



GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDERS OF BALANCE OF PLANT FOR COAL/ LIGNITE BASED THERMAL POWER STATIONS



**Central Electricity Authority
Government of India**

**September, 2010
New Delhi**

CONTENTS

S.No.	TITLE	PAGE NO.
1.	SECTION I: Guidelines for bidders of balance of plant for coal/lignite based thermal power stations on EPC basis.	01-03
2.	Annexure.	04-06
3.	SECTION II: Guidelines for bidders of individual packages of balance of plant for coal/lignite based thermal power stations.	07-24
	1. Guidelines for bidder of coal handling plant.	07-09
	2. Guidelines for bidder of ash handling plant.	10-12
	3. Guidelines for bidder of induced draft cooling tower.	13-14
	4. Guidelines for bidder of natural draft cooling tower.	15-16
	5. Guidelines for bidder of DM plant.	17-18
	6. Guidelines for bidder of Pre-treatment plant.	19-20
	7. Guidelines for bidder of effluent treatment plant.	21-22
	8. Guidelines for bidder of chimney.	23-24

SECTION I

GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDERS OF BALANCE OF PLANT FOR COAL/LIGNITE BASED THERMAL POWER STATIONS ON EPC BASIS



**GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDERS OF
BALANCE OF PLANT FOR COAL/ LIGNITE BASED
THERMAL POWER STATIONS ON EPC BASIS**

1.(i) The bidder should have executed contracts on engineering, procurement and construction (EPC) basis for at least one no. coal based/lignite based/gas based combined cycle power plant of installed capacity not less than ...¹ MW which has been commissioned during the last 10 years and has been in successful operation for at least one year (from the date of achieving full load) as on 7 days prior to the date of opening of the bid. The scope of work of such reference plant should have necessarily included design, engineering, supply, erection and commissioning (or supervision of erection and commissioning) on turnkey basis (with all associated mechanical, electrical, civil and structural works) of either:

(a) Main power plant equipment (Boiler - Turbine-generator or Gas Turbine- HRSG - STG) with all associated integral auxiliaries.

Or

(b) Coal/lignite handling plant, ash handling plant, cooling tower and water system (water treatment/waste water treatment, DM plant and circulating water system) of a coal / lignite based power plant.

(ii) Alternatively, the bidder shall be a joint venture company incorporated in India and registered under Companies Act 1956, provided that eligibility criteria mentioned at paragraph 1 (i) above is met by one of the promoters or jointly by more than one promoter. Each promoter company on the basis of whom the joint venture company gets qualified shall have minimum 26 % equity in the JV company. The equity shall be locked in at least for a period of 5 years from date of bid opening or till the completion of the warranty period of the project whichever is later. The bidder and the promoter company (ies) on whose strength the JV company is qualified, shall be jointly and severally liable for the execution of the contract and an undertaking to this effect shall be submitted along with the bid. In case of award, the said promoter company (ies) shall be required to give separate on demand bank guarantee for an amount equal to 1 % of the total contract price in addition to the contract performance guarantee of 10 % of contract value to be furnished by the JVC. The JVC partner on whose experience the qualification is sought shall not be allowed to bid independently or as a member in a consortium for this bid.

2. The bidder can submit the bid in his individual capacity or in consortium with other partner(s). In case of consortium, number of consortium partners should be limited to six (6). International consortium partner is also acceptable. One of the consortium partners shall be the consortium leader. The consortium leader should either have executed any one of the items of Paragraph 1 (i) (b) or single EPC project of contract value of at least Rs. 100 crore in the area of power, steel, fertilizer or any other process industry. Each consortium partner should have experience of at least one of the following BoP packages in power plant or industries (Steel / Aluminium /

¹ Insert a value equal to '100 MW' for plant capacity upto 1200 MW and '200 MW' for plant capacity beyond 1200 MW.



Zinc or Copper plant / Gas or Nuclear plant / Municipal water treatment & distribution system) of capacity equivalent to that indicated in the annexure for individual BoP package:

1. Coal handling plant.
2. Ash handling plant.
3. Induced draft cooling tower.
4. Natural draft cooling tower.
5. DM plant.
6. Pre-treatment plant.
7. Effluent treatment plant.

The consortium partners shall be jointly and severally responsible for the execution of the contract. The consortium agreement shall be furnished clarifying the split up of scope between consortium partners. Any of the members in a bidding consortium shall not separately participate as an independent bidder, as a member of any other consortium or as a promoter of JV company in the same bidding process.

3. The performance bank guarantee shall be as under:
 - i) **In case of individual firm including JVC:** 10 % of contract value.
 - ii) **In case of consortium comprising two or more members (leader + one or more consortium partners):** Total performance bank guarantee (PBG) shall be 15 % of contract value which shall be divided between consortium leader and consortium partners as under:
 - a) Consortium leader shall give PBG for at least 10 % of contract value.
 - b) Balance 5 % PBG shall be divided between consortium leader and consortium partners at the discretion of consortium leader. However, each consortium partner shall give PBG for at least 1 % of total contract value.
4. The average annual turnover of the bidder should be at least Rs. 400 crore and that of consortium leader should be at least Rs. 100 crore during the preceding three consecutive years, as applicable. Net worth of the bidder/consortium leader as on the last day of the preceding financial year shall not be less than 100 % of the paid up share capital. In case, bidder is a JVC and does not meet these requirements, the financial capability (average annual turnover) of at least one of the JVC partners on whose experience the qualification is sought, shall meet the above turnover requirement.



²5. The bidder shall comply with following criteria for selection of sub- contractor:

- i) Sub-contractors to be appointed by the successful bidder for executing various systems should have executed at least one project of similar type of capacity as per annexure (for individual BoP package) which should be in successful operation for at least one year as on 7 days prior to the date of opening of the bid. The selection of sub-contractor by the successful bidder shall be subject to approval of the Purchaser.
 - ii) The major equipment to be supplied shall be sourced from reputed manufacturers who have supplied minimum one number of such equipment of at least 75 % of specified capacity during last five years from the date of bid opening which should be in successful operation for at least one year as on 7 days prior to the date of opening of the bid.
6. The bidder shall provide satisfactory evidence that he and/or, where applicable, the consortium members:
- i) have adequate financial stability and status to meet the financial obligations pursuant to the works covered in the bidding documents.
 - ii) have adequate capability and capacity to perform the work properly and expeditiously within the time period specified. The evidence shall specifically cover, with written details, the installed manufacturing and/or fabrication capacities to meet the requirements appropriate to the works covered in his bid. The details of alternative arrangements to be organized by the bidder for this purpose and which shall meet the employer's approval shall be furnished.
 - iii) have an adequate field service organization to provide the necessary field erection and management services required to successfully erect, test and commission the equipment/system as required by the bidding documents.

² Note: This shall be included as part of sub-contractor/ vendor selection criteria in the specification and not as part of QR for bidders of BoP package on EPC basis.



ANNEXURE

QUALIFYING CAPACITY FOR VARIOUS BALANCE OF PLANT PACKAGES FOR SELECTION OF SUB-CONTRACTOR

1.0 COAL HANDLING PLANT:

Sub contractor should have executed one number integrated bulk material handling plant of minimum...³ of coal, other minerals or cement of equivalent volumetric capacity (essentially comprising of conveying and crushing) including mechanical and electrical works involving design, manufacture/procurement, supply, erection & commissioning (or supervision of erection and commissioning) which has been commissioned during last ten years which has been in successful operation for at least one year as on 7 days prior to the date of opening of the bid.

OR

Sub contractor who has only conveying experience of any material should have collaborated with design agency having experience of designing the conveying plus crushing plant of required capacity for coal or equivalent volumetric capacity for other minerals and whose designed plant is also in successful operation in cement/other mineral industry for at least one year as on 7 days prior to the date of opening of the bid.

2.0 ASH HANDLING PLANT:

2.1 Sub contractor should have executed at least one ash handling plant during last 10 years involving design, engineering, manufacture/procurement, supply, erection and commissioning (or supervision of erection and commissioning) comprising the following systems which should be in successful operation for at least one year as on 7 days prior to the date of opening of the bid:

- a) Bottom ash handling system comprising jet pump system or scraper conveyor system in conjunction with water impounded bottom ash hopper designed for 50 % of specified capacity of the plant in TPH (dry ash basis) or more for pulverized coal fired boilers.

AND

- b) Pneumatic fly ash handling system for conveying fly ash from ESPs by either pressure conveying system or vacuum conveying system designed for 50 % of specified capacity of the plant in TPH per stream and pneumatic fly ash transportation system for transporting fly ash over distance of not less than ...⁴m including fly ash storage silos.

³ Insert a value equal to '500 TPH' upto 600 MW plant capacity and '1000 TPH' beyond 600 MW plant capacity.

⁴ Insert a value equal to half the distance over which fly ash is required to be transported in the project or 500 whichever is less.



AND

c) Wet type ash (bottom ash & fly ash) disposal system comprising ash slurry pumps and piping for 50 % of specified capacity of the plant in TPH.

2.2 Sub-contractor who is a supplier of ash handling systems but does not meet the requirements under paragraph 2.1 above in full can also participate provided he has executed at least the following systems of ash handling plant involving design, engineering, manufacture, supply, erection and commissioning (or supervision of erection and commissioning):

a) Bottom ash handling system comprising either a jet pump system in conjunction with water impounded Bottom Ash Hopper or submerged scraper chain conveyor system or dry bottom ash system.

b) Fly Ash Handling System for conveying fly ash from ESPs in dry form (involving pneumatic conveying systems of vacuum or pressure type) or in wet (slurry) form.

The systems mentioned at 2.2 (a) and (b) above should be in successful operation in at least one (1) plant for at least one (1) year during the last 10 years as on 7 days prior to the date of opening of the bid and should have been installed for pulverized coal fired boiler units generating not less than 40 TPH of ash per boiler.

AND

Collaborate(s)/associate(s) with party(ies) who meet(s) either the total requirement or the balance part under clause 2.1 above which the bidder himself is not able to meet.

3.0 INDUCED DRAFT COOLING TOWER:

Sub contractor should have designed, constructed and commissioned during last 10 years at least one number induced draught cooling tower with cross flow splash / film type fill or counterflow splash/film type fill in RCC construction with cooling water flow not less than 13,000 m³/hr. which is in successful operation for at least one year as on 7 days prior to the date of opening of the bid.

4.0 NATURAL DRAFT COOLING TOWER:

Sub contractor should have designed, constructed and commissioned during last 10 years at least one number natural draft cooling tower in RCC construction, with cooling water flow not less than 25,000 m³/hr. which is in successful operation for at least one year as on 7 days prior to the date of opening of the bid.



5.0 DM PLANT:

Sub contractor should have designed, supplied, erected and commissioned (or supervised erection and commissioning of) during last 10 years at least one number DM plant of minimum capacity of 60 m³/hr consisting of maximum two streams capable of producing outlet water quality with silica and conductivity not more than 0.02 ppm as SiO₂ and 0.2 micro mho/cm respectively which is in successful operation for at least one year as on 7 days prior to the date of opening of the bid.

6.0 PRE-TREATMENT PLANT:

Sub-contractor should have executed during last 10 years contracts for design, supply, erection and commissioning (or supervision of erection and commissioning) of at least one number water treatment / waste water treatment plant (including civil works), each with a total capacity of at least 1000 m³/hr comprising of clarifiers/ tube settlers/ thickeners or a combination thereof. The plant should be in successful operation for at least one year as on 7 days prior to the date of opening of the bid.

7.0 EFFLUENT TREATMENT PLANT:

Sub-contractor should have executed during last 10 years contracts for design, supply, erection and commissioning (or supervision of erection and commissioning) of at least one number water treatment plant of 1000 m³/hr or waste water treatment plant of 100 m³/hr (including civil works) comprising of clarifiers/ tube settlers/ thickeners or a combination thereof. The plant should be in successful operation for at least one year as on 7 days prior to the date of opening of the bid.

8.0 CHIMNEY:

Sub-contractor should have designed, constructed and commissioned during last 10 years at least one number RCC chimney using slip form shuttering for at least 150 m height, which is in successful operation for at least one year as on 7 days prior to the date of opening of the bid.

9.0 SWITCHYARD/ SUB-STATION*:

Sub-contractor should have designed, supplied, erected and commissioned (or supervised erection and commissioning of) at least one number 220/400/765 kV** Switchyard/ Sub-Station during last 10 years which should be in successful operation for at least one year as on 7 days prior to the date of opening of bid.

* Optional in case switchyard is part of BoP bid

** As applicable (To be decided by the project developer company)

SECTION II

GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDERS OF INDIVIDUAL PACKAGES OF BALANCE OF PLANT FOR COAL/LIGNITE BASED THERMAL POWER STATIONS



1

**GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDER OF COAL
HANDLING PLANT**

1. (i) The bidder should have executed at least one number integrated bulk material handling plant of minimum⁵ of coal, other minerals or cement of equivalent volumetric capacity (essentially comprising of conveying and crushing) including mechanical and electrical works involving design, manufacture/ procurement, supply, erection & commissioning (or supervision of erection and commissioning) during last ten years which has been in successful operation for at least one year as on 7 days prior to the date of opening of the bid.

OR

Bidder who has only conveying experience of any material should have collaborated with design agency having experience of designing the conveying plus crushing plant of required capacity for coal or equivalent volumetric capacity for other minerals and whose designed plant is also in successful operation in cement/ other mineral industry for at least one year as on 7 days prior to the date of opening of the bid.

AND

- (ii) Bidder should have designed and executed:

- a) Industrial buildings with finishing works and underground structures like hoppers & tunnels involving deep excavation, dewatering and bulk reinforced cement concrete work (Minimum 20,000 m³ in a single contract in one year) during last seven years from the date of bid opening.

and

- b) Minimum 4000 metric tons of fabrication and erection of structural steel in a single contract in one year during last five years from the date of bid opening.

2. Alternatively, the bidder shall be a joint venture company incorporated in India and registered under Companies Act 1956, provided that eligibility criteria mentioned at paragraph 1 above is met by one of the promoters. Each promoter company on the basis of whom the joint venture company gets qualified shall have minimum 26 % equity in the JV company. The equity shall be locked in at least for a period of 5 years from date of bid opening or till the completion of the warranty period of the project whichever is later. The bidder and the promoter company (ies) on whose strength the JV company is qualified, shall be jointly and severally liable for the execution of the contract and an undertaking to this effect shall be submitted along with the bid. In case of award, the said promoter

⁵ Insert a value equal to '500 TPH' upto 600 MW plant capacity and '1000 TPH' beyond 600 MW plant capacity.



company (ies) shall be required to give separate on demand bank guarantee for an amount equal to 1 % of the total contract price in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The JVC partner on whose experience the qualification is sought shall not be allowed to bid independently or as a member in a consortium for this bid.

- 3 Bidder who meets the requirements of only paragraph 1 (i) above can also participate provided he associates/ collaborates with a single firm which fully meets the requirements specified at paragraph 1(ii) above. In such a case the bidder shall furnish undertaking jointly executed by him and his associate for successful performance of the relevant system along with the bid. In case of award, associate for civil & structural works shall be required to furnish bank guarantee for 5.0 % (five percent) of contract price of the package in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder.
4. Bidder who does not meet the requirements at paragraphs 1 (i) & (ii) above can also submit bids in association/ collaboration with a firm which fully meets the requirements at 1 (i) above provided he (the bidder) has executed in the last 10 years, projects (including engineering, procurement, erection and commissioning or supervision of erection and commissioning) in the area of power, steel, fertilizer, cement or any other process industry with the total value of such projects being Rs. ...⁶ or more. At least one of such projects should have a contract value of Rs. ...⁷ or more. These projects shall be in successful operation for at least one year as on 7 days prior to the date of opening of the bid. In such a case, the collaborator/ associate shall be required to furnish bank guarantee for 5 % (Five percent) of contract price of the package in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The bidder would furnish undertaking jointly executed by him and his collaborator/ associate along with the bid towards the bidder and collaborator / associate being jointly and severally responsible for successful performance of the contract.
5. The average annual turnover of the bidder in the preceding three financial years on the date of bid opening shall not be less than Rs. 50 crores. Net worth of the bidder as on the last day of the preceding financial year shall not be less than 100 % of the paid up share capital. In case, bidder is a JVC and does not meet these requirements, the financial capability (average annual turnover) of at least one of the JVC partners on whose experience the qualification is sought, shall meet the above turnover requirement.
6. Bidder shall source equipment such as wagon tippers, crushers etc. from manufacturers who have supplied minimum one no. of said equipment of at least 75 % of specified capacity and bucket wheel type traveling Stacker-cum-Reclaimer suitable for stacking and reclaiming of coal or other minerals from manufacturers who have supplied minimum one no. of said equipment of at least 75 % of specified capacity or 1000 TPH whichever is lower, which are in

⁶ Insert a value equal to 100 % of the estimate contract price.

⁷ Insert a value equal to 50 % of the estimated contract price.



successful operation for at least one year as on 7 days prior to the date of opening of the bid.

7. The bidder shall provide satisfactory evidence that he and/or, where applicable, his collaborator/associate:
 - i) has adequate financial stability and status to meet the financial obligations pursuant to the works covered in the bidding documents.
 - ii) has adequate capability and capacity to perform the work properly and expeditiously within the time period specified. The evidence shall specifically cover, with written details, the installed manufacturing and/or fabrication capacities to meet the requirements appropriate to the works covered in his bid. The details of alternative arrangements to be organized by the bidder for this purpose and which shall meet the employer's approval shall be furnished.
 - iii) has an adequate field service organization to provide the necessary field erection and management services required to successfully erect, test and commission the equipment/system as required by the bidding documents.



GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDER OF ASH HANDLING PLANT

1. (i) The bidder should have executed at least one ash handling plant during last 10 years involving design, engineering, manufacture/ procurement, supply, erection and commissioning (or supervision of erection and commissioning) comprising the following systems which should be in successful operation for at least one year as on 7 days prior to the date of opening of the bid.

- a) Bottom ash handling system comprising jet pump system or scraper conveyor system in conjunction with water impounded bottom ash hopper designed for⁸TPH capacity (dry ash basis) or more for pulverized coal fired boilers.

AND

- b) Pneumatic fly ash handling system for conveying fly ash from ESPs by either pressure conveying system or vacuum conveying system designed for⁹TPH capacity per stream and pneumatic fly ash transportation system for transporting fly ash over distance of not less than ...¹⁰m including fly ash storage silos.

AND

- c) Wet type ash (bottom ash & fly ash) disposal system comprising ash slurry pumps and piping for a¹¹TPH capacity.

The above experience in separate plants is also permissible. The reference ash handling systems should be of the same type i.e. jet pump system or scraper conveyor system for bottom ash and vacuum system or pressure system for fly ash, as offered by the bidder:

(ii) Bidder who is a supplier of ash handling systems but does not meet the requirements under clause 1 (i) in full can also participate provided he has executed at least the following systems of ash handling plant involving design, engineering, manufacture, supply, erection and commissioning (or supervision of erection and commissioning of):

- a) Bottom ash handling system comprising either a jet pump system in conjunction with water impounded Bottom Ash Hopper or submerged scraper chain conveyor system or dry bottom ash system.

⁸ Insert a value equal to 50 % of specified capacity of the plant.

⁹ Insert a value equal to 50 % of specified capacity of the plant.

¹⁰ Insert a value equal to half the distance over which fly ash is required to be transported in the project or 500 whichever is less.

¹¹ Insert a value equal to 50 % of specified capacity of the plant.



- b) Fly Ash Handling System for conveying fly ash from ESPs in dry form (involving pneumatic conveying systems of vacuum or pressure type) or in wet (slurry) form.

The systems mentioned at 1(ii) a and b above should be in successful operation in at least one (1) plant for at least one (1) year during the last 10 years as on 7 days prior to the date of opening of the bid and should have been installed for pulverized coal fired boiler units generating not less than 40 TPH of ash per boiler.

AND

Collaborate(s)/ associate(s) with party (ies) who meet(s) either the total requirement or the balance part under clause 1 (i) above which the bidder himself is not able to meet.

2. Alternatively, the bidder shall be a joint venture company incorporated in India and registered under Companies Act 1956, provided that eligibility criteria mentioned at paragraph 1 (i) above is met by one of the promoters. Each promoter company on the basis of whom the joint venture company gets qualified shall have minimum 26 % equity in the JV company. The equity shall be locked in at least for a period of 5 years from date of bid opening or till the completion of the warranty period of the project whichever is later. The bidder and the promoter company (ies) on whose strength the JV company is qualified, shall be jointly and severally liable for the execution of the contract and an undertaking to this effect shall be submitted along with the bid. In case of award, the said promoter company (ies) shall be required to give separate on demand bank guarantee for an amount equal to 1 % of the total contract price in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The JVC partner on whose experience the qualification is sought shall not be allowed to bid independently or as a member in a consortium for this bid.
3. Bidder which does not meet the requirements at paragraph 1 above can also submit bids in association/ collaboration with a firm which fully meets the requirements at 1 (i) above provided the bidder has executed in the last 10 years projects (including supplies and erection) in the area of power, steel, cement, fertilizer or any other process industry with the total value of such projects being Rs.....¹² or more. At least one of such projects should have a contract value of Rs.¹³ or more. These projects shall be in successful operation for at least one year as on 7 days prior to the date of opening of the bid. In such a case, the collaborator/ associate shall be required to furnish on demand bank guarantee for 5 % (Five percent) of contract price of the package in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The bidder would furnish undertaking jointly executed by him & his collaborator/ associate along with the bid towards the bidder and collaborator / associate being jointly and severally responsible for successful performance of the contract.

¹² Insert a value equal to 100 % of the estimated contract price.

¹³ Insert a value equal to 50 % of the estimated contract price.



4. The average annual turnover of the bidder in the preceding three financial years on the date of bid opening shall not be less than Rs. 25 crores. Net worth of the bidder as on the last day of the preceding financial year shall not be less than 100 % of the paid up share capital. In case, bidder is a JVC and does not meet these requirements, the financial capability (average annual turnover) of at least one of the JVC partners on whose experience the qualification is sought, shall meet the above turnover requirement.
5. The bidder shall source equipment such as ash slurry pumps, vacuum pumps, jet pumps, air compressors etc from manufacturers who have supplied such equipment of at least 75 % of specified capacity for minimum one unit which are in successful operation for at least one year as on 7 days prior to the date of opening of the bid.
6. The bidder shall provide satisfactory evidence that he and/or, where applicable, his collaborator/associate:
 - i) has adequate financial stability and status to meet the financial obligations pursuant to the works covered in the bidding documents.
 - ii) has adequate capability and capacity to perform the work properly and expeditiously within the time period specified. The evidence shall specifically cover, with written details, the installed manufacturing and/or fabrication capacities to meet the requirements appropriate to the works covered in his bid. The details of alternative arrangements to be organized by the bidder for this purpose and which shall meet the employer's approval shall be furnished.
 - iii) has an adequate field service organization to provide the necessary field erection and management services required to successfully erect, test and commission the equipment/system as required by the bidding documents.



**GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDER OF
INDUCED DRAFT COOLING TOWER**

1. The bidder should have designed, constructed and commissioned during last 10 years at least one number induced draught cooling tower with cross flow splash / film type fill or counter flow splash / film type fill in RCC construction with cooling water flow not less than 13,000 m³/hr which is in successful operation for at least one year as on 7 days prior to the date of opening of the bid. The reference cooling tower shall be of same type as is being offered by the bidder.
2. Alternatively, the bidder shall be a joint venture company incorporated in India and registered under the Companies Act 1956, provided that eligibility criteria mentioned at paragraph 1 above is met by one of the promoters. Each promoter company on the basis of whom the joint venture company gets qualified shall have minimum 26 % equity in the JV company. The equity shall be locked in at least for a period of 5 years from date of bid opening or till the completion of the warranty period of the project whichever is later. The bidder and the promoter company (ies) on whose strength the JV company is qualified, shall be jointly and severally liable for the execution of the contract and an undertaking to this effect shall be submitted along with the bid. In case of award, the said promoter company (ies) shall be required to give separate on demand bank guarantee for an amount equal to 1 % of the total contract price in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The JVC partner on whose experience the qualification is sought shall not be allowed to bid independently or as a member in a consortium for this bid.
3. Bidder which does not meet the above requirement at paragraph 1, can also participate and submit bids in association/ collaboration with a firm which fully meets the requirements at paragraph 1 above provided the bidder has executed in the last 10 years, projects involving RCC structures with average annual turnover of Rs. 50 crore. In such a case, the collaborator/ associate shall be required to furnish on demand bank guarantee for 5 % (Five percent) of contract price of the package in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The bidder would furnish undertaking jointly executed by him and his collaborator/ associate along with the bid towards the bidder and collaborator / associate being jointly and severally responsible for successful performance of the contract.
4. The average annual turnover of the bidder in the preceding three (3) financial years as on the date of bid opening, shall not be less than Rs. 25 crore on the date of bid opening. Net worth of the bidder as on the last day of the preceding financial year shall not be less than 100 % of the paid up share capital. In case, bidder is a JVC and does not meet these requirements, the financial capability (average annual turnover) of at least one of the JVC partners on whose experience the qualification is sought, shall meet the above turnover requirement.



5. The bidder shall source equipment such as fans and gear boxes from manufacturers who have supplied minimum such equipment of at least 75 % of specified capacity in minimum one cooling tower which is in successful operation for at least one year as on 7 days prior to the date of opening of the bid.
6. The bidder shall provide satisfactory evidence that he and/or, where applicable, his collaborator/ associate:
 - i) has adequate financial stability and status to meet the financial obligations pursuant to the works covered in the bidding documents.
 - ii) has adequate capability and capacity to perform the work properly and expeditiously within the time period specified. The evidence shall specifically cover, with written details, the installed manufacturing and/or fabrication capacities to meet the requirements appropriate to the works covered in his bid. The details of alternative arrangements to be organized by the bidder for this purpose and which shall meet the employer's approval shall be furnished.
 - iii) has an adequate field service organization to provide the necessary field erection and management services required to successfully erect, test and commission the equipment/system as required by the bidding documents.



**GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDER OF
NATURAL DRAFT COOLING TOWER**

1. The bidder should have designed, constructed and commissioned during last 10 years at least one number natural draft cooling tower in RCC construction, with cooling water flow not less than 25,000 m³/hr which is in successful operation for at least one year as on 7 days prior to the date of opening of the bid.
2. Alternatively, the bidder shall be a joint venture company incorporated in India and registered under the Companies Act 1956, provided that eligibility criteria mentioned at paragraph 1 above is met by one of the promoters. Each promoter company on the basis of whom the joint venture company gets qualified shall have minimum 26 % equity in the JV company. The equity shall be locked in at least for a period of 5 years from date of bid opening or till the completion of the warranty period of the project whichever is later. The bidder and the promoter company (ies) on whose strength the JV company is qualified, shall be jointly and severally liable for the execution of the contract and an undertaking to this effect shall be submitted along with the bid. In case of award, the said promoter company (ies) shall be required to give separate on demand bank guarantee for an amount equal to 1 % of the total contract price in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The JVC partner on whose experience the qualification is sought shall not be allowed to bid independently or as a member in a consortium for this bid.
3. Bidder which does not meet the above requirement at paragraph 1, can also submit bids in association/ collaboration with a firm which fully meets the requirements at paragraph 1 above provided the bidder has executed in the last 10 years, projects involving RCC works of tall structures using slip/jump form shuttering with average annual turnover of Rs. 100 crore. In such a case, the collaborator/ associate shall be required to furnish bank guarantee for 5 % (Five percent) of contract price of the package in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The bidder would furnish undertaking jointly executed by him & his collaborator/ associate along with the bid towards the bidder and collaborator / associate being jointly and severally responsible for successful performance of the contract.
4. The average annual turnover of the bidder in the preceding three (3) financial years as on the date of bid opening, shall not be less than Rs. 50 crore on the date of bid opening. Net worth of the bidder as on the last day of the preceding financial year shall not be less than 100 % of the paid up share capital. In case, bidder is a JVC and does not meet these requirements, the financial capability (average annual turnover) of at least one of the JVC partners on whose experience the qualification is sought, shall meet the above turnover requirement.



5. The bidder shall provide satisfactory evidence that he and/or, where applicable, his collaborator/associate:
- i) has adequate financial stability and status to meet the financial obligations pursuant to the works covered in the bidding documents.
 - ii) has adequate capability and capacity to perform the work properly and expeditiously within the time period specified. The evidence shall specifically cover, with written details, the installed manufacturing and/or fabrication capacities to meet the requirements appropriate to the works covered in his bid. The details of alternative arrangements to be organized by the bidder for this purpose and which shall meet the employer's approval shall be furnished.
 - iii) has an adequate field service organization to provide the necessary field erection and management services required to successfully erect, test and commission the equipment/ system as required by the bidding documents.



**GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDER OF DM
PLANT**

1. The Bidder should have designed, supplied, erected and commissioned (or supervised erection and commissioning of) during last 10 years at least one number DM plant of minimum capacity of 60 m³/hr consisting of maximum two streams capable of producing outlet water quality with silica and conductivity not more than 0.02 ppm as SiO₂ and 0.2 micro mho/cm respectively which is in successful operation for at least one year as on 7 days prior to the date of opening of the bid.
2. Alternatively, the bidder shall be a joint venture company incorporated in India and registered under Companies Act 1956, provided that eligibility criteria mentioned at paragraph 1 above is met by one of the promoters. Each promoter company on the basis of whom the joint venture company gets qualified shall have minimum 26 % equity in the JV company. The equity shall be locked in at least for a period of 5 years from date of bid opening or till the completion of the warranty period of the project whichever is later. The bidder and the promoter company (ies) on whose strength the JV company is qualified, shall be jointly and severally liable for the execution of the contract and an undertaking to this effect shall be submitted along with the bid. In case of award, the said promoter company (ies) shall be required to give separate on demand bank guarantee for an amount equal to 1 % of the total contract price in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The JVC partner on whose experience the qualification is sought shall not be allowed to bid independently or as a member in a consortium for this bid.
3. Bidder who does not meet the above requirements at paragraph 1 can also participate provided he has executed in the last 10 years projects (including engineering, procurement, erection and commissioning or supervision of erection and commissioning) in the area of power, steel, fertilizer or any other process industry with the total value of such projects being Rs. 100 crore or more. At least one of such projects should have a contract value of Rs. 25 crore or more. These projects shall be in successful operation for at least one year as on 7 days prior to the date of opening of the bid. Such a bidder will have to submit bids in association/collaboration with a firm who fully meets the requirements at 1 above. In such a case, the collaborator/associate shall be required to furnish on demand bank guarantee for 5 % (Five percent) of contract price of the package in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The bidder would furnish undertaking jointly executed by him & his collaborator/ associate along with the bid towards the bidder and collaborator / associate being jointly and severally responsible for successful performance of the contract.
4. The average annual turnover of the bidder in the preceding three financial years on the date of bid opening shall not be less than Rs. 10 crores. Net worth of the bidder as on the last day of the preceding financial year shall not be less than 100 % of the paid up share capital. In case, bidder is a JVC and does not meet



these requirements, the financial capability (average annual turnover) of at least one of the JVC partners on whose experience the qualification is sought, shall meet the above turnover requirement.

5. The bidder shall provide satisfactory evidence that he and/or, where applicable, his collaborator/associate:
 - i) has adequate financial stability and status to meet the financial obligations pursuant to the works covered in the bidding documents. The bidders should submit their profit & loss account and balance sheet for the last three (3) years.
 - ii) has adequate capability and capacity to perform the work properly and expeditiously within the time period specified. The evidence shall specifically cover, with written details, the installed manufacturing and/or fabrication capacities to meet the requirements appropriate to the works covered in his bid. The details of alternative arrangements to be organized by the Bidder for this purpose and which shall meet the employer's approval shall be furnished.
 - iii) has an adequate field service organization to provide the necessary field erection and management services required to successfully erect, test and commission the equipment/system as required by the bidding documents.



6

**GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDER OF
PRE-TREATMENT PLANT**

1. Bidder should have executed during last 10 years contracts for design, supply, erection and commissioning (or supervision of erection and commissioning) of at least one number water treatment/ waste water treatment plant (including civil works), each with a total capacity of at least 1000 m³/hr comprising of clarifiers/ tube settlers/ thickeners or a combination thereof. The plant should be in successful operation for at least one year as on 7 days prior to the date of opening of the bid.
2. Alternatively, the bidder shall be a joint venture company incorporated in India and registered under Companies Act 1956, provided that eligibility criteria mentioned at paragraph 1 above is met by one of the promoters. Each promoter company on the basis of whom the joint venture company gets qualified shall have minimum 26 % equity in the JV company. The equity shall be locked in at least for a period of 5 years from date of bid opening or till the completion of the warranty period of the project whichever is later. The bidder and the promoter company (ies) on whose strength the JV company is qualified, shall be jointly and severally liable for the execution of the contract and an undertaking to this effect shall be submitted along with the bid. In case of award, the said promoter company (ies) shall be required to give separate on demand bank guarantee for an amount equal to 1 % of the total contract price in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The JVC partner on whose experience the qualification is sought shall not be allowed to bid independently or as a member in a consortium for this bid.
3. Bidder which does not meet the above requirements at paragraph 1 can also submit bids in association/ collaboration with a firm which fully meets the requirements at 1 above provided the bidder has executed in the last 10 years projects (including supplies, erection and commissioning or supervision of erection and commissioning) in the area of power, steel, fertilizer or any other process industry with the total value of such projects being Rs. 100 crore or more. At least one of such projects should have a contract value of Rs. 25 crore or more. These projects shall be in successful operation for at least one year as on 7 days prior to the date of opening of the bid. In such a case, the collaborator/ associate shall be required to furnish bank guarantee for 5 % (Five percent) of contract price of the package in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The bidder would furnish undertaking jointly executed by him and his collaborator/ associate along with the bid towards the bidder and collaborator/ associate being jointly and severally responsible for successful performance of the contract.
4. The average annual turnover of the bidder in the preceding three financial years on the date of bid opening shall not be less than Rs. 25 crores. Net worth of the bidder as on the last day of the preceding financial year shall not be less than 100 % of the paid up share capital. In case, bidder is a JVC and does not meet these requirements, the financial capability (average annual turnover) of at least



one of the JVC partners on whose experience the qualification is sought, shall meet the above turnover requirement.

5. The bidder shall provide satisfactory evidence that he and/or, where applicable, his collaborator/associate:
- i) has adequate financial stability and status to meet the financial obligations pursuant to the works covered in the bidding documents.
 - ii) has adequate capability and capacity to perform the work properly and expeditiously within the time period specified. The evidence shall specifically cover, with written details, the installed manufacturing and/or fabrication capacities to meet the requirements appropriate to the works covered in his bid. The details of alternative arrangements to be organized by the Bidder for this purpose and which shall meet the employer's approval shall be furnished.
 - iii) has an adequate field service organization to provide the necessary field erection and management services required to successfully erect, test and commission the equipment/system as required by the bidding documents.



**GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDER OF
EFFLUENT TREATMENT PLANT**

1. Bidder should have executed during last 10 years contracts for design, supply, erection and commissioning (or supervision of erection and commissioning) of at least one number water treatment plant of 1000 m³/hr or waste water treatment plant of 100 m³/hr (including civil works) comprising of clarifiers/ tube settlers/ thickeners or a combination thereof. The plant should be in successful operation for at least one year as on 7 days prior to the date of opening of the bid.
2. Alternatively, the bidder shall be a joint venture company incorporated in India and registered under Companies Act 1956, provided that eligibility criteria mentioned at paragraph 1 above is met by one of the promoters. Each promoter company on the basis of whom the joint venture company gets qualified shall have minimum 26 % equity in the JV company. The equity shall be locked in at least for a period of 5 years from date of bid opening or till the completion of the warranty period of the project whichever is later. The bidder and the promoter company (ies) on whose strength the JV company is qualified, shall be jointly and severally liable for the execution of the contract and an undertaking to this effect shall be submitted along with the bid. In case of award, the said promoter company (ies) shall be required to give separate on demand bank guarantee for an amount equal to 1 % of the total contract price in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The JVC partner on whose experience the qualification is sought shall not be allowed to bid independently or as a member in a consortium for this bid.
3. Bidder which does not meet the above requirements at paragraph 1 can also submit bids in association/ collaboration with a firm which fully meets the requirements at 1 above provided the bidder has executed in the last 10 years projects (including supplies, erection and commissioning or supervision of erection and commissioning) in the area of power, steel, fertilizer or any other process industry with the total value of such projects being Rs. 100 crore or more. At least one of such projects should have a contract value of Rs. 25 crore or more. These projects shall be in successful operation for at least one year as on 7 days prior to the date of opening of the bid. In such a case, the collaborator/associate shall be required to furnish bank guarantee for 5 % (Five percent) of contract price of the package in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The bidder would furnish undertaking jointly executed by him & his collaborator/ associate along with the bid towards the bidder and collaborator / associate being jointly and severally responsible for successful performance of the contract.
4. The average annual turnover of the bidder in the preceding three financial years on the date of bid opening shall not be less than Rs. 10 crores. Net worth of the bidder as on the last day of the preceding financial year shall not be less than 100 % of the paid up share capital. In case, bidder is a JVC and does not meet these requirements, the financial capability (average annual turnover) of at least



one of the JVC partners on whose experience the qualification is sought, shall meet the above turnover requirement.

5. The bidder shall provide satisfactory evidence that he and/or, where applicable, his collaborator/ associate:
 - i) has adequate financial stability and status to meet the financial obligations pursuant to the works covered in the bidding documents.
 - ii) has adequate capability and capacity to perform the work properly and expeditiously within the time period specified. The evidence shall specifically cover, with written details, the installed manufacturing and/or fabrication capacities to meet the requirements appropriate to the works covered in his bid. The details of alternative arrangements to be organized by the bidder for this purpose and which shall meet the employer's approval shall be furnished.
 - iii) has an adequate field service organization to provide the necessary field erection and management services required to successfully erect, test and commission the equipment/system as required by the bidding documents.



8

**GUIDELINES FOR QUALIFYING REQUIREMENTS FOR BIDDER OF
CHIMNEY**

1. The bidder should have designed, constructed and commissioned during last 10 years at least one number RCC chimney using slip form shuttering for at least 150 m height, which is in successful operation for at least one year as on 7 days prior to the date of opening of the bid.
2. Alternatively, the bidder shall be a joint venture company incorporated in India and registered under Companies Act 1956, provided that eligibility criteria mentioned at paragraph 1 above is met by one of the promoters. Each promoter company on the basis of whom the joint venture company gets qualified shall have minimum 26 % equity in the JV company. The equity shall be locked in at least for a period of 5 years from date of bid opening or till the completion of the warranty period of the project whichever is later. The bidder and the promoter company (ies) on whose strength the JV company is qualified, shall be jointly and severally liable for the execution of the contract and an undertaking to this effect shall be submitted along with the bid. In case of award, the said promoter company (ies) shall be required to give separate on demand bank guarantee for an amount equal to 1 % of the total contract price in addition to the contract performance guarantee of 10 % of contract value to be furnished by the bidder. The JVC partner on whose experience the qualification is sought shall not be allowed to bid independently or as a member in a consortium for this bid.
3. The average annual turnover of the bidder in the preceding three (3) financial years as on the date of bid opening, shall not be less than Rs. 25 crores on the date of bid opening. Net worth of the bidder as on the last day of the preceding financial year shall not be less than 100 % of the paid up share capital. In case, bidder is a JVC and does not meet these requirements, the financial capability (average annual turnover) of at least one of the JVC partners on whose experience the qualification is sought, shall meet the above turnover requirement.
4. The bidder shall provide satisfactory evidence that he and/or, where applicable, his collaborator/ associate:
 - i) has adequate financial stability and status to meet the financial obligations pursuant to the works covered in the bidding documents.
 - ii) has adequate capability and capacity to perform the work properly and expeditiously within the time period specified. The evidence shall specifically cover, with written details, the installed manufacturing and/or fabrication capacities to meet the requirements appropriate to the works covered in his bid. The details of alternative arrangements to be organized by the bidder for this purpose and which shall meet the employer's approval shall be furnished.



iii) has an adequate field service organization to provide the necessary field erection and management services required to successfully erect, test and commission the equipment/system as required by the bidding documents.