anion Exchange Resins, as offered in this Project must be in successful commercial operation in similar D.M. Plants for a period of minimum five (5) years.

NOTE:

The Qualification Criteria specified in this Annexure may be relaxed by the Owner at his sole discretion in case of a deserving Bidder having excellent experience of EPC in similar projects, provided a sound Technical and Commercial offer has been received from such Bidder. Owner's decision in this regard shall be final and Owner shall not entertain any correspondence, presentation or discussion in this regard.



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ANNEXURE 4: SPECIFIC TECHNICAL CRITERIA FOR PACKAGE – 4
400 kV SWITCHYARD - EXTENSION

1. The Bidder shall meet the following Technical qualifying experience criteria:
 - 1.1 The Bidder should have experience of having successfully executed at least Two (2) nos. of 400 kV or higher Voltage EHV Switchyards (preferably with two (2) Main and a Transfer Bus system) on EPC basis (i.e., on turnkey basis with total and complete responsibility for designing, engineering, procuring, supplying, erecting, installing, testing, commissioning, putting into successful commercial operation and handing over etc.) in the role of a Prime Contractor, in power generation, transmission and distribution projects and which are in successful commercial operation for a period of at least two (2) years. The Bidder should have particularly executed on aforesaid EPC basis, at least one (1) such EHV Switchyard project of value exceeding Rupees One Hundred Million in the last ten (10) years.
 - 1.2 The Bidder shall have successfully implemented on EPC basis at least one (1) SCADA system for a large Switchyard/ EHV Sub-station application (preferably with two (2) Main and a Transfer Bus system) which is in reliable operation for at least two (2) years.
 - 1.3 The Bidder shall have on its panel well experience engineers and a design set-up for engineering the Switchyard. The set up shall have experienced engineers capable of properly handling engineering of SCADA System, Protective Relaying and Interlocking Systems, working out Cable Schedules and other engineering requirements related with Switchyard.

NOTE:

The Qualification Criteria specified in this Annexure may be relaxed by the Owner at his sole discretion in case of a deserving Bidder having excellent experience of EPC in similar projects, provided a sound Technical and Commercial offer has been received from such Bidder. Owner's decision in this regard shall be final and Owner shall not entertain any correspondence, presentation or discussion in this regard.



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ANNEXURE 5: SPECIFIC TECHNICAL CRITERIA FOR PACKAGE – 5
GENERAL WORKS INCLUDING CW PUMPS AND PUMP HOUSE

1. The Bidder shall meet the following Technical qualifying experience criteria:
 - 1.1. The Bidder should have successfully executed the following:
 - a) at least Two (2) Thermal Power Projects of Unit Capacity not lesser then 100 MW wherein he should have constructed Cooling Water Pump House and commissioned Cooling Water Pumps and Cooling Water Pipe Lines, and
 - b) at least Two (2) Power or other Projects of reasonably large size wherein he should have carried out (i) Miscellaneous piping, including that of GRP Material on Pipe Racks and Trenches and (ii) Construction of Power and Control Cables Trenches and Racks and laid and terminated Power & Control Cables and tested and commissioned them successfully.
 - 1.2. The Plants at 1.1 (a) and 1.1 (b) above should be in successful commercial operation continuously for not lesser than five (5) years.

NOTE:

The Qualification Criteria specified in this Annexure may be relaxed by the Owner at his sole discretion in case of a deserving Bidder having excellent experience of EPC in similar projects, provided a sound Technical and Commercial offer has been received from such Bidder. Owner's decision in this regard shall be final and Owner shall not entertain any correspondence, presentation or discussion in this regard.