PART-2 (Section III of Bid Document): REQUEST FOR PROPOSAL

FOR

THE SELECTION OF PROJECT SPONSOR
TO DEVELOP A 150-300 MW COAL-FIRED POWER PROJECT
AT KHULNA, BANGLADESH
ON
A BUILD, OWN AND OPERATE BASIS

[___] November 2010
DISCLAIMERS

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BPDB does not warrant the accuracy or completeness of the information presented herein, or make any representation that the information presented herein constitutes all the information necessary to bid upon or develop the referenced project. Each Bidder accepts full responsibility for conducting an independent analysis of the feasibility of the project and for gathering, evaluating and presenting all necessary information. The Bidder assumes all risks associated with the project and no adjustments will be made based on the Bidder’s interpretation of the information provided.

BPDB expressly disavows any obligation or duty (whether in contract, tort or otherwise) to any Bidder.

All information submitted in response to the RFP become the property of People’s Republic of Bangladesh and BPDB does not accept any responsibility for maintaining the confidentiality of the material submitted to BPDB or any trade secrets or proprietary data contained therein.

In submitting a proposal in response to this RFP, each Bidder acknowledges and certifies that it understands, accepts and agrees to the disclaimers on this page. Nothing contained in any other provision of this RFP or in any document distributed by BPDB or any agency of the GOB or in any statements made orally or in writing by any person or party shall have the effect of negating, superseding or modifying any of the disclaimers set forth on this page.
BANGLADESH POWER DEVELOPMENT BOARD
REQUEST FOR PROPOSAL
FOR
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TO DEVELOP A 150-300 MW COAL-FIRED POWER PROJECT
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1. The successful Bidder (the Project Sponsor) will be issued a Letter of Intent by BPDB (the Letter of Intent) and will be required to (a) form a project company (the Company) to implement the Project; (b) arrange the necessary financing for the Project and to execute the Implementation Agreement (IA) and the Power Purchase Agreement (PPA) (together, the Project Agreements) and other contracts required for the construction, operation and maintenance of the Facility; (c) implement the Project, and (d) upon commissioning, operate the Facility for an initial period of 25 years so as to provide the electricity to Bangladesh Power Development Board (BPDB) at specified tariffs (the Tariff Charges).

2. The Company shall be a company incorporated under the laws of the Peoples Republic of Bangladesh and shall be required, among other things, to undertake the following:

   a. execute the Project Agreements with the respective agencies of the GOB including MPEMR, BPDB within thirty (30) Days of the issue of the Letter of Intent;

   b. finalize the Engineering, Procurement and Construction (EPC) Contract, Operations and Maintenance (O&M) Contract (if necessary), and all other agreements including the loan agreements (together the Third Party Agreements), required to construct, finance, operate, and maintain the Project on or before the Financial Closing;

   c. on or before the Required Financial Closing Date, provide the necessary equity and arrange the necessary debt financing for the complete execution of the Project;

   d. ensure that the Project Sponsor (or the Lead Member and the Operating Member, as designated by the Project Sponsor in its Proposal) shall hold certain minimum equity stake in the Company during the lock-in periods set forth in the draft IA and in this RFP;

   e. engineer, design, procure, construct, install, test, start-up, and Commission the Project and undertake other activities to achieve the Commercial Operation Date (COD) no later than the Required Commercial Operations Date (RCOD);

   f. obtain and maintain all permits and licenses necessary to construct and operate the Project, including but not limited to environmental permits, permits for importation of materials and equipment for the Facility, permits for construction of the Facility, and any permits or licenses required for operations of the Company according to applicable laws; and

   g. operate and maintain the Project for twenty five (25) years from the COD (the Term), in accordance with the terms of the Project Agreements, where such Term can be extended or earlier terminated in accordance with the Project Agreements.
3. For the purpose of preparation of the Proposal, Bidders must follow the requirements of this RFP and use the formats prescribed in this RFP; visit the Site and collect all required data.

4. BPDB will use a two-envelope evaluation process to select the Project Sponsor. Envelope I of part 2 of Bid Document shall contain only the legal, technical, commercial and financial aspects of the Proposal, whereas Envelope II shall contain the Project Sponsor’s proposed Tariff Charges. Envelope I of those Bidders will be considered for evaluation only whose Qualification Statements, demonstrate that they meet all the criteria set forth in the Qualification Document as provided in part 1 of Bid Document and will determine the Responsive Bidders based solely on the Envelope I. BPDB will then open Envelope II of the Responsive Bidders only in an open session at another date announced to the Responsive Bidders in advance, select the Successful Bidder or the Project Sponsor based solely on the evaluation of the contents of Envelope II of the Responsive Bidders, using (subject to the Tariff satisfying the restrictions thereon stated in this RFP) the Levelized Tariff Charge as the only evaluation criterion in accordance with the provisions of the RFP.
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1. **DEFINITIONS**

The following terms are used in the Request for Proposal (RFP) and will have the meanings defined here. All other capitalized terms used herein have the meanings set forth in the draft PPA or the draft IA enclosed as Annex E, Exhibit I or Annex, Exhibit II to this RFP, respectively.

The capitalized terms “Section”, “Article”, “Annex”, “Exhibit” and “Attachment” used in this RFP refer to the “Section”, “Article”, “Annex”, “Exhibit” and “Attachment” of this RFP, unless otherwise specified.

The term “Article” used in a Section, unless otherwise specified, refer to the Article of that Section of the RFP, respectively.

1. **“Addendum”** – means an amendment or modification to this RFP by BPDB in accordance with Section XX.

2. **“Availability”** – means the annual availability of the Dependable Capacity of the Facility for Dispatch by the Control Centre, calculated in accordance with the following formula:

\[
A = \frac{DC \times 8760 - \left( \sum MO_{\text{cap}} \times MOH + \sum FO_{\text{cap}} \times FOH + \sum SO_{\text{cap}} \times SOH \right)}{DC \times 8760}
\]

Where:

- \( A \) = equivalent annual availability
- \( DC \) = Dependable Capacity of the Facility per the PPA
- \( MO_{\text{cap}} \) = capacity reduction during Maintenance Outage
- \( MOH \) = Maintenance Outage hours
- \( FO_{\text{cap}} \) = capacity reduction during Forced Outage
- \( FOH \) = Forced Outage hours
- \( SO_{\text{cap}} \) = capacity reduction during Scheduled Outages
- \( SOH \) = Scheduled Outages hours

3. **“Bangladesh”** – means the People’s Republic of Bangladesh.

4. **“Bangladesh Power Development Board (BPDB)”** – means the Bangladesh Power Development Board, an organization of the Government of the People’s Republic of Bangladesh which is responsible for planning, construction and operation of power generation and distribution in urban areas except metropolitan city of Dhaka and its adjoining areas.

5. **“Bid”** – has the same meanings as the Proposal.

6. **“Bid Date”** or **“Reference Date”** – means the date and time when Proposals are due in response to the RFP, which are set forth in Section B, Article 15.
7. “Bidder” – means any company or consortium, which has been pre-qualified by BPDB to submit a Proposal for the development of the Project.

8. “Bid Exchange Rate (X₀)” – means 1 USD = Taka 70.00.


10. “Bid Security” – means the unconditional bank guarantee in the amount at the rate of US$ 10,000 per MW of the offered capacity issued by a scheduled bank in Bangladesh or by a foreign bank which has been authenticated by a scheduled bank in Bangladesh and shall by its terms be encashable at a bank in Dhaka, Bangladesh delivered to BPDB to secure (a) the obligations of the Project Sponsor to maintain its Proposal in effect until the issue of the Letter of Intent and (b) thereafter, the obligations of the Company to execute and deliver the Project Agreements within thirty (30) Days of the Letter of Intent.

11. “Capacity Payment” – means the monthly payment from BPDB to the Company for the available Dependable Capacity, as calculated in accordance with the PPA and further explained in Section A, Article 5.

12. "Coal" means Bituminous Coal with a heating value of 10,200-14,600 Btu/lb with specification as provided in PPA.

13. “Coal Supplier” – means the Company or other entity or organisation appointed by the Company, from time to time to supply of Coal to the Facility in accordance with the Coal Supply Agreement and any successors thereto.

14. “Coal Supply Agreement (CSA)” – means the agreement or agreements to be entered into by and between the Coal Supplier and the Company for the supply of Coal to the Facility.

15. “Commercial Operation Date (COD)” – means the date following the Day on which the Facility is Commissioned at the Contracted Facility Capacity or, if Commissioned at less than the Contracted Facility Capacity, liquidated damages have been paid by the Company for the Initial Dependable Capacity less than the Contracted Facility Capacity as provided in Section 8.2 of the draft PPA.

16. “Commissioned” – means the successful completion of the tests carried out on the Facility in accordance with, and meeting the minimum requirements stated in, Schedule 3 of the PPA and the Facility shall be Commissioned as of the date specified in a certificate issued by the Engineer as the date that such testing was completed and such minimum requirements were met.

17. “Company” – means a company to be formed by the Project Sponsor and incorporated under the Companies Act, 1994 (Act 18 of 1994) of Bangladesh, with its registered office located in Bangladesh, and its permitted successors and assigns;

18. “Contract Year” – means the Contract Year as defined in the PPA; that is, (a) in respect of the first Contract Year, the period commencing at the beginning of the Commercial Operations Date and ending as of the end of the Day immediately preceding the first anniversary of the Commercial Operations Date and (b) thereafter, the period commencing at the beginning of each consecutive anniversary of the Commercial Operations Date and ending as of the end of the Day preceding the next anniversary of the Commercial Operations Date.
19. “Contracted Facility Capacity” – means the net electric power generating capacity (only with Coal burner) of the Facility at Reference Site Conditions on a continuous basis that the Bidder commits to deliver, which shall be not less than 150 MW or more than 300 MW (net at Reference Site Conditions and at a power factor of 0.85 lagging measured at Delivery Point).

20. “Contractors” – means the Construction Contractor(s) and the O&M Contractor(s) and any of their direct sub-contractor(s) integrally involved in the Project.

21. “Construction Contract” – means the agreement(s) entered into between the Company and the Construction Contractor(s) for the design, engineering, procurement, construction, completion, start-up, testing and Commissioning of the Facility, as may be amended from time to time.

22. “Construction Contractor(s)” – means the construction company(ies), and any successor or successors thereto, to be appointed by the Company for the construction of the Facility.

23. “Delivery Point” – means the location at the 230 kV side of the generator transformer at which the net capacity and the Net Energy Output is measured and transferred from Company to BPDB.

24. “Dependable Capacity” – means at any time the net amount of capacity of the Facility (adjusted to Reference Site Conditions), expressed in kW, as determined by the most recent Dependable Capacity Test.

25. “Dollars or USD” – means the lawful currency of the United States of America.

26. “Energy Payment” – means the monthly payment by BPDB to the Company for the Net Energy Output delivered by the Facility during the relevant month, as calculated in accordance with the PPA and further explained in Section A, Article 5.

27. “Exchange Rate” – means the exchange rate of Taka to USD as announced by the Sonali Bank from time to time.

28. “Engineer” – means the consulting engineering firm selected and appointed by the Company (at its own cost and expense) and the identity of which notified in writing to BPDB, PGCMB, not later than thirty (30) Days after the Financial Closing Date from the list of independent consulting engineering firms set out in Schedule 7 or any local Engineering Firms or Local experienced Engineer(s) of PPA, for the purposes of monitoring the construction, certifying the results of Commissioning and participating as a member of the Testing and Commissioning Committee.

29. “Facility” – means the Coal fired power station, capable of between 150 MW and 300 MW of capacity (net at Reference Site Conditions) to be owned and constructed by the Company on a land at the bank of river Rupsha (10 km up or down stream of Khanjahan Ali Bridge), Khulna, Bangladesh, whether completed or at any stage of its construction, including without limitation or regard to level of development, the land, engineering and design documents and Construction Contract, all energy producing equipment and its auxiliary equipment and all transmission facilities on the Company’s side of the Delivery Point, water intake and discharge facilities (if any), water treatment facilities, solid waste disposal facilities, Coal receiving and handling facilities and equipment on the Company’s side of the Point of Delivery, the Metering System, together with the residential facilities (if any) made available to certain employees of the Company, the Contractor(s) and any subcontractors.
30. “Financial Closing” – means (a) the execution and delivery of the Financing Documents between the Company and Lenders (with copies of the Financing Documents having been delivered to BPDB) that (together with equity commitments) evidence sufficient financing for the construction, testing, completion, and Commissioning of the Facility and evidence of commitments for such equity as is required by the Company to satisfy the requirements of the Lenders, and (b) the satisfaction of all conditions precedent for the initial availability of funds under the Financing Documents; provided, that, with BPDB’s written approval, “Financial Closing” shall be deemed to have occurred upon the occurrence of (a) Construction Start, (b) delivery to BPDB of written assurance satisfactory to BPDB demonstrating that the Company has the financial resources available to it necessary to complete the construction of the Facility without interruption, and (c) the delivery to BPDB of the Performance Security Deposit.

31. “Forced Outage” – means an interruption of or a reduction in the generating capability of the Facility on or after the Commercial Operations Date that is not the result of:

   (i) a request by BPDB made in accordance with the PPA;
   (ii) a Schedule Outage or a Maintenance Outage;
   (iii) a Force Majeure Event;
   (iv) a condition caused solely by BPDB or by the Grid System;

32. “Foreign Index” – means the index used for adjusting USD components of the Tariff, which is the United States Consumer Price Index, as published in the publication of the International Monetary Fund entitled “International Financial Statistics”.

33. “Giga Joules, or GJ” – means 10⁹ Joules.

34. “GWh” – means GigaWatt hours.

35. “GOB” – means the Government of the People’s Republic of Bangladesh.

36. “Government Authorizations” – means all such approvals, consents, authorisations, acknowledgements, licenses or permits required to be issued by any Government Authority to the Company for the establishment of the Company or to the Company or the Contractor(s) for the construction, financing, ownership, operation and maintenance of the Facility by the Company or the Contractor(s), including, without limitation, those Government Authorisations listed in Schedule 1 of the IA.

37. “Government Authority” – means:

   (i) the GOB or any entity subject to the overall control or direction as to matters of policy of the GOB or which is otherwise under and controlled by the GOB, including without limitation, but only for so long as they are under the control of the GOB, BPDB and PGCB;
   (ii) any local governmental authority or any subdivision of any of the foregoing;
   (iii) any Bangladesh court or tribunal with jurisdiction over the Company, the Facility, the Contractor(s), the Lenders or the Project or any part thereof; and
   (iv) any department, authority, regulatory agency, instrumentality, agency, body or corporation or other entity controlled by any of the foregoing.
38. “Grid System” – means the transmission or distribution facilities owned by PGCB, through which the Net Energy Output of the Facility will be received and distributed by BPDB.

39. “Implementation Agreement (IA)” – means the Implementation Agreement to be executed between the GOB, PGCB and the Company, as amended from time to time, to provide guarantees, assurances and support necessary for the successful development of the Project and the appropriate allocation of risks between the various parties.

40. “Initial Dependable Capacity” – means, at the Commercial Operations Date, the maximum net capacity that the Facility capable of delivering at the Delivery Point, as determined by the initial Dependable Capacity Test. Provided that Initial Dependable Capacity can never be exceeded Contracted Facility Capacity.

41. “Joule” – means the energy equivalent as defined in ISO. 1000-1992 (E).

42. “KW” – means KiloWatts.

43. “KWh” – means KiloWatt-hours.

44. “Laws of Bangladesh” – means all laws, statutes, regulations, statutory revision, orders, execution orders decrees, judicial decisions, and notifications of all kinds of Bangladesh, whether of the national, departmental, or municipal levels, issued by any executive, legislative, or administrative entity, as any of them may be amended from time to time, as applicable to this agreement.

45. “Lead Member” – means the Bidder itself if it is a single firm, or the member of a Bidder if it is a consortium of two or more firms established during the prequalification process for the Project, who has been duly authorized by the other members of the consortium to submit the Proposal and act on behalf of the consortium until selection of the Project Sponsor and incorporation of the Company under the laws of Bangladesh.

46. “Lenders” – means the financial institutions providing the construction and long-term debt financing for the Project pursuant to the Financing Documents, together with their respective successors and assignees.

47. “Letter of Intent” – means the letter issued by BPDB to signify the selection of the Project Sponsor to develop the Project and granting the right to develop the Project on the terms specified in this RFP and in their Proposal;

48. “Levelized Tariff Charge” or “LTC” – means the single value of Tariff Charge in Taka or US cents per kWh for each of the Contract Years over the Term of the PPA, which would have the same present value as the present value of the annual Tariff Charges in the Proposal of a Bidder, as calculated in accordance with Section B, Article 7 and Annex A, Exhibit II.

49. “Maintenance Outage” – means an interruption or reduction of the generating capacity of the Facility that: (1) is not a Scheduled Outage; and (2) has been scheduled and allowed by BPDB in accordance with Article 9.4 of the PPA; and (3) is for the purpose of performing work on specific components of the Facility, which work should not, in the reasonable opinion of Company, be postponed until the next Scheduled Outage.

50. “Maintenance Outage Energy” – means the sum of the products of (a) the reduction in Facility’s generating capacity (from the Contracted Facility Capacity) as a result of each Maintenance Outage occurring during the relevant Contract Year, expressed in MW,
multiplied by (b) the number of hours that such Maintenance Outage was in effect during the relevant Contract Year.


52. “MWh” – means MegaWatt-hours.


54. “Net Energy Output (NEO)” – means the net electrical energy expressed in kWh that is generated by the Facility and delivered to the Delivery Point as measured by the Metering System or the Back-Up Metering System, as the case may be.

55. “O&M Agreement” – means the agreement (if any) entered into by the Company and the O&M Contractor for the operation and maintenance of the Facility.

56. “O&M Contractor” – means an operating company or an entity, and any successor thereto, appointed by the Company for the operation and maintenance of the Facility.

57. “Operating Member” – means the Bidder itself if it is a single firm, or a member of the Bidder consortium designated by the Bidder and pre-qualified by BPDB as a member having experience in the operation and maintenance of power plants.

58. “Operations Security Deposit” – has the meaning as ascribed thereto in the draft PPA.

59. “Performance Security Deposit” – means the unconditional bank guarantee in an amount equal to (a) thirty six thousand Dollars (US$ 36,000.00) multiplied by (b) the Contracted Facility Capacity, issued by a scheduled bank in Bangladesh or by a foreign bank which has been authenticated by a scheduled bank in Bangladesh and shall by its terms be encashable at a bank in Dhaka, Bangladesh, provided by the Company as security for the Company’s obligations under the PPA, including its obligations to achieve financial closing, deliver the Operations Security Deposit and to pay liquidated damages to thereunder.

60. “Permitted Outage” – In respect of each contract year one thousand three hundred and fourteen (1314) hours.

61. “Plant Functional Specifications” – means that Annex C of this RFP that specifies the functional requirements of the Facility.

62. “Power Purchase Agreement (PPA)” – means the agreement to be entered into between the Company and BPDB containing the terms and conditions for the sale of available Dependable Capacity and Net Output Energy of the Facility to BPDB, as may be amended from time to time.

63. “Project” – means the development, design, financing, insurance, construction and completion, ownership, operation and maintenance of the Facility and all activities incidental thereto.
64. “Project Agreements” – means, collectively, the Power Purchase Agreement and Implementation Agreement to be entered into directly among BPDB, GOB and the Company, the drafts of which agreements are provided in Annex E to this RFP.

65. “Project Effective Date” – means the date on which the last of the Project Agreements is executed and delivered by each of the parties thereto and none of the agreements so executed have terminated or been terminated by a party thereto.

66. “Project Sponsor” – means the Bidder who has been evaluated and selected by BPDB under this bidding process to develop the Project, pursuant to Section B, Articles 23 and 24.

67. “Proposal” – means the Bidder’s written offer for the Project submitted in response to the RFP, based on the covenants, terms and conditions as contained in this RFP.

68. “Proposal Validity Period” – means (a) in case of any Bidder, the eight (8) month period commencing on the Bid Date and (b) in case of the successful Bidder or Project Sponsor, the period commencing from the Bid Date and ending on the date occurring three (3) months following the then-prevailing Required Financial Closing Date, as may be extended in each case pursuant to Section B, Article 9.

69. “Prudent Utility Practices” – means the prudent utility practices applicable from time to time to the international electric utility industry, having regard to engineering and operational considerations, including manufacturers’ recommendations and, as relates to the Company, having regard to the fact that the Company is a private power producer selling electric energy to an integrated public utility but these practices are not limited to optimum practices, methods or acts to the exclusion of all others, but rather are a spectrum of possible practices, methods and acts employed by electric utilities and private power producers which could have been expected to accomplish the desired result at reasonable cost consistent with reliability and safety.

70. “Reference Capacity Price” or “RCP” – means, for each Contract Year, the price, stated at Bid Date values, to be paid by BPDB to the Company for one unit of the available Dependable Capacity pursuant to the terms of the PPA, as further explained in Section A, Article 5 and as set out by the Bidder in Annex D, Exhibit II, Table B-2.

71. “Reference Energy Price” or “REP” – means, for each Contract Year, means the price, stated at Bid Date values, to be paid by BPDB to the Company for one unit of the Net Energy Output pursuant to the terms of the PPA, as further explained in Section A, Article 5 and as set out by the Bidder in Annex D, Exhibit II, Table B-2.

72. “Reference Heat Rates” – means the reference heat rates for the Term of the Project at different plant load factors submitted by the Bidder in its tariff offer.
73. “Reference Site Conditions” – means the conditions of 1.013 bar barometric pressure, 35°C ambient air temperature, 28.5°C cooling water temperature and 98% relative humidity.

74. “Reference Tariff” or “RT” – means, for each Contract Year, means the amount expressed in US cents per kWh, stated at Bid Date values, to be paid by BPDB to the Company for the Net Energy Output pursuant to the terms of the PPA, as further explained in Section A, Article 5 and as set out by the Bidder in Annex D, Exhibit II, Table B-2.

75. “Required Commercial Operation Date” – means the date falling thirty six (36) months after Project Effective Date, which date may be extended for certain specified events and delays (for example, due to Force Majeure Events) pursuant to the Project Agreements.

76. “Required Financial Closing Date” – means the date nine (9) months following the Project Effective Date, which date may be extended for certain specified events pursuant to the Project Agreements.

77. “RFP” – means, this Request for Proposals document with all attachments thereto, including any addenda thereto issued by BPDB.

78. “Responsive Bidder” – has the meaning ascribed thereto in Section B, Article 21.

79. “Responsive Proposal” – has the meaning ascribed thereto in Section B, Article 21.

80. “SCADA” – means Supervisory Control and Data Acquisition.

81. “Scheduled Outage” – means a planned interruption of the generating capacity of the Facility that: (1) is not a Maintenance Outage, (2) has been scheduled and allowed by BPDB in accordance with Article 9.4 of the PPA, and (3) is for inspection, testing, overhauls, preventive and corrective maintenance, repairs, replacement or improvement of the Facility.

82. “Scheduled Outages Energy” – means the sum of the products of (a) the reduction in the Facility’s generating capacity (from the Contracted Facility Capacity) as a result of each Scheduled Outage during the relevant Contract Year, expressed in MW, multiplied by (b) the number of hours that such scheduled outage was in the relevant Contract Year.

83. “Security Package” – means, collectively, the Project Agreements and the Third Party Agreements.

84. “Site” – means the land to be arranged and developed by the Company at its own cost, in connection with the construction and/or operation of the Facility, on which the Facility or any part thereof is to be built.

85. “Sonali Bank” – means Sonali Bank Limited, a public limited banking company incorporated on 3 June 2007 pursuant to the Bangladesh Bank (Nationalisation) Order No. 1972 (PO No. 26 of 1972), with its principal office at 35-42, 44 Motijheel Commercial Area, Dhaka, Bangladesh, together with its successors;
86. “Taka (Tk)” – means Bangladeshi Taka, the lawful currency of the People’s Republic of Bangladesh.

87. “Tariff Charges” – mean the price of electricity charged by the Company to BPDB and calculated in accordance with the formulas provided in this RFP.

88. “Term” – has the meaning set forth in Article 4 of the PPA.

89. “Third Party Agreements” – means, collectively, the Construction Contract, the O&M Agreement, legal consents, loan commitments, interest rate protection letters, insurance agreements, trust agreements and such legal documents which are entered into directly between the Company and third party entities for the execution of the Project.

90. “Time Measurement Units” –

   (i) **Day:** means a 24-hour period that ends at midnight local time. Unless otherwise stated, Day is a calendar day.

   (ii) **Week:** means a seven day period starting on Saturday.

   (iii) **Month:** means a calendar month according to the Gregorian calendar.

91. “World Bank Group Guidelines” – means the World Bank Group Environmental, Health and Safety Standards in effect as of the date that is thirty (30) days prior to the Bid Date.

All other capitalized terms used herein have the meanings ascribed to those terms in the PPA or (if not defined in the PPA) the IA; provided, that if a term used in this RFP has a different definition from that ascribed to it in the PPA or the IA, as the case may be, the definition used in this document shall control in this RFP.

2. **POWER SECTOR IN BANGLADESH**

Electricity plays vital role in the socio-economic development and poverty reduction. Presently only 47% of the total population has access to electricity and per capita generation is only 182 kWh, which are very low compared to other developing countries. The Government has given highest priority to power sector development in Bangladesh and is committed to making electricity available to all citizens by 2021. In this connection, the Government has initiated implementing reform measures in the power sector, including significant development programs of which this Project constitutes an important part. Contribution of electricity in GDP and growth rate of electricity in last 7 years is presented below:

<table>
<thead>
<tr>
<th>Table: Contribution of electricity in GDP and its growth rate</th>
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<tbody>
<tr>
<td>----------------------------------------</td>
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<tr>
<td>1.27</td>
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<tr>
<td>Growth rate of electricity (%)</td>
</tr>
</tbody>
</table>
2.1 Generation Capacity and Demand Fulfilled

In FY 2008-09 total installed generation capacity was 5719 MW including 3812 MW in the public sector and 1907 Megawatt in the private sector. In the public sector, a number of the generation units have become very old and have been operating at a much-reduced capacity. As a result, their reliability and productivity are also poor. For the last few years, actual demand has not been supplied due to shortage of available generation capacity. In addition, due to shortage of gas supply, some power plants are unable to reach their usual generation capability. Maximum demand of 4162 MW was supplied till to-date. The installed capacity by owner basis and fuel basis for FY 2008-09 is shown in chart below.

2.2 Energy Generation

26,415 Million-kilowatt hour (MKWh) net energy comprising 15,449 Million-KWh in the public sector and 10,966 Million-KWh in the private sector were generated during 2008-09. Of the total net energy generation, 58.49 % was generated in the public sector and 41.51 % in the private sector. Of the total energy generation 88.79% was gas based, 1.57 % hydro, 3.9 % Coal and 5.74 % oil based. In FY 2007-08, 24311 million-kilowatt hour (Million-KWh) net energy was generated.
2.3 Development Plan

The Government has prepared the Power System Master Plan to realize its vision for the Bangladesh power sector. According to the plan, installed capacity will rise to 16,643 MW by the year 2020. In this period transmission and distribution line will reach 12,000 km and 4,77,558 km respectively. The development plan of the Government up to the year 2020 is stated below:

Table: Plan of Power Sector Development

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<tr>
<th>Sl. No.</th>
<th>Items</th>
<th>FY 2009 (Actual)</th>
<th>FY 2013</th>
<th>FY 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Installed Capacity, MW</td>
<td>5,719</td>
<td>8,865</td>
<td>16,643</td>
</tr>
<tr>
<td>2.</td>
<td>Maximum Demand, MW</td>
<td>4,162</td>
<td>8,364</td>
<td>13,993</td>
</tr>
<tr>
<td>3.</td>
<td>Net Generation, MkWh</td>
<td>26,416</td>
<td>33,000</td>
<td>72,222</td>
</tr>
<tr>
<td>4.</td>
<td>Transmission Line, ckt. km</td>
<td>8,329</td>
<td>9,553</td>
<td>12,000</td>
</tr>
<tr>
<td>5.</td>
<td>Grid Substation Capacity, MVA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) 230 KV</td>
<td>6,625</td>
<td>12,910</td>
<td>19,075</td>
</tr>
<tr>
<td></td>
<td>(b) 132 KV</td>
<td>9,567</td>
<td>13,990</td>
<td>27,367</td>
</tr>
<tr>
<td>6.</td>
<td>Distribution Line, km</td>
<td>2,83,494</td>
<td>3,30,000</td>
<td>4,77,558</td>
</tr>
<tr>
<td>7.</td>
<td>Number of Consumers (million)</td>
<td>11.25</td>
<td>140.00</td>
<td>207.67</td>
</tr>
<tr>
<td>8.</td>
<td>Number of Village Electrified</td>
<td>51,136</td>
<td>56,000</td>
<td>80,000</td>
</tr>
<tr>
<td>9.</td>
<td>Per Capita Generation, kWh</td>
<td>182</td>
<td>218</td>
<td>450</td>
</tr>
<tr>
<td>10.</td>
<td>Access to Electricity</td>
<td>47%</td>
<td>60%</td>
<td>90%</td>
</tr>
</tbody>
</table>

2.4 Power Generation Program

The Government has prepared Power System Master Plan (updated in 2006) to realize the goals. According to the reference forecast of Power System Master Plan, 2006 the maximum demand in 2010, 2012 and 2015 would be about 6608, 7732 and 9786 MW respectively. The demand is expected to be 13,993 MW in 2020 and 14,924 MW in 2021. To meet the demand with reasonable reliability, installed capacity will be increased to 16,643 MW and 17,455 MW by the year 2020 and 2021, respectively. In this period, transmission and distribution lines will also be increased to 12,500 km and 4,87,558 km, respectively. To meet this demand of electricity, short, mid and long term generation, distribution and transmission lines expansion projects are in various stages of implementation. According to the existing generation expansion program, a total of 3,547 MW of new generation will be added to the national grid by FY 2014. Moreover, 3300 MW of newly initiated generation plants will be implemented by FY 2014.
3. PRIVATE SECTOR POWER GENERATION POLICY OF BANGLADESH

3.1 Bangladesh needs to achieve and sustain an annual economic growth rate of at least 6/7 percent to alleviate poverty and realize desirable socio-economic and human development. To achieve the growth target of GDP, it is absolutely essential that the minimum electricity growth rate is maintained at a factor of 1.5 of GDP growth. The provision of adequate and reliable supply of electricity at a reasonable cost is a prerequisite to attain this goal. Besides, Bangladesh is still at a very low level of electrification, with only 15 percent of its population (about 120 million) having access to electricity and per capita generation is only 95 Kwh per annum. Hence, there is a great need to expand the electrification programme. The government of Bangladesh (GOB) recognizes that the pace of power development has to be accelerated in order to achieve overall economic development targets of the country and avoid looming power shortages. Power is the prime mover. Any big push of the economy would need accelerated power development.

3.2 Presently, three state-owned utilities under the Ministry of Energy and Mineral Resources are responsible for electricity development in Bangladesh. These are:

i) Bangladesh Power Development Board (BPDB), responsible for generation and transmission of power in the country and distribution in urban areas except the area under Greater Dhaka;

ii) Dhaka Power Distribution Company (DPDC), responsible for distribution of electricity in the greater Dhaka area including the metropolitan city of Dhaka; and

iii) Rural Electrification Board (REB), responsible for distribution of electricity in rural areas.

3.3 In comparison to the 11666 GWh electricity generated annually at present, the Power System Master Plan (PSMP) projects a requirement of 16500 GWh in 2000 and 24160 GWh in the year 2005. This implies an increase in peak demand from the present 2200 MW to 3150 MW by 2000 and 4600 MW by 2005 for which capacity addition of about 3350 MW will be required by 2005. Hence on average, additional 300 MW of generation capacity has to be added every year. The total investment between now and 2005, required to achieve such capacity enhancement, is Taka 176 billion or US$ 4.4 billion. The corresponding investment requirement for expansion & reinforcement of transmission and distribution system would be about US$ 2.2 billion for the same period, bringing the grand total to US$ 6.6 billion.

3.4 The likelihood of securing such a substantial volume of investment for power generation alone through the public sector is remote. Besides, competing demands on government resources and declining levels of external assistance from multilateral/bilateral donor agencies further constrain the potential for public investment in the power sector. Recognizing these trends, GOB amended its industrial policy to enable private investment in the power sector. GOB also adopted the recommendations contained in the report on Power Sector Reforms, prepared by a high level Inter-Ministerial Working Group, for restructuring the power sector and promoting private sector participation in the generation of electricity in order to attain higher economic efficiency. The Government is strongly committed to attract private investment for installing new power generation capacity on a build-own-operate (BOO) basis.
3.5 In order to translate this explicit policy commitment into actual investment projects, GOB created and set up a Power Cell under the Ministry of Energy & Mineral Resources (MEMR) in 1995. Power Cell has a mandate to lead private power development, recommend power sector reforms and restructuring, conduct study on tariffs and formulation of a regulatory framework for the power sector. Power Cell shall facilitate all stages of promotion, development, implementation, commissioning and operations of private power generation projects and suitably address the concerns of Project Sponsor. It will also assist Project Sponsor to secure necessary consents and permits from GOB where such consents and permits would be needed.

4. PROJECT DESCRIPTION

4.1 General

The Project comprises, among other things, the following:

a. the development, design, engineering, manufacture, financing, insurance, construction, permitting, completion, testing, commissioning, ownership, operation and maintenance of the Facility and all activities incidental thereto;

b. the development, design, engineering, manufacture, financing, insurance, construction, permitting, completion, testing and commissioning of the Electrical Interconnection Facilities and all activities incidental thereto; and

c. the sale of available Dependable Capacity and Net Energy Output to BPDB.

4.2 Technical Description of Facility

As described in detail in Annex C, “Plant Functional Specification”, the Facility will include the complete Coal based steam generator units, constructed with new and unused materials and equipment, having a total net power generation capacity of 150 MW to 300 MW at the Reference Site Conditions, to operate as a fully despatchable plant.

All the power generated by the Facility shall be sold to BPDB only, with no sales permitted to third parties without the prior written approval of BPDB (which BPDB may grant or withhold in its sole discretion). BPDB shall purchase from the Facility all of the net Dependable Capacity, as provided in and in accordance with the terms of the PPA.

The Facility will use Coal as fuel. Coal will be supplied by the Coal Supplier to be appointed by the Project Sponsor.

The evacuation of electric power to be generated by the Facility, will be through a transmission line to be constructed by PGCB. In addition to that the project company will install, operate & maintain separate 230 kV synchronizing breaker for its machine at the high voltage side of step-up Transformer.

The Facility will be constructed on a land at the bank of river Rupsha (10 km up or down stream of Khanjahan Ali Bridge), Khulna to be arranged by the Company at its own cost. Required development, filling upto final elevation, leveling, compacting etc of the land will be the responsibility of the Company. The access road to the Site will also be the responsibility of the Company.
4.3 Establishment of the Company

The Project Sponsor (that is, the successful Bidder) shall establish the Company in Bangladesh in accordance with the Laws of Bangladesh. The Company, when established, shall assume all the rights and obligations of the Project Sponsor, including but not limited to those in relation to the execution of the Project Agreements, Bid Security, the Performance Security Deposit and the Operations Security Deposit (see Article 8 of the PPA).

4.4 Project Agreements

The Company shall enter into the Project Agreements with the GOB and BPDB within thirty (30) days following the date of issue of the Letter of Intent by BPDB. The GOB shall guarantee the payment obligations of payment obligations of BPDB under the respective Project Agreements. This RFP includes drafts of the Project Agreements as Annex E. There will be no negotiation on the draft Project Agreements.

4.5 Financing for the Project

Arrangement for financing for the Project and achievement of Financial Closing by the Required Financial Closing shall be the sole responsibility of the Project Sponsor or the Company upon its establishment. The GOB and BPDB will not be a party to any Financing Documents.

Project Sponsor may avail Government of Bangladesh endorsed Investment Promotion and Financing Facility (IPFF) (Reference Annex F).

As stipulated in the Private Sector Power Generation Policy, BOO projects may involve limited recourse financing and the funds for the projects will be raised without any direct sovereign guarantee of repayment. Instead, the investors in and lenders to the project company will be expected to look solely to the revenues earned by the sale of electricity for their returns on equity and debt servicing. Minimum requirement for equity investment will be 20%.

If the Project Sponsor (that is, the successful Bidder) is a single firm:

a. the Project Sponsor shall be required to hold at least 51% of the equity ownership in the Project (that is, share capital of the Project Company), at all times until the sixth anniversary of the Commercial Operations Date (COD).

If the Project Sponsor is a consortium:

a. the Lead Member shall be required to maintain a 51% or more ownership interest in the Project Company until the COD, and thereafter until the sixth anniversary of the COD the Lead Member shall be required to maintain an ownership interest in the Project Company of not less than 40%; and

b. the Operating Member shall be required to maintain a 20% or more ownership interest in the Project Company until the COD, and thereafter until the sixth anniversary of the COD the Operating Member shall be required to maintain an ownership interest in the Project Company of not less than 11%.
To facilitate the creation and encouragement of a corporate debt securities market essential for raising local financing for power development projects, the following provisions will be allowed as per the Private Sector Power Generation Policy:

a. Permission to power generating companies to issue Corporate Bonds both bearer and (if the Bidder so desires) registered with the Bangladesh Securities and Exchange Commission (SEC).

b. Permission to issue shares at discounted prices up to the limit of 10% of the face value to enable venture capitalists to be provided higher rates of return proportionate to the risks.

c. Permission to foreign banks to underwrite the issue of shares and bonds by the private power companies with the recognition by SEC of such underwriting.

d. Tax facilities for private sector instruments as available to Non-Banking Financial Institutions.

e. Modification of Prudential Regulations to allow 80:20 debt equity ratios, if necessary.

4.6 Logistics, Indigenous Resources and Labor Information

a. The Company shall be responsible for all material and equipment shipments into the People’s Republic of Bangladesh that need to be imported for the Project. The Project Sponsor shall identify and verify the sufficiency of all existing port facilities, transportation networks, and the customs requirements, immigration laws, labor laws, taxes, duties, fees, licenses and visa requirements as necessary to implement the Project subject to the terms and conditions of the Implementation Agreement (IA).

b. Labor for construction and operation of the Facility may be available locally.

c. Bangladesh does not manufacture any major power plant components. However, building materials and equipment for general construction of the Project are available within Bangladesh.

d. To the extent that local industry and companies are qualified, in the reasonable judgment of the Project Sponsor, to supply material or perform the work required for the development of the Project, the Project Sponsor shall place a priority on subcontracting such procurement and work to local companies.

e. The Bidder shall be responsible for meeting all applicable requirements to obtain the permits and licenses necessary to implement and operate the Project. The Bidder shall assure itself of the procedures and time frames required to obtain such permits and licenses. It is emphasized that the responsibility for identifying and obtaining the permits and licenses rests with the Project Sponsor.

f. The Bidder must take into consideration the time required to obtain the necessary approvals or consideration of the studies that are associated with them. The Bidder’s schedule proposed in the Bid should take these aspects into consideration.

g. Within the laws and practices prevailing in Bangladesh, the Company is required to use all commercially reasonable efforts to employ Bangladeshis during the construction and operation of the Facility.
h. However, should the Company need to employ non-Bangladeshi personnel; it may do so in accordance with the labor and immigration laws in effect in Bangladesh (concerning residency permits, work permits, visas, etc).

i. The Company shall, at its expense, arrange, develop, and maintain utilities (including power and water) at the Site to execute the Project.

j. The Company shall be entitled to the fiscal incentives applicable for the Company under the Private Sector Power Generation Policy of Bangladesh as in effect on the Reference Date.

k. The Company will be responsible for arranging appropriate insurance coverage for the Facility and operations both during construction and after commissioning.

l. A separate SRO (SRO No. 114-Law/99 dated 26th May 1999), allowing exemptions to private power generation projects under the Private Sector Power Generation Policy has been issued so that the incentives and concessions given under various regulations and directives are consolidated and placed together in one document.

5. TARIFF CHARGES AND PPA PAYMENTS

5.1 Introduction

a. The PPA establishes the terms and conditions for the sale and purchase of electricity between the Company and BPDB. The Company shall sell the capacity and output of the Facility only to BPDB in accordance with the PPA.

b. The Bidder shall propose the Tariff Charges (or the Reference Tariff) and components thereof and provide the required details related thereof in its Proposal in the form prescribed in Annex D, Exhibit II of this RFP.

5.2 Currency

While certain components of the Tariff Charges are expressed in Dollars and others are in Taka, all the payments under the PPA, including Tariff Charges, shall be made in Taka.

5.3 Delivery Point

The Tariff Charges proposed by the Bidder in the Proposal and set out in the PPA shall be quoted and payable for Dependable Capacity and Net Energy Output at the Delivery Point.

5.4 Payment Methodology

a. Upon the achievement of the Commercial Operation Date by the Company, BPDB’s obligation for the payment of Tariff Charges to the Company under and in accordance with the PPA shall commence.

b. Prior to occurrence of the Commercial Operation Date, the electrical energy produced by the Facility during testing shall be purchased by BPDB, and the payment for each kWh of such energy delivered to the Delivery Point shall equal the Energy Price.

c. The Tariff Charges shall be specified in the Proposal and the PPA for each Contract Year.

d. All payments shall be made in accordance with the terms and conditions set out in the Project Agreements.
5.5 Tariff Charges

a. Tariff Charges shall include all costs of the Company.

b. No adjustment shall be made to the Bidder’s proposed Tariff Charges for incorrect evaluation of the Project, soil or surface conditions, Site condition, environmental mitigation measures, or any oversight in considering all risks associated with the Facility and the Project.

c. No adjustment shall be made to the Tariff Charges proposed in the Proposal and set out in the PPA for variation in interest rates.

d. Tariff Charges shall include all fuel related costs.

e. Tariff Charges shall include all insurance costs, taxes, fees and custom duties.

f. Tariff Charges shall comply with the terms and conditions contained in the Project Agreements.

g. No separate charges shall be paid to the Company for dismantling and/or removal costs of the Facility or any part thereof.

h. Failure to include any costs in the Tariff Charges is for account of the Bidder and the Company, and BPDB and BPDB shall not accept adjustments to Tariff Charges other than those adjustments specified in the RFP.

5.6 Structure of Tariff Charges

From and after the Commercial Operations Date, BPDB shall pay to the Company, for each month:

a. Capacity Payment (CP) for making available the Dependable Capacity in such month, based on the Reference Capacity Price; and


The Reference Capacity Price component of the Reference Tariff will be subdivided in three parts, each payable for one (1) kW of available Dependable Capacity (DC) in the relevant month:

i) the Reference Non-Escalable Capacity Price or RNECP, expressed in Dollar per kW per month, to cover costs of debt servicing, return of equity and return on equity;

ii) the Reference Foreign Escalable Capacity Price or RECP (US), expressed in Dollar per kW per month, to cover the fixed costs of operation and maintenance of the Facility denominated in foreign currencies; and

iii) the Reference Local Escalable Capacity Price or RECP (Tk), expressed in Taka per kW per month, to cover the fixed costs of operation and maintenance of the Facility denominated in local currency.
The **Reference Energy Price** component of the Reference Tariff will be subdivided in three parts, each payable for one (1) kWh of Net Energy Output (NEO) in the relevant month:

i)  the **Reference Foreign Variable Operation and Maintenance Price** or **RVOMP(US)**, expressed in Dollar per kWh, to cover variable costs of operation and maintenance of the Facility denominated in foreign currencies;

ii) the **Reference Local Variable Operation and Maintenance Price** or **RVOMP(Tk)**, expressed in Taka per kWh, to cover variable costs of operation and maintenance of the Facility denominated in local currency;

iii) the **Reference Fuel Price, payable by BPDB** for the Fuel consumed during operation of the Facility based on the Reference Heat Rates.

The following points are worth noting:

- **Reference Capacity Price** should reflect, by way of example and not limitation, the fixed cost of developing, constructing, financing, and operating the Facility and should provide sufficient cash flow to cover such items as the amortization of debt, interest on such debt, fixed Facility operating and maintenance costs, insurance costs, administrative costs, all applicable Facility taxes, and a return on equity.

- RNECP shall include, without limitation, all costs of debt service, distribution of dividends and return of capital.

- RECP(US) and RECP(Tk) shall include fixed charges related to Facility operation and maintenance as well as Company management, denominated in Dollars and Taka, respectively. Such costs include, but are not limited to:
  - Costs of salaries and labor including directors’ incentives (if any), rent or lease of home office and Site, office supplies and equipment, etc.
  - Costs of O&M contract and/or costs of salaries of personnel to operate and maintain the Facility, tools, etc.
  - Insurance costs
  - Operating taxes
  - Financial costs of operations (other than debt servicing, for example, the cost of working capital)

- RVOMP(US) and RVOMP(Tk) shall reflect the costs of operating the Facility net of fuel, denominated in Dollars and Taka, respectively. Such expenditures include chemicals, consumables, maintenance, etc.

- No component of the Reference Tariff should include any cost items which are already included in any other component of the Reference Tariff. For example, each of RVOMP(US) and RVOMP(Tk) shall not include items that are already included in RNECP, RECP(US) and the RECP(Tk).
5.7 Calculation of Capacity Payment

The Capacity Payment (CP) for any month “m” shall be calculated in Taka as the sum of Non-Escalable Capacity Payment (CPNE) and Escalable Capacity Payment (CPE):

\[ CP_m = CPNE_m + CPE_m \]

where:

- CPNE shall be calculated, in Taka, by (i) applying RNECP to the available Dependable Capacity (DC) during the month “m” and (ii) converting such payment at the Exchange Rate (CE\(_m\)) at the first day of the month immediately following the month “m”:
  \[ CPNE_m = RNECP_m \times CE_m \times DC_m \]

- CPE shall be calculated, in Taka, as the sum of Foreign Escalable Capacity Payment or CPE(US) and Local Escalable Capacity Payment or CPE(Tk):
  \[ CPE_m = CPE(US)_m + CPE(Tk)_m \]

- CPE(US) shall be calculated, in Taka, by (i) applying RECP(US) to the available Dependable Capacity (DC) during the month “m”, (ii) converting such payment at the Exchange Rate (CE\(_m\)) at the first day of the month immediately following the month “m”, and (iii) adjusting such payment to the ratio between the Foreign Index for the first month of the quarter in which the month “m” occurs and the Foreign Index at Bid Date (such ratio to be referred to as “FIIF”):
  \[ CPE(US)_m = RECP(US)_m \times CE_m \times FIIF_m \times DC_m \]

- CPE(Tk) shall be calculated, in Taka, by (i) applying RECP(Tk) to the available Dependable Capacity (DC) during the month “m”, and (iii) adjusting such payment to the ratio between the Local Index for the first month of the quarter in which the month “m” occurs and the Local Index at Bid Date (such ratio to be referred to as “LIIF”):
  \[ CPE(Tk)_m = RECP(Tk)_m \times LIIF_m \times DC_m \]

The various components of Capacity Payment are therefore protected against risks associated with variations in the Exchange Rate, Foreign Index and Local Index from the Bid Date (when the components of Reference Capacity Price are set) to the time of calculation (the Indexation Date) of the Capacity Payment for any month following the COD.

The draft PPA also provides for an additional payment to the Company (the Company True-Up Payment) in relation to the foreign components of the Capacity Payment during a month if the Taka depreciates against the Dollar between the Indexation Date and the payment date for such Capacity Payment. In case of appreciation of Taka against Dollar between such dates, BPDB shall receive an adjustment payment (BPDB True-Up Payment).
5.8 Calculation of Energy Payment

The Energy Payment (CP) for any month “m” shall be calculated in Taka as the sum of Variable Operation and Maintenance Payment (VOMP) and Fuel Payment (FP):

\[ EP_m = VOMP_m + FP_m \]

where:

- VOMP shall be calculated, in Taka, as the sum of Foreign Variable Operation and Maintenance Payment or VOMP(US) and Local Variable Operation and Maintenance Payment or VOMP(Tk):

\[ VOMP_m = VOMP(US)_m + VOMP(Tk)_m \]

- VOMP(US) shall be calculated, in Taka, by (i) applying RVOMP(US) to the Net Energy Output (NEO) during the month “m”, (ii) converting such payment at the Exchange Rate (CE\(_m\)) as defined above, and (iii) adjusting such payment to “FIIF” as defined above:

\[ VOMP(US)_m = RVOMP(US)_m \times CE_m \times FIIF_m \times NEO_m \times PFadj \]

\[ PFadj = \text{Power factor Adjustment} = 0.85/\text{ave. power factor of the month at Delivery Point} \]

\[ 0.85 = \text{Power factor at Delivery Point} \]

- VOMP(Tk) shall be calculated, in Taka, by (i) applying RVOMP(Tk) to the Net Energy Output (NEO) during the month “m”, and (iii) adjusting such payment to “LIIF” as defined above:

\[ VOMP(Tk)_m = RVOMP(Tk)_m \times LIIF_m \times NEO_m \times PFadj \]

\[ PFadj = \text{Power factor Adjustment} = 0.85/\text{ave. power factor of the month at Delivery Point} \]

\[ 0.85 = \text{Power factor at Delivery Point} \]

**Calculation of \( FP_m \)**

\[ FP_m = \text{Fuel Payment payable in Taka in Month “m”} \]

\( FP_m \) shall be calculated in Taka in accordance with Schedule 6 of PPA.

5.9 Supplemental Payments

In addition to the Tariff Charges, BPDB shall pay the following Supplemental Payments to the Company:

- Force Majeure related restoration costs.

Supplemental Payments may include any costs due to restoration or other costs resulting from Force Events under the provisions of Article 11 of the IA and Article 16 of the PPA.
6. PROJECT DEVELOPMENT

6.1 Not used

6.2 Performance Security Deposit

The Company shall furnish the Performance Security Deposit to BPDB on or before the signing of the PPA securing the payment obligations of the Company under the PPA in relation to achievement of Financial Closing on or before the Required Financial Closing Date, the liquidated damages payable in case of delays in the Commercial Operations Date. The Bid Security shall then be returned to the Company. Delays in achieving the COD shall incur liquidated damages for the Company at the rate of one hundred Dollars (USD 100.00) per day per MW of the Contracted Facility Capacity respectively up to a maximum of twelve (12) months of delay as liquidated damages, as specified in Article 8 of the PPA. The Performance Security shall be forfeited without any notice, demand, or other legal process if the Project Sponsor or the Company fails to achieve the Financial Closing on or before the Required Financial Closing Date or termination of the PPA and IA due to Company Event of Default. The Performance Security Deposit shall terminate upon the delivery to BPDB of the Operations Security Deposit pursuant to Section 8.6(c) of PPA.

6.3 Operations Security Deposit

Within thirty (30) days following the COD, the Company shall provide the Operations Security Deposit (in an amount equivalent to two-months Capacity Payments) to BPDB securing the Company’s payment obligations under the PPA in relation to operation, maintenance, declaration and availability of Dependable Capacity, and compliance with the Dispatch Instructions (see Article 8 of PPA).

6.4 Project Development Schedule

Delays in achieving Financial Closing by the Required Financial Closing Date and in achieving the Commercial Operation Date by the Required Commercial Operations Date due to events beyond control of the Project Sponsor or the Company shall be accommodated through a day-for-day extension as per the provisions of the draft IA and the draft PPA attached hereto as Annex E.
Section B

Instructions to Bidders
SECTION B: INSTRUCTIONS TO BIDDERS

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GENERAL

1. SELECTION PROCESS

1.1 Bidders are advised that the following cycle of events has been established by BPDB for the selection of the Project Sponsor for implementation of the Project:

- BPDB may issue Addenda to this RFP, if necessary, prior to the Bid Date.
- On or before the Bid Date, the Bidders submit Proposals in two envelopes, namely, Envelope I and Envelope II, along with the Bid Security. Envelope I contains only the legal, technical, commercial and financial aspects and Envelope II contains Bidder’s Tariff Charges Proposal.
- BPDB opens Envelope I only of those Bidders whose Qualification Statements demonstrate that they meet all the criteria set forth in the Qualification Document and evaluates its contents; and identifies the Responsive Bidders. BPDB seeks clarification (if required) from the Bidder during evaluation process.
- BPDB notifies non-responsive Bidders of their status and returns their Bid Security.
- BPDB opens the Envelope II Proposals of the Responsive Bidders in an open session at a pre-announced date, evaluates these Envelope II Proposals, and ranks all Responsive Proposals. BPDB seeks clarification (if required) from the Bidder during evaluation process.
- BPDB issues Letter of Intent (LOI) to the first-ranked Bidder (now called the Project Sponsor).
- Project Sponsor establishes the Company in the Peoples Republic of Bangladesh.
- Project Agreements are signed and ratified by competent authorities of the GOB and by the Company.
- BPDB returns Bid Security to all Bidders.
- Company proceeds towards achieving the Financial Closing by the Required Financial Closing Date and implement the Project.
- If the Company cannot achieve Financial Closing by the Required Financial Closing Date, BPDB may at its sole discretion elect to terminate the Project Agreements and forfeit the Performance Security Deposit.

1.2 Notwithstanding the above, BPDB reserves the right to accept or reject any Proposal, to waive minor informalities in Proposals received, and to annul the RFP process and reject all Proposals at any time prior to signing of the Project Agreements without thereby incurring any liability to the affected Bidders or any obligation to inform the affected Bidders of the grounds for BPDB’s actions or decisions.

2. Not used
3. BIDDER’S ELIGIBILITY AND RESPONSIBILITIES

3.1 Not used
3.2 Not used
3.3 Not used
3.4 Responsibilities of the Bidders

a. The Bidders are responsible for conducting their own investigations to verify Project related data and gathering additional information deemed necessary by the Bidders.

b. Bidder is expected to examine carefully all information, instructions, conditions, attachments, forms, terms, specifications, and drawings in the RFP and all Addenda and is responsible for informing itself with respect to all conditions, Site conditions which might in any way affect the cost or the performance of the Project. Failure to do so, and failure to comply with the requirements of Proposal submission, will be at Bidder’s own risk, and no relief will be given for errors or omissions by Bidder.

c. The Bidder is requested to examine carefully the documents comprising the Annexes to this RFP including draft Project Agreements as these provide detailed information necessary for understanding the terms and conditions of the transaction and the concessions offered by the GOB, and for preparing a Responsive Proposal. BPDB does not warrant the accuracy or completeness of the information presented herein, nor makes any representation or warranty that the information presented herein constitutes all the information necessary to prepare the Proposal or develop the Project. Each Bidder accepts full responsibility for conducting an independent analysis of the feasibility of the Project and for gathering and presenting all necessary information. The Bidder assumes all risks associated with the Project, and no adjustments will be made based on the Bidder’s interpretation of the information provided herein.

3.5 Not used

4. Not used

5. FORMAT AND LANGUAGE OF PROPOSAL

5.1 Compliance with Instructions

a. The objective of this RFP is to establish a single format to be followed by all Bidders submitting Proposals and thereby to ensure a uniform and impartial evaluation and ranking of each Proposal. This RFP also provides technical background for the Project and sets forth the guidelines according to which the Proposals shall be prepared.
b. The Bidder shall submit its Proposal in strict accordance with the requirements of this RFP and shall complete all data sheets and data forms and provide all information required. Additional or supplementary information, data, descriptions and explanations for clarification of the Proposal are desirable and shall be considered in their applicable context.

c. The Bidder shall quote its proposed Tariff Charges and parts and components thereof in the manner specified in this RFP and shall provide all the detail required by this RFP and necessary for the evaluation and verification of such charges.

d. Any deviation from the requirements or instructions of this RFP or modifications to the draft Project Agreements shall be clearly indicated and explained by the Bidder. Deviations and modifications are discouraged and BPDB reserves the right to reject any Proposal as non-responsive at its sole discretion.

5.2 Language of Proposal

The Proposal and all related correspondence and documents shall be written in the English language. Supporting documents and printed literature furnished by Bidder with the Proposal may be in any other language provided they are accompanied by an appropriate translation of pertinent passages in the English language. Supporting materials which are not translated may not be considered. For the purpose of interpretation and evaluation of the Proposal, the English language translation shall prevail.
6. PROPOSAL STRUCTURE AND CONTENT

6.1 Two Envelopes

The Proposal to be prepared by the Bidder shall be submitted in two envelopes: namely, Envelope I and Envelope II:

a. In Envelope I, all of the legal, technical, commercial and financial aspects will be submitted.

b. In Envelope II, the Tariff Charges Proposal will be submitted.

Those Bidders who submit Envelope I proposals which pass the responsiveness test will have their Envelope II proposals opened and evaluated. The contents of each Envelope of the Proposal are as in Articles 6.2 and 6.3 below. The formats to be used are provided in Annex D, entitled “Bidder’s Proposal and Supporting Data” (Exhibit I through Exhibit VIII).

6.2 Proposal - Contents of Envelope I

The Envelope I of the Proposals must contain the following items in the form or format of Exhibit mentioned against each item:

- Proposal Letter  Annex D, Exhibit I
- List of Attachments to Proposal Letter Annex D, Exhibit I, Attachment I-1
- Bid Security  Annex D, Exhibit I, Attachment I-2
- Proposal Opening Form  Annex D, Exhibit I, Attachment I-3
- Consortium Agreement (if applicable)  
- Financing Data in Support of Project Annex D, Exhibit III
- Technical Data and Submittals Annex D, Exhibit IV
- Additional Supportive Data Annex D, Exhibit V
- Exceptions of the RFP Documents Annex D, Exhibit VI
- Initialed Project Agreements Annex D, Exhibit VI
- Bidder’s Project Schedule  Annex D, Exhibit VII

6.3 Proposal - Contents of Envelope II

The Envelope II of the Proposals must contain the following in the form or format of Exhibit mentioned against thereto:

Proposed Tariff Charges and Levelized Tariff Charge Annex D, Exhibit II

6.4 Additional General Instructions

The Bidder must submit a substantially responsive Proposal, one which conforms to all the terms, conditions, and specifications of this RFP without material deviation or reservation. Failure to comply with this instruction may result in disqualification of the Bidder. Additional instructions for proposal preparation are provided below in Article 6.4.1 through 6.4.9
6.4.1. Proposal Letter and Bid Security: The Bidder shall complete the Proposal Letter as required in Annex D, Exhibit I. The Bidder shall also provide the Bid Security in the form shown in Attachment 1 to that Section.

6.4.2. Technical Specification and Data: The Bidder shall submit its proposed technical design in response to meet the requirements set forth in Annex C – Plant Technical Specifications. The critical elements of the technical specifications which must be adhered to in the Project Sponsor’s Proposal are as follows:

- Net plant output in range of 150-300 MW at Reference Site Conditions.
- Switchyard.
- Plant with availability of 85% or more.
- Coal fired units of similar design must have engaged in reliable commercial operation for at least three (3) continuous years at three different Site.
- Compliance with Bangladesh, World Bank Group and Asian Development Bank environmental and social guidelines accepted Environmental Guideline.
- Facility must be able to operate in parallel with other generating sources. Study of the electrical system shall be performed by the Company to assure such compatibility.
- High voltage must be 230 kV.
- A communication system to be compatible with BPDB’s/ PGCB system.
- Fault levels as stated in the technical specifications.
- Provisions shall be made for SCADA system per BPDB’s/ PGCB requirement.
- Facility must fit within the Site boundaries and must include the full scope of work regarding support facilities.

6.4.3. The Bidder shall submit a Proposal which meets the codes and standards for design, workmanship, materials and equipment as stated in the Plant Functional Specifications. The Bidder may propose codes and standards from other standard international organizations provided it demonstrates to the satisfaction of BPDB that these codes and standards meet or exceed the requirements of the designated codes and standards in the Plant Functional Specifications. Bidder shall submit all the technical data requested in Annex D, Exhibit IV, entitled “Technical Data and Submittals”

6.4.4. Bidder’s Project Schedule: The Proposal shall contain the Bidder’s detailed schedule for the development phase and construction phase of the Project as requested in Annex D, Exhibit VII, entitled “Bidder’s Project Schedule.”

6.4.5. Tariff Charges: The Bidder shall submit its Tariff Charges in accordance with a format and based on guidelines provided. Additional back-up sheets and calculations may be submitted as necessary to explain the Bidder’s Tariff Charges Proposal.

6.4.6. Financial Data: The Bidder is required to submit the financial information as requested in Annex D, Exhibit III, entitled “Financial Data in Support of Project.”
6.4.7. Additional Supporting Data: The Bidder shall address the specific items requested in Annex D Exhibit V, entitled “Additional Supporting Data”.

6.4.8. No Changes to Format and Items: The Bidder must prepare the Proposal by filling in all blank spaces and submitting documents required by Annex D. No changes shall be made, and no items added, unless specifically requested by the Bidder in writing and approved by BPDB.

6.4.9. Exceptions to RFP and Project Agreements: Exceptions are to be listed in Annex D, Exhibit VI as specifically provided for this purpose and the draft Project Agreements (as required by the said Exhibit) clearly showing the Bidder’s and Lenders’ comments, exceptions or required changes to the Project Agreements.

6.4.10. A Proposal that is illegible or that contains omissions, erasures, alterations, additions, items not called for, or irregularities may be rejected, except for those necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Proposal.

7. TARIFF CHARGES PROPOSAL

7.1 Tariff Charges Proposal in Envelope II

a. As per the private Sector Power Generation Policy of Bangladesh and the commercial terms of the draft PPA, the Bidders are to propose a power tariff for Coal Operation, as per format and instructions provided in Section D, Exhibit II, and within the limitations prescribed below, based on capacity and energy payments.

b. The calculation on which the capacity and energy payment are to be made and their derivation from the capital structure, financing plan and plant performance shall be shown explicitly.

c. The proposed Tariff Charges and its components in the Bidder’s Proposal shall be quoted in Dollar or Taka (as the case may be) to four decimal places, and in real or constant terms, that is without any indexation allowed in this RFP after the Bid Date for Exchange Rate, Foreign Index and Local Index.

d. The proposed Tariff Charges and its components in the Bidder’s Proposal shall be based on the structure described in Section A, Article 5 and summarized in Article 7.3 below and shall be based on the assumptions listed in Article 7.4 below and Annex D, Exhibit II.

7.2 Evaluation of the Proposed Tariff Charges

Evaluation of Bidders proposed Tariff Charges are discussed in Article 23 and explained in detail in Annex D, Exhibit II.

7.3 Structure of Tariff Charges

Section A, Article 5 describes the structure, composition, calculation methodology, allowed indexation and payment mechanism for Tariff Charges. Contractual obligations of the parties under the PPA with respect to Tariff Charges are mainly set forth in Article 13 of the draft PPA (Annex E, Exhibit II of this RFP). Bidders are advised to carefully review the foregoing Articles and documents as they contain important information.
The Bidder shall propose the Reference Tariff for Coal Operation in the manner prescribed in Annex D, Exhibit II, comprising of Reference Capacity Price (in Dollar/kW-month and Taka/kW-Month) and Reference Energy Price (in Dollar/kWh and Taka/kWh) for each Contract Year in Bid Date values (i.e. without any adjustment or indexation for exchange rate or inflation after the Bid Date). Once established through this bidding process, the Reference Tariff of the successful Bidder (that is, the Project Sponsor) will remain unchanged, except for any indexation or adjustment for Exchange Rate, Local Index and Foreign Index as provided for in the PPA.

The Bidder is required to propose the following three components of the Reference Capacity Price for each Contract Year:

i) Reference Non-Escalable Capacity Price or RCPNE, expressed in Dollar per kW per month;

ii) Reference Foreign Escalable Capacity Price or RCPE(US), expressed in Dollar per kW per month; and

iii) Reference Local Escalable Capacity Price or RCPE(Tk), expressed in Taka per kW per month.

The Bidder is required to propose the following three components of the Reference Energy Price for each Contract Year:

i) Reference Foreign Variable Operation and Maintenance Price or RVOMP(US), expressed in Dollar per kWh;

ii) Reference Local Variable Operation and Maintenance Price or RVOMP(Tk), expressed in Taka per kWh; and

iii) Referenced Fuel Price, expressed in Taka per kWh.

The Bidder shall propose Reference Heat Rates applicable for different load levels, which shall be valid for the Term of the Project. The Bidder shall propose a Fuel Price based on the Reference Heat Rates and the Bid Coal Price defined in the RFP (US Dollar 3.5836 per GJ).

The tables below provide an example and a template for the Bidder to calculate the Fuel Cost component of the Reference Tariff.
Table B-1: Sample Fuel Cost Calculation

<table>
<thead>
<tr>
<th>Load (KW)</th>
<th>Heat Rate (KJ/kWh)</th>
<th>% Hours</th>
<th>Hours Per Year</th>
<th>Total kWh</th>
<th>Price of Coal ($US/KJ)</th>
<th>Fuel Cost US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>100000</td>
<td>0.78</td>
<td>8760</td>
<td>683,280,000.00</td>
<td>3.5836E-06</td>
<td>20,568,258.55</td>
</tr>
<tr>
<td>70</td>
<td>70000</td>
<td>0.06</td>
<td>8760</td>
<td>36,792,000.00</td>
<td>3.5836E-06</td>
<td>1,186,630.30</td>
</tr>
<tr>
<td>40</td>
<td>40000</td>
<td>0.06</td>
<td>8760</td>
<td>21,024,000.00</td>
<td>3.5836E-06</td>
<td>693,142.78</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.1</td>
<td>8760</td>
<td>-</td>
<td>3.5836E-06</td>
<td>-</td>
</tr>
</tbody>
</table>

\[ h = \frac{741,096,000.00}{i} \]

\[ \text{Fuel Cost} = \frac{i}{h} \times 0.030290315 \text{ USD/kWh} \]

Table B-2: Fuel Cost Calculation Template

<table>
<thead>
<tr>
<th>Load (KW)</th>
<th>Heat Rate (KJ/kWh)</th>
<th>% Hours</th>
<th>Hours Per Year</th>
<th>Total kWh</th>
<th>Price of Coal ($US/KJ)</th>
<th>Fuel Cost US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>0.78</td>
<td>8760</td>
<td>683,280,000.00</td>
<td>3.5836E-06</td>
<td>20,568,258.55</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>0.06</td>
<td>8760</td>
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<td>3.5836E-06</td>
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<td></td>
</tr>
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<td>0.06</td>
<td>8760</td>
<td>21,024,000.00</td>
<td>3.5836E-06</td>
<td>693,142.78</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0.1</td>
<td>8760</td>
<td>-</td>
<td>3.5836E-06</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Fuel Cost = (i/h) \times 0.030290315 USD/kWh

7.4 Constraints on Tariff Charges

Tariff Charges (i.e. Reference Tariff) and components thereof (except as may result from indexation allowed in the PPA) shall be subject to following limitations and constraints:

a. Total Reference Tariff and each of its components should be greater than zero for each Contract Year.

b. Each of the components RECP(US), RECP(Tk), RVOMP(US) and RVOMP(Tk) must be constant or same across all the Contract Years.

c. Reference Heat Rates quoted for various plant load factors at the Reference Site Conditions should remain same for the respective load factors for each Contract Year. Bidder should account for the heat rate degradation over the Term when establishing the Reference Heat Rates.
d. Total Reference Tariff in US cents/kWh for the first Contract Year shall not exceed 111% of the Levelized Tariff Charge.

e. Total Reference Tariff in US cents/kWh for any Contract Year other than the first Contract Year shall not exceed 110% of the Levelized Tariff Charge.

f. Total Reference Tariff in Taka/kWh levelized over the first ten Agreement Years (calculated in the similar manner as the Levelized Tariff Charge, except that the calculation shall be limited to first ten Agreement Years) shall not exceed 108% of the Levelized Tariff Charge.

g. Escalable Component of the Capacity Price shall not exceed 20% of the total Capacity Price for any Contract Year and in aggregate.

(For the purpose of expressing total Reference Tariff in US cents/kWh for any Contract Year, Reference Capacity Price shall be expressed in US cents/kWh by assuming generation of Net Energy Output during 8760 x 0.846 hours at Contracted Facility Capacity for the Contract Year.)

7.5 Assumptions for Tariff Charges Proposal and Evaluation

a. Bid Exchange Rate, Bid Coal Price shall have values as prescribed in their definitions in Section A, Article 1. For purpose of evaluation, it will be assumed that the RECP(US), RECP (Tk), RVOMP (US) and RVOMP (Tk) will remain constant for the duration of the PPA Term.

b. Discount rate used to calculate Levelized Tariff Charge shall be 12%.

c. For each Contract Year, the Facility shall be available with full Contracted Facility Capacity at all times (i.e. 100% availability) and shall operate to produce electricity for 8760 x 0.846 hours, where 84.6% is an assumed overall plant load factor for the entire Contract Year. This overall plant load factor of 84.6% for each Contract Year is based on the following load profile assumed for each Contract Year:

- □ 100% load for 78% of total hours
- □ 70% load for 6% of total hours
- □ 40% load for 6% of total hours
- □ 0% load for 10% of total hours

7.6 Calculation of Levelized Tariff Charge

Levelized Tariff Charge in US cents/kWh can be calculated in two steps:

a. First, calculate the net present value (NPV) in US cents/kWh of the Reference Tariffs for all the Contract Years by discounting each of the annual Reference Tariffs to the beginning of the first Contract Year by using the discount rate of 12%; and

b. Then, calculate the Levelized Tariff Charge in US cents/kWh that can result in the same NPV as calculated above for the same discount rate.
7.6.1 Mathematical Formulae

a. Calculate the NPV as follows by using the 12% discount rate (d) and annual Reference Tariffs (RT1, RT2, ….,RT25):

\[ NPV = \sum_{n=1}^{n=25} \frac{RT_n}{(1 + d)^n} \]

b. Calculate the Levelized Tariff Charge (LTC) by using the 12% discount rate (d), 25 year term and NPV calculated above as the parameters in the function.

\[ LTC = NPV \times \frac{d(1 + d)^n}{(1 + d)^n - 1} \]

8. CURRENCIES AND INDICES USED IN CALCULATION OF TARIFF CHARGES

8.1 The PPA provides for the calculation and payment of the Capacity Price and Energy Price to be made in Taka with certain proportions of the Tariff Charges adjusted for the Exchange Rate.

8.2 The only foreign currency used for indexation will be US Dollars.

8.3 Certain components of the Tariff Charges will be adjusted during the Term for increases or decreases in costs due to escalation or de-escalation of prices (generally referred to as inflation or deflation) by the Local Index and Foreign Index.

8.4 No adjustment or indexation of the Reference Tariff (or any component thereof) shall be provided against any other currencies and indices. Similarly, no components shall be indexed or adjusted against any interest rate.

9. PROPOSAL VALIDITY

9.1 Proposals shall remain valid for the Proposal Validity Period. Any Proposal offering less than the Proposal Validity Period shall be rejected.

9.2 Prior to expiration of the original Proposal Validity Period, BPDB may request one or more of the Bidders for a specified extension in the period of validity. The request and the responses for any extensions to the original Proposal Validity Period shall be made in writing. A Bidder may refuse the request. A Bidder agreeing to the request will not be permitted to modify its Proposal, but will be required to extend the validity of its Bid Security accordingly. The provisions of Article 10 below and Section A, Article 6, regarding release and forfeiture of Bid Security shall continue to apply during the extended Proposal Validity Period.
10. Not used
11. Not used
12. Not used
13. Not used
14. Not used
15. Not used
16. Not used
17. Not used
18. PROPOSAL OPENING
18.1 BPDB opens Envelope I only of those Bidders whose Qualification Statements demonstrate that they meet all the criteria set forth in the Qualification Document and evaluates its contents; and identifies the Responsive Bidders.
18.2 BPDB will open Envelope II Proposals of the Responsive Bidders only, in an open session at the time and date specified in Table A-1 in Article 6 of Section A or at the revised time and date specified in the BPDB’s letter of invitation to the Envelope II Proposals opening to the Responsive Bidders. The Bidders’ representatives who are present shall sign a register as evidence of their attendance.
18.3 At Envelope I Proposals opening, BPDB will examine Proposals to determine whether the requisite Proposal Securities have been furnished and whether the documents have been properly signed. BPDB will then read the information provided in the Annex D, Exhibit I, Attachment I-3, “Proposal Opening Form”.
19. Not used
20. Not used
21. DETERMINATION OF RESPONSIVENESS
21.1 BPDB will determine whether each Proposal is “substantially responsive” to the requirements of this RFP based on a review of information provided in Envelope I of the Bidder’s Proposal in accordance with the Responsiveness Checklist in Annex A (such a Proposal to be referred to as the Responsive Proposal and the relevant Bidder as the Responsive Bidder).
21.2 A “substantially responsive” Proposal or a Responsive Proposal is one which conforms to all the terms, conditions, and specifications of this RFP without material deviation or reservation. A material deviation or reservation is one which affects in any substantial way the scope, quality, or performance of the project, or which limits in a substantial way, inconsistent with these RFP documents, BPDB’s rights, or the Bidder’s obligations under the Project Agreement, and the rectification of which deviation or reservation would affect unfairly the competitive position of other Bidders presenting substantially responsive Proposals.
21.3 If a Proposal is not substantially responsive to the requirements of this RFP, it will be rejected. Such determination is solely at the BPDB’s discretion.
22. CORRECTION OF ERRORS
22.1 Proposals determined to be responsive will be checked for any arithmetic errors in computation and summation. Where there is a discrepancy between amounts in figures and in words, the amount in words will govern.
22.2 The amounts stated in the Proposal will be adjusted by BPDB in accordance with the above procedure for the correction of errors and shall be considered as binding upon the Bidder. The Bidder will be informed in writing of any arithmetical adjustments made should BPDB wish to consider that Proposal further.
23. EVALUATION OF PROPOSALS

23.1 BPDB will open only the Envelope II Proposals from the Responsive Bidders as determined in accordance with Article 21 in an open session at the date and time described in Section 18.2. BPDB will then evaluate and rank these Envelope II Proposals in due course as follows.

23.2 Based on the Tariff Charges proposed by the Bidders, the Levelized Tariff Charge (LT) shall be calculated by BPDB.

23.3 The BPDB, after having made corrections of arithmetical adjustments and studied the clarifications provided by the Bidders, will evaluate the Envelope II Proposals of the Responsive Bidders and rank them from the lowest to the highest Levelized Tariff Charge (LT). The Bidder proposing the lowest LT shall be ranked first.

SELECTION

24. SELECTION AND AWARD CYCLE

BPDB will issue a Letter of Intent to the Bidder whose Proposal has been determined to be substantially responsive to the RFP and who is ranked first pursuant to Article 23 above invite such Bidder to execute the Project Agreements.

25. FINALIZATION

25.1 The Project Agreements will be signed by the winning Bidder and the respective agencies of the GOB within thirty (30) days of the issue of the Letter of Intent.

25.2 Upon execution and ratification of the Project Agreements, BPDB will promptly inform the remaining Bidders that their Proposals have been unsuccessful and discharge or return their Proposal Securities.

26. NOT USED

27. NOT USED

28. CAUSES OF REJECTION OF PROPOSALS

Proposals can be rejected from the evaluation process and dropped from further consideration, for the following reasons among others:

(a) Willful misrepresentations in the submitted Proposal and supporting documentation.

(b) Conditional offer.

If a Proposal is rejected due to any of the above mentioned reasons, that Proposal will be automatically deemed to be non-responsive, and the Bidder in question will be liable to be disqualified from further participation in the bidding process.

BPDB reserves the right to accept or reject any or all Proposals in its sole discretion.
Annex A

Responsiveness Checklist

This Annex A sets forth the procedure to determine responsiveness of Proposals pursuant to Section B, Article 21 and will be used by BPDB for that purpose:

<table>
<thead>
<tr>
<th></th>
<th>Has Bidder submitted a complete Proposal as evidenced by submission of the following complete documents?</th>
<th>Yes</th>
<th>No</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Proposal Letter (Annex D, Exhibit I)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>List of Attachments to Proposal Letter (Annex D, Exhibit I, Attachment I-1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>Summary of the Technical Proposal (Annex D, Exhibit I, Attachment I-3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Proposed Tariff Charges (Annex D, Exhibit II) (Only to check whether Envelope II is present or not)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>Financial Data in Support of Project (Annex D, Exhibit III)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.6</td>
<td>Technical Data (Annex D, Exhibit IV)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7</td>
<td>Additional Supportive Data (Annex D, Exhibit V)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.8</td>
<td>No exceptions to RFP Documents, or exceptions are not material in nature (Annex D, Exhibit VI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.9</td>
<td>Bidder’s Project Schedule (Annex D, Exhibit VII)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.10</td>
<td>Power of attorney (refer Article 12.5 a, Section-B)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| 2.0 | Bidder satisfies the following criteria: | | |
|---|---|---|
| 2.1 | If Bidder is a single firm, Bidder has committed to maintain at least 51% of equity at all times until the sixth anniversary of the COD? | | |
| 2.2 | If Bidder is a consortium, Lead Member is identified and meets requirements to provide and maintain at least 51% of equity until the COD and thereafter 40% until the sixth anniversary of the COD? | | |
| 2.3 | If Bidder is a consortium, Operating Member is identified and meets requirements to provide and maintain at least 20% of equity until the COD and thereafter 11% until the sixth anniversary of the COD? | | |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Has financial data been submitted which verifies Facility financability?</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Evidence (commitment letter(s) from financing institutions) of availability of necessary debt financing for the Facility?</td>
</tr>
<tr>
<td>3.2</td>
<td>Evidence of necessary commitments of equity from the Bidder / consortium (commitment from the Chief Executive Officer or Treasurer/Controller) has been provided?</td>
</tr>
<tr>
<td>3.3</td>
<td>Does financing structure meets maximum 80:20 debt: equity ratio?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Has technical data been submitted which demonstrates compliance with Technical Performance Requirements?</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>Is the proposed Contracted Facility Capacity in the range of 150-300 MW (net)?</td>
</tr>
<tr>
<td>4.2</td>
<td>Is the proposed Contracted Facility Capacity matches with the declared capacity in Part-1 (Qualification Document)?</td>
</tr>
<tr>
<td>4.3</td>
<td>Has the Bidder proposed the Reference Heat Rate of 10286 kj/kWh or below?</td>
</tr>
<tr>
<td>4.4</td>
<td>Has the Bidder proposed new machines?</td>
</tr>
<tr>
<td>4.5</td>
<td>Does the Facility design satisfy the minimum configuration requirements in Annex C, Article 4.2?</td>
</tr>
<tr>
<td>4.6</td>
<td>Confirmation that degradation of efficiency is included in the Reference Heat Rate proposal?</td>
</tr>
<tr>
<td>4.7</td>
<td>Preliminary designs and descriptions provided?</td>
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<td>4.8</td>
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<td>4.9</td>
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<td>4.12</td>
<td>Has the Bidder stated that the Facility will be designed to provide a 30 years operating life and provided satisfactory details as to how this will be achieved?</td>
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<td>5.1</td>
<td>Has Bidder proposed a Construction Contractor with sufficient experience? Or, alternately, has Bidder provided commitment to engage a construction contractor with acceptable qualifications?</td>
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<td>5.2</td>
<td>Has Bidder named and identified an internationally/local recognized financial advisor or lead arranger with experience in the financing of project like the Facility?</td>
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<td>6.0</td>
<td>Bidder Project Schedule: Has Bidder submitted a complete project schedule which conforms to the Required Financial Closing Date and the Required Commercial Operation Date?</td>
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<td>7.0</td>
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Plant Functional Specifications

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1.0 INTRODUCTION

This specification describes the minimum technical requirements for the development of the Project.

This Functional Technical Specification has been developed as part of the tender document soliciting proposals from the pre-qualified bidders. All the power generated by the Facility shall be sold to BPDB only, with no sales permitted to third parties without the prior written approval of BPDB (which BPDB may grant or withhold in its sole discretion). BPDB shall purchase from the Company all of the net Dependable Capacity (DC) of the Facility and all of the Dispatched Net Energy Output, as provided in and in accordance with the terms of the PPA.

Facility will be operated using Coal as fuel. The Project Sponsor will arrange the supply and delivery to the site of required quantities Coal from Coal Supplier for use as fuel to the power generation facility. The Coal supply arrangements will be required to ensure an adequate and reliable supply of Coal. Coal storage facility for operating the Facility for at least 30 days continuously at 80% plant factor shall be constructed by the Company at its own cost before Commercial Operations Date and the Company shall maintain this stock of Coal for all time.

The evacuation of electric power to be generated by the Facility, will be through a transmission line to be constructed by PGCB. In addition to that the project company will install, operate & maintain separate 230 kV synchronizing breaker for its machine at the high voltage side of step-up Transformer.

The Company shall provide communication links to the power grid SCADA system including adequate Remote Terminal Unit (RTU) points to accommodate the PGCB and the National Load Dispatch Center (NLDC) requirements.

The Company shall be responsible for construction of the interconnections between the switchyard and the Facility. Switchyard and line design standards should be as per Functional Specification. Line relays and controls at the switchyard shall be provided by the Company.

The Facility will be constructed on the Site at the bank of river Rupsha (10 km up or down stream of Khanjahan Ali Bridge), Khulna. All geological, environmental and other necessary Site investigations, including an Intermediate Environmental Evaluation (IEE) or Environmental Impact Assessment, in accordance with GOB, or World Bank Group requirements are the responsibility of the Company in connection with the development of the Project, and the costs of these investigations shall be borne entirely by the Company. Local labor, materials, and manufacturing should be used to the maximum feasible extent. It is anticipated that many of the skilled crafts will be brought in from elsewhere.
2.0 PROJECT INFORMATION AND SCOPE

2.1 PROJECT DESCRIPTION

This specification describes the minimum functional requirements for the Facility with Contracted Facility Capacity of 150 MW to 300 MW that the Company shall develop on a BOO basis.

The Facility will be constructed on a land at the bank of river Rupsha (10 km up or down stream of Khanjahan Ali Bridge), Khulna to be arranged by the Company at its own cost. Required development, filling up to final elevation, leveling, compacting etc of the land will be the responsibility of the Company. The access road to the Site will also be the responsibility of the Company.

The Facility shall be constructed of new equipment, machinery and materials only. Facility configuration is open, but equipment logistics and delivery issues must be evaluated carefully in developing the Technical Proposal. The Facility shall consist of one or more of each of the following: steam turbine generators and all necessary Balance of Plant (BOP) equipment and systems. Supplemental firing shall not be allowed to achieve the required capacity.

The exact configuration of the Facility shall be determined by the Company, consistent with the Bidder’s Proposal, subject to the information at Paragraph 6.3 of this Section C.

The BOP equipment and systems shall include all the systems, facilities, materials, and works required to ensure safe, reliable, and economic operation of the Facility such as a water treatment and storage facilities, and all the other necessary auxiliary and ancillary plants and equipment required for the safe, reliable and efficient operation of the Facility.

High reliability and efficiency of the Facility are extremely important. To achieve these objectives, it is essential that all the key components of the Facility be of proven technology, which should mean that power plants of similar design must have engaged in reliable operation for at least three (3) continuous years at three different sites.

2.2 CONTRACT STRATEGY

The Company shall be fully responsible for the financing of the Project, and the design, supply, delivery, erection, commissioning, operation, and maintenance of the complete Facility for the agreed Term. Particulars of the plant performance requirements are given elsewhere in this specification. The Company shall coordinate plans and activities with BPDB during the design, construction, commissioning, and operation of the Project.

These responsibilities will be contractually embodied, principally in the Power Purchase Agreement (PPA) between the Company and BPDB as a Power Purchaser and will include not only the requirements regarding the Facility’s Dependable Capacity and availability, but also stipulations of how the Facility will interface with the local grid in terms of start up times, performance ramp rates, ability to generate with falling system frequency, etc. in accordance with the PPA where applicable.
2.3 SCOPE OF SUPPLY

The Facility shall comprise a complete Coal based Facility of 150 MW to 300 MW Contracted Facility Capacity (0.85 power factor at Delivery Point) with all support facilities required for commercial operation.

2.3.1 Scope of Works

The scope of works to be provided by the Company for engineering, procurement, and construction of the Facility shall include, but not be limited to the following:

- the overall management and control of the works
- control and supervision of the contractors and sub-contractors
- provision of all labor, supervision, management, materials, equipment, on Site storage and material handling and control of the complete works
- Site investigations and surveys, as required
- required development, filling up to final elevation, leveling, compacting etc.
- obtaining Consents and Permits
- study work
- engineering and design
- detailed engineering
- procurement
- expediting
- inspection
- manufacture and fabrication
- painting
- packing, shipping, delivery to Site and insurance
- construction and erection
- protection and preservation
- testing and pre-commissioning
- commissioning and testing
- Performance Tests and Reliability Tests
- operation and maintenance of the Facility during the Term of the project
- other services as specified or necessary to complete the Project
- temporary construction works and facilities, including camp facilities if required
- provision of documentation
- operators’ living quarters and facilities, if required

2.3.2 Scope of Supply

The Facility will comprise, but not necessarily be limited to the following:

- Coal fired steam turbine, generator and their auxiliary and ancillary equipment
- exhaust stacks and silencers,
- black start capability
- Coal receiving system
- cooling system
- water and waste water treatment plants
- closed loop auxiliary cooling system, if required
- generator step-up; startup, station, and auxiliary power transformers; and associated protection and control equipment, as required
- generator breakers for steam turbine generators
- station electrical distribution system
- DC equipment, batteries, and UPS systems
- power, control and instrument cabling
- earthing (grounding) and lightning protection
- emergency generator plant (for auxiliaries, etc.)
- emergency lighting system
- cathodic protection, if required
- lighting and small power services
- cranes and lifting gear
- maintenance tools and equipment for workshops, stores, and laboratories
- fire detection and protection system
- fire fighting systems
- Coal storage and receiving systems
- Coal measuring system
- metering systems, electrical energy export, and electrical energy import, including backup systems if desired
- control system for steam turbine generator units
- local control equipment for auxiliary plants
- plant distributed control system
- telecommunication systems within Facility, connection to public network, and connection to BPDB/PGCB telecommunication networks
- load dispatch control interface facilities
- foundations for all plant and buildings
- civil and structural and building works associated with the plant buildings including, but not limited to:
  - turbine and generator house
  - control room, electrical room, administration building
  - water treatment building
  - workshop and stores
  - gatehouse and security building
- potable water system and other building services
- HVAC facilities
- Site lighting
- Site access road from the nearest public road.
- Site development, filling, leveling, compaction and all other works to make the Site suitable for the Project
- raw water storage (if required)
- all necessary external works including roads, fencing, gates and drainage within the power plant
- spare parts required for commissioning, operation, and maintenance
- special tools and maintenance equipment
- RTU, communication protocols, marshalling kiosks, Automatic Generator Control (AGC), etc. as required by BPDB
- all consumables throughout the specified operating period
- 230 kV switchyard including line breaker, CT, PT and other necessary equipments and associated relays, controls, protection, communication and instrument system
- 230 kV interconnection line between Facility switchyard
- Ash handling, storage and disposal
The Company shall be deemed to have included in his Proposal any additional plant and equipment necessary to meet the Facility design, performance, operation, and environmental criteria, but which are not specifically identified above, and to form a complete power plant which is fit in all respects for its intended purpose and use.

The Company should pay special attention to meeting the Bangladesh (GOB Environmental Conservation Rule 1997) and World Bank Group requirements for Environmental Guideline regarding air emissions. It is Project Sponsor’s responsibility to investigate the timing of issuance of any new or additional World Bank Group guidelines for thermal power plants and their applicability to and implications for the Project.

PGCB will construct required transmission line from the Facility switchyard to connect the Facility with PGCB's substation.

2.4 TERMINAL POINTS

The Company shall be responsible for making the connections required at all terminal (interface) points as specified here.

2.4.1 Coal Supply

Facility will be operated using Coal as fuel. The Project Sponsor will arrange the supply and delivery to the site of required quantities Coal from Coal Supplier for use as fuel to the power generation facility. The Coal supply arrangements will be required to ensure an adequate and reliable supply of Coal. Coal storage facility for operating the Facility for at least 30 days continuously at 80% plant factor shall be constructed by the Company at its own cost before Commercial Operations Date and the Company shall maintain this stock of Coal for all time.

2.4.2 Water

Company shall be responsible for entering into any contractual arrangements necessary to meet the requirements specified below.

2.4.2.1 Raw Water

The raw water used for the Facility’s cooling system will be arrange by the Company. The Company shall bear the cost of the water pipeline and pumping facility necessary to deliver water to the Site. A raw water tank of adequate capacity shall be provided.

2.4.2.2 Service Water/Fire Water

The Company shall provide a clarified water storage facility with a total capacity equal to twenty four (24) hours of maximum water consumption by the Facility plus fire water storage required to meet the NFPA and the local fire code requirements. Firewater storage refill requirements shall meet NFPA requirements.
2.4.2.3 Cooling Water

Method of cooling is to be design based on the availability of water and other Site condition.

Condenser cooling water inlet and outlet temperature difference should not be more than 5°C.

2.4.2.4 Sanitary and Sewer Facilities:

The Company shall provide for adequate sanitary facilities during Facility construction and Facility operations, and treat sanitary sewer prior to discharging it to comply with applicable discharge standards of the GOB or the World Bank Group accepted Environmental Guideline.

2.4.2.5 Drainage

Oily water and chemical drains shall be treated to an approved quality before discharge. All drains and other liquids, if discharged from the Facility shall at all times comply with appropriate environmental regulations and meet the quality standards specified in GOB Environment Conservation Rule (1997) Schedule 9 and Schedule 10 and the applicable World Bank Group environmental requirements accepted Environmental Guideline.

2.4.3 Electrical Interconnection Facility (EIF)

2.4.3.1 230 kV substation:

The Company shall construct 230 kV switchyard for evacuation of power with the provision for termination of two 230 kV circuit. This 230 kV switchyard along with line breaker, CT, PT and other necessary equipments and associated relays, controls, protection, communication and instrument system will be operate and maintained by the Company. The company will also construct 230 kV connecting lines (U/G or O/H) from power plant to the 230 kV switchyard (the "Electrical Interconnection Facility"). In addition the company will install, maintain & operate separate synchronizing breaker for each generating units. The Company shall provide communication links to the power grid SCADA system including adequate Remote Terminal Unit (RTU) points to accommodate the PGCB and the National Load Dispatch Center (NLDC) requirements. The Company shall be responsible for construction of the interconnections between the switchyard and the Facility. Switchyard and line design standards should be as per Functional Specification. Line relays and controls at the switchyard shall be provided by the Company.
2.4.3.2 Control of Switchyard

Provision and installation of all control and signal cables between the switchyard and the Facility shall be responsibility of the Company. An interface panel shall be provided within the switchyard control facility for receiving the signals from PGCB grid control. It shall be responsibility of the Company to lay and terminate these cables at the interface panel.

All circuit breakers and disconnect switches shall be capable of being electrically controlled from the three control positions as follows:

(i) **Local Control**: Located adjacent to switching devices, to facilitate maintenance, inspection, and emergency operation.

(ii) **Remote Control**: Located at the switchyard control room, where switching devices are controlled by direct wire.

(iii) **Supervisory Control**: Located at the Load Dispatch Centre (NLDC) at Dhaka, for remote control and supervision via the tele-control systems to be supplied by the Company.

The Company shall provide all the necessary control-selector switches, position-indicating contacts, and interposing relays.

2.4.4 Electrical Metering

Power Tariff Metering

(a) The Metering System to be installed at the Facility shall include tariff metering and back up metering if desired.

(b) For the measurement, which are used for calculation of the main tariff metered energy are taken at the high voltage side of generator transformers.

(c) The tariff meters shall have separate facilities for recording the net inflow to the Facility and net outflow of energy from the Facility, and the aggregate of these parameters. This information shall be available for transmission to remote locations via the communication circuit to be provided by BPDB.

(d) Purchase, installation and calibration of metering shall be in accordance with Section 12.1 of the PPA.
2.4.5 Electrical Protection, Communication and Instrumentation Systems:

The Company shall provide a complete and comprehensive protection system for the generators/generator transformers/service transformers, transmission lines and the station electrical distribution systems. The Company shall undertake the installation of the protection relay panels within the control room, wiring between panels and switchyard equipment, and commissioning tests of the protection schemes.

Communication, control, monitoring and voice channels shall be provided between the power station and PGCB’s National/Regional Control Center by the Company in consultation with PGCB.

SCADA, communication, telemetry, fiber optical terminal, and tele-protection equipment shall be supplied and installed by the Company and shall be compatible with PGCB equipment and systems. The wiring of all signaling and control circuits required for the system shall be cabled out to interface marshalling cubicles by the Company. The Company shall supply and install necessary cabling and cubicles. Cabling between the Company’s cubicles and PGCB’ LDC equipment shall be provided and installed by the Company.

The Company shall provide the following tele-control facilities required at the LDC:

- Control of the 230 kV circuit switches and reset of trip relays.
- Control of generator active MW and reactive MVAr.
- Indications of 230 kV switches and trip relays activated.
- Measurement of 230 kV circuit MW, MVAr, and voltage quantities.
- Alarm facilities in the event of any 230 kV circuit tripping and protection-operated and communication equipment failure.

2.4.6 Start-up Capability

The Facility shall include a black start capability. It is anticipated that normal start-up power will be brought in through the main transformers. The Company may propose other schemes.

3.0 DESIGN PHILOSOPHY AND PRINCIPLES

3.1 DESIGN REQUIREMENTS

The Facility shall be of proven design (as specified in Article 2.1), built to appropriate internationally recognized standards, and complying with all the applicable statutory codes and regulations.

Facility reliability, availability, and maintainability consistent with high efficiency, are of paramount importance.

The Facility shall be designed and equipment should be sized to permit reliable base load operation over the complete range of anticipated ambient conditions without limiting the plant output.

Please see Article 2.1, Article 4.2 and Article 4.2.1 for a description of the minimum plant configuration requirement.
3.2 PERFORMANCE REQUIREMENTS

3.2.1 Operating Regime

The Facility shall be capable of operating as base load operation. For tariff evaluation purposes, overall average annual net capacity factors will be assumed as follows (see Figure 3.1):

For Years 1 through 25, Plant Factor = 85%

**Equation C-1**

\[
\text{Annual Net Capacity Factor (Plant Factor)} = \frac{\text{Net Power Output (MWh) for the year}}{\text{Annual Average Dependable Capacity (MW) \times Hours Per Year}}
\]

“Hours Per Year” in Equation C-1 means 8760 hours.

The Facility should be capable of automatic operation and control at loads between 100% and 40% of Dependable Capacity.

3.2.2 Facility Start-Up and Loading

Normally, the Facility will be started using electrical energy provided through the PGCB’s 230 kV lines. However, a “black start” capability is required.

For this section, the following definition shall apply:

**Black Start:** A start using power sources entirely within the Facility.

3.2.2.1 Start-Up Times and Load-Ramping Rates

The Company shall advise in its Proposal the start-up times, from start to synchronize, and the load-ramping rates, from zero to rated output.

3.2.3 Availability and Reliability

The Facility shall be designed to achieve the levels of availability and reliability normally expected for similar modern facilities.

The Facility will operate based on economic dispatch, with an average lifetime Equivalent Availability Factor of no less than 85%.

In this specification the Equivalent Availability Factor Formula is defined in accordance with ANSI/IEEE Standard 762-1987, Appendix C, Equation C-7 as follows:

\[
\text{EAF} + \text{POF} + \text{UOF} + \text{UDF} + \text{SDF} = 100
\]

where

- EAF = equivalent availability factor
- POF = planned outage factor
- UOF = unplanned outage factor
- UDF = unit derating factor
- SDF = seasonal derating factor
The equation shows that there are recognized sources of energy loss due to planned outages (full), unplanned outages (full), unit de-ratings, and seasonal de-ratings. Each energy loss is represented by a separate index, POF, UOF, UDF, and SDF, respectively. These indices are defined in such a way as to be additive. Therefore, the total per unit energy loss is the sum of the four indices, and the remaining per unit energy not lost is called equivalent availability factor (EAF).

See also the PPA, Article 8.3, for the approach to liquidated damages to be charged because of the “excessive outages” (those beyond the allowable number of outage hours in the year for forced, maintenance, and scheduled outages).

### 3.2.4 Operating and Control Requirements

It is to be assumed that the Facility may operate both as a base load power generating station or peaking power station. Facility design and control system must be designed to maximize efficient operation, under both these operating regimes.

The control and supervision of the Facility shall be carried out in a Central Control Room (CCR), from where the generators will normally be started, auto-synchronized, and initially loaded. Provision shall be made to allow the Facility output to be controlled remotely by BPDB through the AGC program installed at BPDB’s LDC.

The Facility shall also meet the following steady state and transient operating conditions:

a. Operate under automatic control for sustained periods at all loads above minimum controllable, for the given ambient temperature range.

b. Provide the necessary equipment to ensure safe shut down of the Facility.

c. Automatic controls shall account for setting the ramp rates for start up and loading.

d. Each steam turbine generator shall be provided with a flexible governing system whose characteristics can be readily adjusted as well as any changes in the operating regime that may arise during the life of the Facility. The governing system should be provided with a set of control algorithms that allow plant operators to change governor control parameters, if required.

### 3.2.5 Facility Maintenance

Maintenance of the Facility shall be scheduled either between November and February, inclusive or between July and October, inclusive (please also see Maintenance Months definition in the PPA). Maintenance of the Facility can also be scheduled during other alternative periods as BPDB may specify.
3.3  GENERAL REQUIREMENTS

3.3.1 Design Life

The Facility shall be designed for a life of 30 years, and the Company shall be responsible for owning, operating and maintaining the Facility for 25 years after the Commercial Operation Date. Ownership and operation of the Facility following the 25 Year Term shall be as may be agreed in accordance with the PPA.

3.3.2 Staffing Levels

The Facility shall be designed to require the minimum number of operating and maintenance staff, consistent with high operational safety, reliability and economy.

3.3.3 Protection Against Adverse Ambient Conditions

The Facility shall be designed to withstand extreme ambient conditions (as per table 6.2) to which it may be exposed and to continue to function normally, within appropriate range of de-rating factors to account for such ambient conditions.

3.3.4 Finishing and Surface Preparation

Steel structures of the Facility shall be painted and surface protected suitably for local conditions in accordance with the standards and practices of the Steel Structures Painting Council.

3.3.5 Thermal Insulation

Insulation shall be provided where necessary for personnel protection and to minimize heat losses.

3.3.6 Hazardous Areas

Where possible, hazards should be reasonably avoided. Where appropriate, areas shall be classified to the relevant sections of the Institute of Petroleum (IP) Codes, or other recognized standards. Suitably certified equipment shall be used in the designated hazardous areas.

3.3.7 Units of Measurement

The units of measurement used throughout the Project shall be expressed in the SI system, except that pressure shall be expressed in bar and temperature shall be expressed in degrees Celsius (C).
3.4 STANDARDS AND STATUTORY REQUIREMENTS

3.4.1 Standards

All Facility components, systems, and equipment shall be designed, manufactured, assembled and tested at manufacturers’ works, installed and, after installation at the Site, shall be tested and commissioned, in accordance with applicable internationally recognized standards, and statutory regulations, including those specifically listed in this specification.

The Company shall provide with its Proposal a schedule of all the key codes he proposes to use for the construction, testing, etc., of the Facility.

Any of the standards published by the authorities listed here will not require further approval:

- **ACI** American Concrete Institute
- **AISC** American Institute of Steel Construction
- **AISI** American Iron and Steel Institute
- **ANSI** American National Standards Institute
- **API** American Petroleum Institute
- **ASHRAE** American Society of Heating, Refrigeration & Air Conditioning Engineers
- **ASME** American Society of Mechanical Engineers
- **ASTM** American Society for Testing and Materials
- **AWS** American Welding Society
- **AWWA** American Water Works Association
- **BS** British Standards Institution
- **DIN** German Standardization Institute
- **HEI** Heat Exchange Institute
- **HIS** Hydraulic Institute Standard
- **IEC** International Electrotechnical Commission
- **IEE** Institute of Electrical Engineers
- **IEEE** Institute of Electrical and Electronics Engineers
- **IP** Institute of Petroleum
- **ISO** International Standards Organization
- **JIS** Japanese Industrial Standards
- **MSS** Manufacturer’s Standardization Society
- **NEMA** National Electrical Manufacturers Association
- **NFPA** National Fire Protection Association
- **SSPC** Steel Structures Painting Council.
- **TEMA** Tubular Exchanger Manufacturers Association
- **VDI** Association of German Engineers
- **VGB** Society of large utility owners
- **UBC** Uniform Building Codes
- **WARPO** Water Resources Planning Organization
- **IWA** Bangladesh Inland Water Authority
- **RHD** Bangladesh Roads and Highways Department
- **World Bank** Environmental Guidelines Latest Edition Group

Unless otherwise agreed, the latest revision (at the time of the Bid Date) of all relevant standards and their addenda shall apply.
3.4.2 Not used

3.4.3 Fire Protection

The fire detection and protection systems shall provide coverage of all the Facility and shall comply with NFPA codes (or equivalent) in addition to all statutory and local authority requirements.

3.4.4 Health and Safety at Work

The Facility shall be constructed, installed and commissioned and be operable and maintainable in full compliance with relevant health and safety at-work orders, all related acts, regulations, codes and statutory requirements. All warning and instruction notices shall be in English.

3.4.5 Hazardous Substances

The Company shall implement all special requirements concerning the nature, handling and storage of all classified substances including fuels, oils and chemicals.

3.4.6 Escape Routes

Equipment location and arrangement shall ensure that not less than two escape routes are available for personnel in case of fire or other hazard during normal operation and maintenance procedures.

3.4.7 Environmental Requirements

All statutory environmental regulations shall be adhered to during the design, construction and operating phases of the Project.

4.0 PARTICULAR TECHNICAL REQUIREMENTS

4.1 INTRODUCTION

This section of the specification describes the particular technical requirements of the principal items of the Facility and the associated systems. The detailed particular technical requirements, particularly the construction details of the Facility, shall be the subject of a specification to be prepared by the Company.
4.2 MECHANICAL PLANT AND SYSTEMS REQUIREMENTS

4.2.1 Minimum Equipment Configuration

The main power block shall consist of two or more steam turbines (ST), two or more steam turbine generators (STG) and required exhaust stacks.

4.2.2 Steam Turbine and Generators

Each steam turbine and generators shall proven design.

Each steam turbine and generator shall be installed within an acoustic, ventilated enclosure incorporating fire detection and protection facilities.

Each steam turbine and generators shall be provided with all associated ancillary and auxiliary equipment and systems for the safe, efficient and reliable operation.

4.2.3 Cooling System

Method of cooling is to be design based on the availability of water and other Site condition.

4.2.4 Water Treatment Plant

A water treatment plant shall be provided to meet the Facility demand (if required).

4.2.5 Wastewater Treatment Plant

The Company shall provide wastewater treatment for the Facility to ensure that any water discharged from the Facility streams meets the Bangladesh and World Bank Group environmental standards accepted Environmental standards. See GOB Environment Conservation Rule (1997) for the Bangladesh water discharge standards.

4.2.6 Fuel System

The Company shall be responsible for arranging Coal supply to the Facility. Required necessary arrangement for operation of the Facility with Coal including transportation, receiving & handling, construction of jetty, conveyer belt up to the Facility storage, Coal measuring system, internal Coal supply system as per requirement of the offered plant shall be responsibility of the Company at its own cost.

Coal storage facility for operating the plant for at least 60 days continuously at 80% plant factor shall be constructed by the Company at its own cost before COD and Company shall maintain this stock of Coal for all time thorough out the Term.
4.3 ELECTRICAL PLANT AND SYSTEMS REQUIREMENTS

In order to meet BPDB dispatch requirements, the Facility shall be designed to meet, as a minimum, the technical limits described below:

4.3.1 Frequency Limits

The power grid in Bangladesh operates at nominal frequency of 50 Hz. The Facility shall be capable of operation at frequencies as defined in Table 4.1 below.

<table>
<thead>
<tr>
<th>Frequency Range (Hz)</th>
<th>Minimum Sustainable Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>48.5 to 51.5</td>
<td>Continuous</td>
</tr>
<tr>
<td>47.5 to 48.5</td>
<td>10 Minutes</td>
</tr>
<tr>
<td>Less than 47.5</td>
<td>Trip condition</td>
</tr>
<tr>
<td>Greater than 51.5</td>
<td>Trip Condition</td>
</tr>
</tbody>
</table>

4.3.2 Voltage Limits/Current Limits

Power station and system voltages shall be selected from IEC 38, and shall be capable of operating over the range +10% -20% of the nominal voltage.

4.3.3 230 kV Substation

The Company shall provide communication links to the power grid SCADA system including adequate Remote Terminal Unit (RTU) points to accommodate the PGCB and the National Load Dispatch Center (NLDC) requirements.

The Company shall be responsible for construction of the interconnections between the switchyard and the Facility. Switchyard and line design standards should be as per Functional Specification. Line relays and controls at the switchyard shall be provided by the Company.

4.3.4 Generators

Generators shall have a minimum short circuit ratio of not less than 0.5. Each generator shall comply with IEC 34 and BPDB requirements and shall be rated to match the steam turbine output over the full range of ambient temperatures specified. Generator and exciter windings shall possess insulation that is non-hygroscopic and of Class F type complying with IEC 85, but having a temperature rise not exceeding that of Class B under any operating condition within the specified output.
Quality of the management of the generator and accessories shall be in accordance with the requirements of ISO 9001, EN 29001 or BS 5750 Part 1 and other similar equivalent International quality standards.

Anti-condensation heaters shall be provided for the air circuits, generator windings, excitation system and control cubicles. Heaters shall be capable of maintaining the air temperature above that of dew point to prevent condensation. These heaters shall automatically switch on when the generator is taken out of service.

Temperature detectors shall be provided to monitor the maximum operating temperature of the machine.

The generators shall be capable of supplying their rated power within 48.5 Hz and 51.5 Hz and ±10% of nominal rated voltage within the power factor range 0.85 lagging and 0.95 leading at the Delivery Point.

Generators shall have a minimum short circuit ratio of not less than 0.5.

4.3.5 Excitation System

A continuous fast acting automatic excitation control system of a proven design shall be provided to control the generator voltage without hunting/instability over the entire operating range of the generator.

The excitation system shall be provided with a fast-acting MVAr limiter so as to prevent the generator output falling below its safe limit. A power system stabilizer shall be incorporated in the excitation system of each generator. The Automatic Voltage Regulator (AVR) shall also be provided with but not be limited to Quadrature Droop Compensation, and Cross Current Compounding. Protection features as part of the system shall include over-voltage, overcurrent, VT fuse failure, diode failure, overfluxing, and AVR power supply failure. A field shorting or discharge switch feature shall also be included in the system as protection against overstressing the generator insulation in the event of a fault.

Manual excitation control facilities shall be provided as a backup to the automatic control, and shall have an adequate range to allow for control of excitation for testing purposes. A true null balance shall be provided to allow for smooth excitation transfer between manual and automatic control.

4.3.6 Power and Auxiliary Transformers

The Company shall provide generator step-up, start-up, and auxiliary transformers for Facility service, including all protection, busbars, and disconnect switches as required, and transformers for all auxiliaries. The power transformer shall be equipped with on-load tap changer.
4.3.7 Control and Supervision

Supervision/control, monitoring and information systems shall comply with BPDB’s system control concepts and procedures and shall be subject to the approval of BPDB.

Automatic and manual synchronizing facilities, with such check facilities as may be required shall be provided as a minimum for all circuits associated with generators.

The Facility shall be provided with a central on-Site control room (CCR) so that operators can control the generators and perform switching and load dispatch duties. A Distributed Control System (DCS) shall be provided to coordinate the control and supervision of the generator control, Facility auxiliary systems, and generator step-up transformer breakers.

4.3.8 Electrical Protection, Communication and Instrument Systems

The Company shall provide a complete and comprehensive protection system for the generators/generator transformers/service transformers, transmission lines and the station electrical distribution systems. The Company shall undertake the installation of the protection relay panels within the control room, wiring between panels and switchyard equipment, and commissioning tests of the protection schemes.

Communication, control, monitoring and voice channels shall be provided between the power station and PGCB’s National/Regional Control Center by the Company in consultation with PGCB.

SCADA, communication, telemetry, fiber optical terminal, and tele-protection equipment shall be supplied and installed by the Company and shall be compatible with PGCB equipment and systems. The wiring of all signaling and control circuits required for the system shall be cabled out to interface marshalling cubicles by the Company. The Company shall supply and install necessary cabling and cubicles. Cabling between the Company’s cubicles and PGCB’ LDC equipment shall be provided and installed by the Company.

The Company shall provide the following tele-control facilities required at the LDC:

- Control of the 230 kV circuit switches and reset of trip relays.
- Control of generator active MW and reactive MVAr.
- Indications of 230 kV switches and trip relays activated.
- Measurement of 230 kV circuit MW, MVAr, and voltage quantities.
- Alarm facilities in the event of any 230 kV circuit tripping and protection-operated and communication equipment failure.
- Other RTU points shown in Figure 2.1.
4.3.9 Power Tariff Metering

Power tariff metering shall be provided at the 230 kV side of each generator transformer for export and import metering.

The following class of Metering Transformers shall be provided as a minimum for each circuit, which has to be agreed with the BPDB:

- Class 0.2 current transformers (three phases)
- Class 0.2 voltage transformers
- A three phase energy meter of Class 0.2, complete with impulse output facility and maximum demand facility to record watt-hours and watts: provision for local monitoring and remote monitoring
- A three phase integrating energy meter of Class 0.2, complete with impulse output facilities connected to read var-hours

The tariff metering scheme shall have an overall accuracy of ±0.5% for watt-hour metering and ±1.0% for var-hour metering.

Separate summators shall be provided for the total export and import MWh and MVarh.

The summators shall have provision to accommodate future circuits.

Check energy meters (MWh and MVarh) utilizing separate CTs from those for tariff metering shall also be provided for the generator and station transformer circuits.

4.4 CIVIL REQUIREMENTS

4.4.1 General

The Civil Works shall be designed to have a minimum working life of 30 (thirty) years before any significant repair or replacement of the main structural elements and secondary structural elements/cladding. Applied coatings shall have a design life to first maintenance of 10 (ten) years minimum. All construction shall comply with all codes, standards, and licensing requirements for such facilities.

4.4.2 Site Conditions

The Company shall carry out its own detailed topographical, hydro-geological and soil investigations, and fund other investigations as it deems necessary. Any use of such information provided by BPDB shall be used at the risk of the Company.

The Company shall be responsible for arranging for the supply of all Site services such as power, potable water, temporary sewage treatment facilities, laydown areas, camp facilities, telephone or other communications equipment that may be required during the construction of the Facility.
4.4.3 Site Levels

The Site shall be raised out of the flood plain by the Company, as required.

4.4.4 Foundation Philosophy

The entire foundation system shall be designed such that it will ensure the proper and due performance of the Facility and afford adequate protection against the effects of any long term settlement, against seismic activity, and against periodic flooding of the area.

4.4.5 Engineering Design

The design of all facilities shall be to an approved internationally recognized set of standards and codes. The designs shall be to an acceptable standard of professional competence and shall represent a safe, efficient use of materials to produce the required facilities.

4.4.6 Design Loadings

The design for each facility shall incorporate the worst load combination taking into account the following criteria where applicable:

(a) Dead Loads - all load arising from the mass of materials making up the permanent works.
(b) Live Loads - all superimposed loads arising from station operations, testing, traffic, cranes, storage of liquids and the like. These shall be derived from approved standards and shall represent a minimum load to be taken.
(c) Wind loads shall be calculated in accordance with the Bangladesh National Building Code.
(d) Road Loading - the design of the roads shall be satisfactory for the maximum load anticipated during both the construction and operational period of the project.
(e) Seismic Loading - the design seismic lateral forces shall be calculated either by the Equivalent Static Force method, or by the Dynamic Response Method, based on the requirements of the Bangladesh National Building Code as a minimum, or other approved, internationally recognized standard.

4.4.7 Materials

Materials shall be durable and fit for purpose. Materials for external surfaces shall be selected for aesthetic qualities and proven durability to withstand all climatic conditions likely to be experienced, ease of maintenance and economy of cost. Every endeavor shall be made to create as pleasant a working environment as is practical for the staff working in the buildings of the Facility.

4.4.8 Workmanship

All workmanship shall be in accordance with accepted international practice to ensure work is fit for the purpose and shall be serviceable for the design life of the Facility.
4.5 ENVIRONMENTAL REQUIREMENTS

The Project shall comply with the environmental requirements of the GOB (Environment Conservation Rule 1997) and the World Bank Group environmental requirements accepted Environmental Guideline for Stack emission Limits as in effect thirty (30) days prior to the Bid Date, under all ambient conditions. Relevant supporting documents is to be provided with the proposal for the proposed standards as in effect thirty (30) days prior to the Bid Date.

Ash handling, storage and disposal facilities to the provided strictly maintaining World Bank Guideline or any internationally accepted standards for environmental protection.

Prior to Financial Close, the Project Sponsor must prepare and submit to the Ministry of Environment and Forest an Intermediate Environmental Evaluation (IEE) or Environmental Impact Assessment (EIA), as appropriate, which demonstrates that the Facility will produce impacts that are minimal and within an acceptable range, as well as meeting all Bangladesh and World Bank Group environmental regulatory requirements accepted Environmental Guideline for Stack emission. The EIS shall include, but not be limited to:

(i) identify the existing social and physical conditions that may be affected by the construction of the Facility,
(ii) identify the existing land, air, water and solid waste environmental conditions and parameters,
(iii) define the permissible environmental conditions and parameters applicable to the Facility, including legislation and regulation,
(iv) identify the areas (if any) where the initial proposed design for the Facility would not meet the required criteria,
(v) analyze the suitability of any design modifications (if needed) proposed by the Company,
(vi) identify the permits and licenses required to comply with the environmental requirements prior, during and after construction and commissioning of the Facility,
(vii) prior to Commercial Operations carry out the necessary tests to insure that the Facility shall comply with the permissible environmental standards, and
(viii) specify and design the monitoring programs that shall ensure that the Facility shall comply, in the future, with the permissible environmental standards.
4.5.2 Exhaust Coal Emissions and Air Quality

Exhaust Coal emissions shall not exceed the emission rates allowed by those Bangladesh standards and the World Bank Group guidelines for Stack emission Limits as in effect thirty (30) days prior to the Bid Date, under all ambient conditions.

The required air quality should be maintained by controlling emission limits and selecting appropriate stack height.

It is the responsibility of the Project Sponsor to fully investigate the timing and possible changes in the proposed standards and include appropriate provisions in the design of the Project.

The Company shall be required to provide stack gas analyses, as required by the regulatory authorities.

4.5.3 Effluent Discharges

Effluent discharges shall not exceed the discharge limits for industrial/power plant effluents specified by Bangladesh or the World Bank guidelines as such discharge limits are in effect thirty (30) days prior to the Bid Date. Relevant supporting documents is to be provided with the proposal for the proposed standards.

4.5.4 Noise Emissions

The operational noise emissions from the Facility should not exceed the Bangladesh and the World Bank Group ambient noise criteria or limits, for industrial areas, at the Site boundary, as such limits are in effect thirty (30) days prior to the Bid Date.

According to World Bank Group Noise Criteria, noise from all sources shall be reduced such that the total noise level when the facility is operational under any conditions from minimum to maximum and with all auxiliaries in use does not exceed 75 dB(A) daytime and 70 dB(A) night time, at the Site boundary.

According to Bangladeshi Environment Conservation Rule 1997, noise level shall not exceed 75 dB(A) during daytime and 70 dB(A) during nigh time for industrial areas and 50 dB(A) during daytime and 40 dB(A) during night time for residential areas.

In order to ensure a safe and satisfactory working environment a sound pressure level of 85 dB(A) should not be exceeded at 1.0 m from the equipment. In addition, compliance should be made with all statutory and other mandatory noise limitation criteria applicable to the Project.
5.0 QUALITY ASSURANCE, INSPECTION, COMMISSIONING, AND TESTING

5.1 GENERAL

The Company shall ensure that all work undertaken on the Project throughout the design, procurement, construction and commissioning, shall comply with the terms of a Quality Assurance Standard equal to ISO 9001, and provide evidence of meeting this requirement, all to the approval of BPDB.

The whole of the works shall be tested in accordance with the standards adopted for the Project and the Company’s quality plans and testing procedures. The Facility shall be tested and commissioned.

5.2 SCOPE OF TESTS

The tests mentioned in this section are not intended to form a complete list of the numerous tests, which the Company would normally perform to ensure equipment quality and Facility reliability.

The Company shall be responsible for the submission of test certificates and reports to BPDB for all the tests described here.

BPDB or its representatives shall witness tests at the manufacturer’s works as agreed with the Company. All testing on Site shall be witnessed by BPDB or its representative.

The Company shall notify BPDB in writing when tests are to be performed. Unless otherwise specified in the PPA, twenty one (21) days notice shall be given for the commencement of tests in manufacturer’s works, and ten (10) Day notice shall be given for the commencement of tests to be performed on Site. The Company shall give BPDB not less than forty-eight (48) hours of each additional tests to be performed on Site.

5.3 TESTS DURING MANUFACTURE

In general, the object of tests during manufacture is to show that the Facility complies with the specification, and the tests shall be conducted in accordance with the appropriate codes and standards. The Company shall provide test certificates and reports to BPDB as agreed between BPDB and the Company. The Company shall provide BPDB with copies of the codes and standards pertaining to each such test.

5.4 TESTS DURING CONSTRUCTION AND ERECTION

The purpose of tests during construction and erection is to ensure that the construction and erection are being performed to the required standards. The Company shall satisfy BPDB that the construction materials are of the specified quality and that the design figures are being followed. BPDB must also be satisfied that electrical and mechanical equipment after erection are still up to the required standard and have not suffered because of storage, handling, construction, or erection.
5.5 TESTS ON COMPLETION

On completion of construction, the Company shall undertake a series of tests to demonstrate that the Facility operational capability, performance and reliability are within the limits (to be) agreed in the Power Purchase Agreement (PPA).

At least one hundred and twenty (120) Days before commencement of testing and Commissioning date, the Company shall submit to BPDB for its approval, details of all the tests and testing procedures it proposes to undertake.

All tests shall comply with the requirements of an agreed standard or code and before testing commences, the Company shall provide full details of all correction curves etc. that will be used for correcting the measured conditions to the agreed reference conditions.

These tests shall be witnessed by BPDB and/or the Engineer, and as a minimum requirement these tests shall include:

(a) Functional Tests
(b) Power Purchase Agreement Tests
(c) Performance and Facility Reliability Tests

The steam turbine units shall be regarded as being in a “new and clean condition” during the performance tests, other than as may be agreed in the PPA.

5.5.1 Functional Tests

Functional tests shall be undertaken to demonstrate that key features of the design operate satisfactorily, in particular those associated with plant safety. Functional tests shall include, but need not be limited to:

a. Test and Start-up of Auxiliaries
   All auxiliaries shall be tested to verify that they can be operated safely, that their performance is up to the design specifications, and that all protective devices, mechanical as well as electrical, are functioning effectively and at their correct settings. Interlocks which prevent start-up under dangerous conditions, the operation of pressure relief devices, over temperature devices, and over current devices are especially important. Automatic start-up of stand-by auxiliaries upon the loss of running auxiliaries are also required to be tested.

b. Control System
   Automatic control systems shall be tested for correct functioning, although it is anticipated that the final trimming of the controls needs to be done at a later stage.
c. Synchronizing Checks
Before the machines are permitted to operate in parallel with other machines, tests shall be performed to ensure that it is safe to do so. These tests shall be witnessed by BPDB, and BPDB shall be satisfied that all the instruments associated with the synchronizing operation are functioning correctly.

d. Electrical Protective Devices
All electrical protective systems, circuits, devices, and instruments shall be tested on Site to prove operation and stability, as well as the compliance of the actual relays and current transformers with the manufacturer’s published information. BPDB shall be entitled to receive from the Company full documentation of these tests before accepting any system as operational. This documentation for electrical protection devices will be used as a basis for the system acceptance by BPDB.

e. Mechanical Protective Devices
Tests on mechanical protective devices for steam turbine and generator shall be conducted to prove the effectiveness of their operation. The speed governor shall be capable of operating over its range with the droop being adjustable between 4% and 6%.

f. Stability
The automatic voltage regulator (AVR) of the generator shall be checked for proper and stable operation over zero to maximum load at the specified power factor. The tests shall demonstrate that the Facility is able to operate at rated voltage, frequency, and specified range of power factors.

The Facility and each Unit shall be capable of operation in a stable condition at forty percent (40%) of gross rated capacity.

g. Any other tests required to demonstrate compliance with BPDB power system and System Grid Code requirements.

5.5.2 Other Tests Required Under the Power Purchase and other Agreements

Before the Facility is accepted for full Commercial Operation, other tests shall be undertaken to demonstrate the suitability of the Facility. These tests shall include, but are not be limited to:

a. environmental compliance tests
b. noise level test
c. reactive capability
d. minimum sustainable load capability
e. plant automatic start up and loading times and rates from various initial conditions
f. any other tests required under Schedule 3 of the PPA.
5.5.3 Reliability and Dependable Capacity Tests

Facility performance and reliability tests may be undertaken as soon as practicable after commissioning, to demonstrate that the Facility capacity and reliability comply with the specified requirements. Unless otherwise agreed, the Facility performance tests shall be undertaken in accordance with the requirements of the appropriate ANSI/ASME Performance Test Codes.

No tolerances in calculating Facility performance test results shall be permitted for measurement uncertainty.

As a minimum requirement to demonstrate Facility reliability, the Company shall arrange to operate the Facility continuously for a minimum period of 100 hours. During this time the Facility shall operate continuously at Dependable Capacity for at least 72 hours, and for the rest of the period at any other load as may be required by BPDB, including operating in part-load operation.

Should any failure occur in any portion of the Facility, due to or arising from faulty design, material, workmanship, or operation which requires or causes the Facility available capacity to be reduced, a new reliability test shall be undertaken after rectification has been completed.

The Dependable Capacity (DC) Test may be undertaken during the Reliability Test, and shall form the basis of the declared Dependable Capacity as defined in the PPA.

The duration of the DC Test shall be no less than 6 hours, during which time the plant shall operate at its normal Dependable Capacity while supplying the normal station auxiliary power demand. The Facility DC in MW shall be determined by dividing the sent out power in MWh (as determined by meter readings at the start and end of the test, and corrected to guaranteed ambient conditions) by the test duration period in hours.

The Facility capacity and reliability tests shall be carried out while the Facility is operating in compliance with the specified environmental requirements.

5.6 TESTS REQUIRED THROUGHOUT THE LIFE OF THE PLANT

Once the Facility has been fully commissioned, BPDB will require DC tests to be undertaken every 12 months during the Term of the PPA, to demonstrate the Facility available DC. This test shall also be for a period of not less than 6 hours, as defined in Article 5.5.3 above.
5.7 TEST REPORTS

As soon as possible after the tests, but in no case later than one week from the end of a test, the Company shall prepare and submit to BPDB a draft Test Report. Following approval of the draft report, six copies of the final Test Report shall be submitted to BPDB. This report shall include:

a. Brief description of the plant tested
b. Procedure for testing and calculations
c. Calculations
d. Results (corrected and uncorrected)
e. Correction curves
f. Copy of log sheets
g. Calibration certificates of all instruments

All references to BPDB in the testing may well refer to PGCB, BPC or other GOB entity having proper jurisdiction.

6.0 SITE DATA

6.1 SITE LOCATION

The Facility will be constructed at the bank of river Rupsha (10 km up or down stream of Khanjahan Ali Bridge), Khulna, arranged and developed by the Company.

6.2 DESCRIPTION OF THE PLOT

6.2.1 Site

Arrangement of Site, required development, filling upto final elevation, leveling, compacting etc of the land will be the responsibility of the Company.

6.2.2 Access to Site

The Company shall be responsible for all material and equipment shipments into and within the People’s Republic of Bangladesh and upto the Site that are needed for the Project. The Company shall identify and verify the sufficiency of all existing port facilities, road communication, access to Site and transportation networks necessary to implement the Project. Construction of access road from nearest public road up to the Site will also be the responsibility of the Project Sponsor.
6.3 SITE AND LAYOUT

The Company will develop the proposed Facility layout. The switchyard will be contiguous with the plant site. The Company will have to coordinate the location of electrical, Coal and water interconnections with BPDB, PGCB, Coal supplier and other concerned parties. The final Facility arrangement shall be coordinated with BPDB/PGCB and subject to their approval.

6.4 CLIMATE DATA

Historical climate data is to be collected from meteorological department for the Site.

6.5 REFERENCE SITE CONDITIONS

The Company shall assume the following Site ambient conditions for the design and performance guarantees of the Facility:

Table 6.1: Reference Site Conditions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barometric Pressure</td>
<td>1.013 bar</td>
</tr>
<tr>
<td>Ambient Dry Bulb Temperature</td>
<td>35°C</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>98%</td>
</tr>
<tr>
<td>Cooling Water Temperature</td>
<td>28.5°C</td>
</tr>
</tbody>
</table>
7.0 PROJECT ADMINISTRATION

7.1 GENERAL

The Company shall be responsible for determining and following the project administration procedures that shall be adopted during the design and construction phases of the project.

These procedures shall cover:

a. Project control and reporting
b. Site services and general requirements
c. Local regulations including compliance with entry and residential regulations
d. Consumables
e. Drawings and other documentation
f. Shipping, customs and transportation of goods

7.2 DESIGN AND CONSTRUCTION PROGRESS

During the design and construction phases of the Project, the Company shall provide to BPDB, a quarterly progress report to show, as a minimum:

a. Actual progress against scheduled progress for all major items of the Facility and systems;
b. Anticipated schedule and commissioning date for each steam turbine, and the complete Facility for full capacity operation;
c. Anticipated schedule and commissioning date of the fuel supply facilities and
d. Details of measures proposed to bring late activities back on schedule.
e. Original contract baseline schedule maintained unless modified by agreed change of scope

7.3 PROJECT DRAWINGS AND DOCUMENTS

The Company shall arrange for all key plant and equipment drawings, and all plant Operating and Maintenance Instructions, to be kept fully maintained and updated, in multiple copies, if necessary, with at least one copy available to the operating staff throughout the Term of the Project, and at least one clean copy kept to be available in the event that these records need to be handed over to BPDB, or other appropriate entity of the GOB.
The data/controls (viewed from the NLDC) to be exchanged between at the bank of river Rupsha (10 km up or down stream of Khanjahan Ali Bridge), Khulna Power Station (Facility) and the NLDC are to include but not be limited to the following:

**Load Frequency Control (per Generator):**
- **Analog Inputs**
  - Real power setting
- **Digital Inputs**
  - Load frequency control on/off switch
  - Power set on/off switch
  - Load frequency control unit fault
- **Digital Outputs**
  - Lower MW set point pulse
  - Raise MW set point pulse
- **Analog Outputs**
  - Real power set point

**Control and Indication (per Generator)**
- **Analog Inputs**
  - Volts
  - MegaWatts
  - Megavars
  - Amperes
  - Fuel flow
- **Digital Inputs**
  - Local/remote switch for generator
  - Synchronization in progress
  - Engine trip
  - Generator trip
  - Accumulated fuel/water flow (pulse accumulator)
  - Megawatt hours (pulse accumulator)
  - Megavar hours (pulse accumulator)
  - Generator unit stopping
  - Generator unit available
  - Generator unit running
  - Generator unit stopped
- **Digital Outputs**
  - Circuit breaker close
  - Circuit breaker open
- **Analog Outputs**
  - Generator unit start
  - Generator unit stop

**230 kV Power Station Substation**
- Status of local/remote switches
- Status of Disconnectors
- Status of earth switches
- Status of operated protection relays and alarms
- Measured signals voltage, current, power, reactive power for incoming/outgoing circuits and transformers.
- Measured signals voltage and frequency at the bus bars
- Transformer tap change control and indication
- Open and close control of circuit breakers and motorized isolators
### Annex D

**Bidder’s Proposal and Supporting Data**

**Annex-D: Bidders Proposal and Supporting Data**

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EXHIBIT I

PROPOSAL LETTER

Date:

Secretary
Bangladesh Power Development Board
WAPDA Building (1st Floor),
Motijheel C/A, DHAKA, 1000.
Facsimile: 880-2-9564765, 880-2-9551344.
Tel. No.: 8802-9554209, 9567350

The undersigned,

Last Name : …………………………………………………………
First Name : …………………………………………………………
Title/ Position : …………………………………………………………
Acting:

As the representative of the Company¹. ……………… / Lead Member of the consortium composed of the following members:

........................................................................................................
........................................................................................................
........................................................................................................
........................................................................................................

2. And on behalf of said Consortium, in view of the Power of Attorney provided by each of the members² [include Powers of Attorney](the “Bidder”) Located at the following address:

Telephone : _______________
Fax : _______________

hereby certify, represent, warrant and agree, on behalf of the Bidder that:

1. This Proposal Letter, along with all its attachments listed in Exhibit I, Attachment I-1 hereto, forms our Proposal and is submitted pursuant to the Request of Proposals dated [____] [insert Month] 2010 and issued by BPDB, as amended, modified, supplemented or varied through [list all Addenda dated with title and date of each Addendum] issued by BPDB (the “RFP”) for the development and implementation of a 150-300 MW Coal fired power Facility, on a Build, Own and Operate basis at the bank of river Rupsha (10 km up or down stream of Khanjahan Ali Bridge), Khulna, Bangladesh (the “Project”). All capitalized terms used but not otherwise defined herein shall have the meanings assigned to such terms in the RFP.

Note:
1 = Include legal authorization
2 = Include power of attorney
2. Having examined and being fully familiar with all the provisions of the RFP (including its annexes, exhibits and attachments and all of the above Addenda), receipt of which is duly acknowledged, and having evaluated, following our own studies undertaken under our responsibility, the nature and scope of the contractual obligations to be executed, the financing structure, the Project Agreements and any other regulation associated to the Project or its execution, we commit ourselves to design, finance, procure, build, operate, and maintain the whole of the Project and sell the electricity generated exclusively to BPDB for an initial Term of twenty five (25) years, in conformity with the time schedule and conditions stipulated in the RFP and for a Levelized Tariff Charge as calculated in Exhibit II and shown in Exhibit II, Table 1 hereof.

3. We agree to abide by this Proposal and maintain its validity for a period of eight (8) months from the Bid Date as prescribed in the Section B, Article 9 entitled “Proposal Validity” of the RFP, except as such period may be extended by us at the request of BPDB in accordance with Section B, Article 9 of the RFP.

4. We accept to remain bound by this Proposal which may be accepted by BPDB at any time before the expiration of that period.

5. We commit ourselves, if we were to be selected, to extend the validity of our Proposal, our Bid Security through execution of the Project Agreements, to furnish Performance Security Deposit on or before the signing of PPA and to extend the validity of Performance Security Deposit upto the achievement of the Commercial Operation Date (COD).

6. We have provided and attached hereto the Bid Security in the form of a bank guarantee for [insert amount] Million United States Dollar (USD) in accordance with the form provided in the RFP.

7. We certify that

(i) the information submitted as part of this Proposal is complete and accurate;

(ii) the Proposal has been submitted in the legal name of the [Bidder who][Bidder consortium whose members] will be bound to this Proposal and to the development of the Project,

(iii) we accept the documents and terms of the RFP documents.

8. We understand that BPDB is not bound to accept any Proposal that it may receive.

In ______________ (location) __________, on this __________ (date) _______________ [The Bidder][The Lead Member], duly authorized to execute the Proposal for and on behalf of the Bidder]

[notarized signature and seal]
## LIST OF ATTACHMENTS TO PROPOSAL LETTER

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<td>Proposed Tariff Charges</td>
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<td>Initialed draft PPA</td>
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<tr>
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<td></td>
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</table>

In addition to the above Proposal documents and data specifically required by the RFP, we enclose the following information:

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EXHIBIT I
ATTACHMENT I-2

FORM OF BID SECURITY

BANK GUARANTEE

Date:

Secretary
BPDB
WAPDA Building (1st floor)
Motijheel C/A, Dhaka-1000.
Bangladesh.
FAX: 880-2-9564765, 880-2-9551344.
Tel. No.: 8802-9554209, 9567350

Bank Guarantee No.
Issuing Date:
Amount:
Expire Date:
Issued on Request of:
[Name and Address of Bidder]

Considering that our client _____________ (hereinafter referred to as the “Bidder”, which expression shall mean and include its successors, executors, assigns, administrators and legal representatives whether jointly or severally) is submitting to Bangladesh Power Development Board, (hereinafter referred to as “BPDB”, which expression shall mean and include its successors, executors, assigns, administrators and legal representatives whether jointly or severally) a proposal (hereinafter referred to as the “Proposal”) for the development of a 150-300 MW Coal based Facility, on a Build Own Operate (BOO) basis at the bank of river Rupsha (10 km up or down stream of Khanjahan Ali Bridge), Khulna, Bangladesh (hereinafter referred to as the “Project”) in response to the Request of Proposals dated [__] [insert Month] 2010 and issued by BPDB, as amended, modified, supplemented or varied through Addenda issued by BPDB from time to time (hereinafter referred to as the “RFP”).

On the request of the Bidder, we, the undersigned, responsible delegates and representative of the bank _____________ in Bangladesh (hereinafter referred to as the “Bank” and the “Guarantor”), which expression shall mean and include its successors, executors, assigns, administrators and legal representatives whether jointly or severally), authorized to sign and make decisions in its name, declare by the present letter, that the Guarantor will guarantee, up to an amount of [insert Amount] Million United States Dollars (USD) or equivalent taka on the date of claim as a bank guarantee of execution (hereinafter referred to as the “Bid Security”) toward BPDB for the proper execution of the Bidder’s commitments, in conformity to the requirements of the RFP for the development of the Project.

We unconditionally commit ourselves to immediately pay the BPDB, upon first written request, any amount up to the above indicated amount without there being need for legal or administrative procedures and without need to prove bidder’s default.

Any payments made to BPDB on its request shall be net and free of and without any present or future deductions such as for the payment of any taxes, executions, duties, expenses, fees, deductions or retentions regardless of the nature thereof or the authority levying the same.
The undertakings in this Bid Security constitute direct, unconditional and irrevocable obligations of the Guarantor. The Guarantor shall not be exonerated from all or any part of such obligations for any reason or cause whatsoever, such as changes in the terms and conditions of the RFP or extension of the proposal validity period of the RFP or changes in the scope of the Project or nature of the work required by executed or failure to perform or the carrying out of any act or procedure by BPDB or by a third party that would or could exempt or release Guarantor from its obligations and liabilities under this Bid Security.

The Guarantor hereby binds itself unconditionally and irrevocably and undertakes and guarantees to pay on first written demand of BPDB, without protest or demur and without reference, notice or recourse to the Bidder or any other person, without requiring BPDB to prove or to show grounds or reasons for such demand and hereby expressly waive all rights to deny its obligations to BPDB irrespective of any dispute, difference or disagreement between the Bidder and BPDB or contestation by any other party/person.

This Bid Security sets forth in full the terms of Guarantor’s undertaking and this undertaking shall not be modified, amended, or amplified in any way by reference to any document, instrument or agreement referred to therein, and any such reference shall not be deemed to incorporate by reference any document, instrument or agreement.

This Bid Security shall remain valid and effective until [insert date] that is nine (09) months following the Bid Date. In case the Proposal is selected among the first three Proposals, the validity of this Bid Security shall be extended upon request from BPDB for an additional period of three (03) months or more and until such time as (1) the Project Agreements are executed by the Bidder, and (2) the Performance Security Deposit has been delivered to Bangladesh Power Development Board. Upon a written request from BPDB to do so on or before the date of expiration of this Bid Security or any subsequent extension thereof pursuant to the stipulation to extend this Bid Security, the Guarantor shall immediately extend the validity period of this Bid Security up to the date requested by BPDB.

If, following such request by BPDB, the Bidder does not comply with the necessary formalities to ensure the extension of the validity of the present Bid Security before date of expiry of its validity, or if for any reason the Bidder is refused such extension of validity by the Bank, the Bank shall pay the amount indicated above, immediately on demand of the BPDB, without further notice to or action by the Bidder, to BPDB’s bank account as notified to the Guarantor by BPDB in writing.

[Name of Bank], as Guarantor

___________________________
Signature and bank seal
EXHIBIT I
ATTACHMENT I-3

SUMMARY INFORMATION OF THE TECHNICAL PROPOSAL

(A) Name of Lead Member

(B) Names of Consortium Members

(C) Contracted Facility Capacity \(^{(1)}\) Offered \(\text{MW}\)
   (at Reference Site Condition: 35 deg C, 1.013 bar, RH 98%, Cooling Water Temp. 28.5°C)

(D) No. of Units

(E) Capacity of each Units

(F) Annual Availability

(G) Project Development Schedule

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item</th>
<th>RFP Requirement</th>
<th>Bidder’s Proposal (From Project Effective Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Financial Closing</td>
<td>9 months from Project Effective Date</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Commercial Operation Date of the Facility</td>
<td>36 months from Project Effective Date</td>
<td></td>
</tr>
</tbody>
</table>

(H) Any exceptions taken to RFP in Exhibit VI? YES: _____ NO: ______

(I) Any technical exceptions taken to RFP in Exhibit VI? YES: _____ NO: ______

(J) Any exceptions taken to Project Agreements in Exhibit VI? YES: _____ NO: ______

Note: (1) Contracted Initial Capacity \(^{(1)}\) is defined at 100% continuous load at Reference Site Condition, at a power factor 0.85 at Delivery Point, using Coal as fuel at the Commercial Operation Date for Item C.
EXHIBIT II

PROPOSED REFERENCE TARIFF AND LEVELIZED TARIFF CHARGE
(TO BE INCLUDE IN ENVELOPE II)

A. BASIS OF PROPOSED REFERENCE TARIFF

The Bidder warrants that the proposed Reference Tariff to be inserted in the tables below, is based on the requirements of the RFP, and includes but not limited to the following specific items:

- All costs, without exception, required to deliver the specified electric energy, taking into consideration degradation of equipment in output and heat rate and based on the Reference Site Conditions defined in Schedule 1 of the PPA.
- Minimum requirement for equity investment will be (a) 20 (twenty) percent and (b) the equity investment in the Facility that in the reasonable judgment of the Lead Arranger/financial advisor is adequate to satisfy the requirement of Lenders to obtain debt financing for the Facility.
- Explanation of components of Reference Tariff provided in Article 7.3, Section B of the RFP and Section 13 of the PPA.
- Assumptions for evaluation of Reference Tariff listed in Section B, Article 7.
- For purposes of evaluation, the components which are to be adjusted for Exchange Rate, Foreign Index, Local Index and Coal Price will remain in constant, Bid Date values; that is, based on the values of the Bid Exchange Rate and Bid Coal Price as prescribed in the respective definitions in Section A, Article 1.
- Benefits of Implementation Agreement enumerated in the draft Project Agreements provided in the RFP and Private Sector Power Generation Policy of Bangladesh (provided in the Data Room).
- The terms and conditions of the draft Implementation Agreement and Power Purchase Agreement provided in the RFP.
- Financial Data in Support of Project, Exhibit III, and Bidder’s Project Schedule provided by Bidder, Exhibit VII.

The Bidder shall complete the schedules and charts in the following pages by providing the required data where applicable. The Bidder shall not be allowed to make any changes in format of the schedules and charts.
B. BIDDER’S PROPOSED TARIFF CHARGES

The Bidder’s proposed Tariff Charges are presented in Table B.2 based the Commercial Operations Date and Contracted Facility Capacity in Table B.1, in accordance with the RFP:

B.1 Bidder’s Schedule of Commercial Operation Period

Table B.1

<table>
<thead>
<tr>
<th>Date</th>
<th>MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Operation Date</td>
<td>Contracted Facility Capacity</td>
</tr>
</tbody>
</table>

___________ | ___________
### B.2 Bidder’s Proposed Reference Tariff

(To complete Table B.2 and Table B.3 bidders should follow the instructions of Section B, Article 7 of this RFP, and Section 13 and Schedule 6 of draft PPA.)

Table B.2: Reference Tariff

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<td>(RNECP&lt;sub&gt;n&lt;/sub&gt;)</td>
<td>(RECP&lt;sub&gt;US&lt;/sub&gt;&lt;sup&gt;n&lt;/sup&gt;)</td>
<td>(RECP&lt;sub&gt;Tk&lt;/sub&gt;&lt;sup&gt;n&lt;/sup&gt;)</td>
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</tbody>
</table>
Notes to Table B.2:

1. Columns 4, 5, 6, 7, & 8 shall be expressed up to four decimal points

2. The Total Reference Tariff in US Cents/kWh shall be expressed up to four decimal points.

3. For evaluation purpose For 1st Contract Year to 25th Contract Year

   \[
   (\text{Col. 1} + \text{Col. 2} + (\text{Col. 3} / \text{Tk/USD Bid Exchange Rate})) \times 12
   \]

   Reference Capacity Price: Col. 4 = \\
   \[
   8760 \times 0.846^* \\
   \]

   *84.6% is the assumed plant load factor per year

4. Reference Energy Charge: Col. 8 = (Col. 5/\text{Tk/USD Bid Exchange Rate}) + Col. 6 + (Col. 7 / \text{Tk/USD Bid Exchange Rate})

   Total Reference Tariff: Col. 9 = (Col. 4 + Col. 8) \times 100^**

   **Multiplied by 100 to convert into US cents

5. In the event of an arithmetic error in columns 4, 8 or 9, BPDB will correct the erroneous figure using the values inputted in columns 1, 2, 3, 5, 6, and 7.

6. The Bidder shall calculate the Fuel Cost component based on the Reference Heat Rate provided by the Bidder in Table B.3, the Bid Coal Price and the instructions in Section B, Article 7 of this RFP for Fuel Cost.
B.3 Heat Rate

Bidder shall provide the facility’s Reference Heat Rate for the entire Term of the Agreement based on the Higher Heating Value of Coal.

The Reference Heat Rate shall be at Reference Site Conditions and shall not be corrected for degradation. Bidders must account for heat rate degradation when establishing their Reference Heat Rate. Reference Heat Rate at 100% load shall be 10286 kj/kWh or below.

Table B.3
Reference Heat Rate for Load Variation

<table>
<thead>
<tr>
<th>Load (% of Net Dependable Capacity)</th>
<th>KJ/kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>95%</td>
<td></td>
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<tr>
<td>90%</td>
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<td>50%</td>
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<td>45%</td>
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<td>40%</td>
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</tbody>
</table>

Note 1: Use linear interpolation when the load values fall between the stated percentages.

Note 2: For a Dispatch Instruction above 50% of Dependable Capacity following a Dispatch Instruction of 50% and below of Dependable Capacity (and where the applicable Declared Capacity was greater than 50% of Dependable Capacity), a Start-up of a steam turbine unit shall be counted.
B.4 Compliance with Constraints on Tariff Charges

(In the following sections, the Bidder shall demonstrate that each of the constraints on Tariff Charges set out in Section B, Article 7 of the RFP are complied and satisfied by its Proposal. The space for each constraint demonstration is provided below for illustration purpose. The Bidder may add additional sheets if necessary.)

B.4.1 Total Reference Tariff and each of its components should be greater than zero for each Contract Year.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
________________________________

B.4.2 Each of the components RECP(US), RECP(Tk), RVOMP(US) and RVOMP(Tk) must be constant or same across all the Contract Years.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
________________________________

B.4.3 Total Reference Tariff in US cents/kWh for the first Contract Year shall not exceed 111% of the Levelized Tariff Charge.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
________________________________

B.4.4 Total Reference Tariff in US cents/kWh for any Contract Year other than the first Contract Year shall not exceed 110% of the Levelized Tariff Charge.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
________________________________
B.4.5 Total Reference Tariff in Taka/kWh levelized over the first ten Agreement Years (calculated in the similar manner as the Levelized Tariff Charge, except that the calculation shall be limited to first ten Agreement Years) shall not exceed 108% of the Levelized Tariff Charge.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
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________________________________

B.4.6 The Escalable Component of the Capacity Price shall not exceed twenty percent (20%) of the total Capacity Price in any Contract Year and in the aggregate.

C. LEVELIZED TARIFF CHARGE

The Bidder’s Levelized Tariff Charge based on the proposed Tariff Charges in Table B.2

LT = _________ US cents /kWh,

based on the calculations in accordance with the RFP. The Bidder acknowledges that the BPDB’s calculation of Levelized Tariff Charge and results thereof shall be in all respects controlling over any calculation and result presented in any Financial Proposal under all circumstances.
SUMMARY INFORMATION OF THE FINANCIAL PROPOSAL

FINANCIAL PROPOSAL OPENING FORM

(This document is an integral part of the Financial Proposal and shall be read during the Opening of Envelope II Proposals.)

A) Name of Lead Member ____________________________

B) Names of Consortium Members ____________________________
   ____________________________
   ____________________________
   ____________________________

LEVELIZED TARIFF CHARGE

The Bidder’s Levelized Tariff Charge based on the proposed Tariff Charges in Table B.2

LT = _________ US cents /kWh,

based on the calculations in accordance with the RFP. The Bidder acknowledges that the BPDB’s calculation of Levelized Tariff Charge and results thereof shall be in all respects controlling over any calculation and result presented in any Financial Proposal under all circumstances.
The Bidders will be responsible for mobilization the financing for the Facility. Agreements required to secure financing for the Facility will be entered into between the Bidder and the institutions providing the financing for the Facility and shall be based on the financial plan presented by the Bidder in its Proposal.

The financial plan provided by the Bidder will describe the sources of funds and the terms of financing for both debt and equity as applicable. The Bidder will provide details on the financing sources as outlined in this Exhibit III, Table 1. The financing should be in an amount sufficient to cover all estimated Facility costs and reasonable contingencies. Financing will be in the form of equity and debt. The Bidder (or the Lead Member, if the Bidder is a consortium) will arrange a standby credit facility equal to at least 3% of the total Facility costs as explained in Section 1.4 of the Table below, to be available during the construction phase. At least 20% of the total financing, inclusive of contingencies, will be in the form of equity and the remainder in debt or subordinated debt. Use Bid Exchange Rate for the purposes of calculation.

Table 1

<table>
<thead>
<tr>
<th>SOURCES OF FUNDS</th>
<th>US$</th>
<th>Local Currency (Tk)</th>
<th>Equivalent Total in Takas (TK)</th>
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<tbody>
<tr>
<td>1.1 Total Facility Costs (Excluding standby credit facility)</td>
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<tr>
<td>1.2 Equity</td>
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<tr>
<td>▪ Lead Firm</td>
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<td>Name:</td>
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Table 1 (continues)

<table>
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<th>ITEMS / SOURCES</th>
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<th>LOCAL CURRENCY (Tk)</th>
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<td>• Commercial Sources (List individually)</td>
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<tr>
<td>• Commercial Source Name: ________________________</td>
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<tr>
<td>• Commercial Source Name: ________________________</td>
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<td>• Commercial Source Name: ________________________</td>
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<tr>
<td>• Multilateral Sources (List individually)</td>
<td></td>
<td></td>
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<tr>
<td>• Multilateral Source Name: ________________________</td>
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<tr>
<td>• Multilateral Source Name: ________________________</td>
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</tr>
<tr>
<td>• Other Sources (List individually)</td>
<td></td>
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</tr>
<tr>
<td>• Other Source Name: ________________________</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Debt:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4 Stand-by Credit Facility of 3%. Explain arrangements made for the stated amount along with letters of confirmation from institutions providing the amount</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
2.0 DOCUMENTATION

In support of the financing plan provided above, the following documentation is to be provided.

Letters of commitment from the Chief Executive Officer or Treasurer /Controller of each member of the consortium verifying that the company will provide the amount of equity stated in Exhibit III, Table 1, Section 1.2. If the Project Sponsor (that is, the successful Bidder) is a single firm:

a. the Project Sponsor shall be required to hold at least 51% of the equity ownership in the Project (that is, share capital of the Project Company), at all times until the sixth anniversary of the Commercial Operations Date (COD).

If the Project Sponsor is a consortium:

b. the Lead Member shall be required to maintain a 51% or more ownership interest in the Project Company until the COD, and thereafter until the sixth anniversary of the COD the Lead Member shall be required to maintain an ownership interest in the Project Company of not less than 40%; and

c. the Operating Member shall be required to maintain a 20% or more ownership interest in the Project Company until the COD, and thereafter until the sixth anniversary of the COD the Operating Member shall be required to maintain an ownership interest in the Project Company of not less than 11%.

2.1 If Bidder has obtained an underwriting for all or part of the amount, a letter of interest from the financing institution of such undertaking shall be provided.

2.2 Should Bidder plan to have financing for the Facility at a later date, i.e., on or following the COD, details of financing arrangements prior to the long-term financing being effective shall be provided.

2.3 Bidder shall provide a detailed schedule of activities leading to Financial Closing in Exhibit VII.
## EXHIBIT IV

**Technical Data and Submittals**

TECHNICAL DATA AND SUBMITTALS (Envelope I)

### TABLE OF CONTENTS

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<tr>
<th>Article</th>
<th>Description</th>
<th>Sheet</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>Table of Contents</td>
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</tr>
<tr>
<td>1.0</td>
<td>Guaranteed Data for Project</td>
<td>2</td>
</tr>
<tr>
<td>2.0</td>
<td>Basic Technical Information</td>
<td>3</td>
</tr>
<tr>
<td>3.0</td>
<td>Drawings</td>
<td>3</td>
</tr>
<tr>
<td>4.0</td>
<td>Proposed Facility Design and Components Experience</td>
<td>4</td>
</tr>
<tr>
<td>5.0</td>
<td>Detailed Technical Information</td>
<td>5</td>
</tr>
<tr>
<td>6.0</td>
<td>Drawings</td>
<td>14</td>
</tr>
<tr>
<td>7.0</td>
<td>Performance &amp; Correction Curves</td>
<td>15</td>
</tr>
<tr>
<td>8.0</td>
<td>Performance Test Procedures</td>
<td>16</td>
</tr>
<tr>
<td>9.0</td>
<td>Project Summary Data</td>
<td>17</td>
</tr>
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<td>10.0</td>
<td>Environmental Data</td>
<td>21</td>
</tr>
<tr>
<td>11.0</td>
<td>Electric Interconnection Data</td>
<td>23</td>
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<td>12.0</td>
<td>Performance Data</td>
<td>23</td>
</tr>
<tr>
<td>13.0</td>
<td>Technology and Design Data</td>
<td>26</td>
</tr>
<tr>
<td>14.0</td>
<td>Operations and Maintenance Data</td>
<td>27</td>
</tr>
</tbody>
</table>
1.0 Guaranteed Data for Project

The following data is provided by Project Sponsor and will be subsequently included as Schedules to the PPA.

1.1 Contracted Facility Capacity of the Facility shall be as provided in Table 11.3.

1.2 Project Sponsor shall provide Reference Heat Rate in Table 11.1.

1.3 Project Sponsor shall provide overall plant performance information in Table 11.2. This information shall be based upon new equipment operated for less than 500 hours.

1.4 Project Sponsor shall provide the Correction Curves that are to be used to verify the performance (i.e. Contracted Facility Capacity and Reference Heat Rates). Only those curves provided by the Project Sponsor will be taken into consideration for Calculations of Performance Guarantees during the performance tests.

1.5 Project Sponsor shall provide the following guaranteed data for environmental impact assessment.

A. Noise levels
   - At Site boundary
   - At one meter from major equipment
   - At one hundred meters from major equipment

B. Air emissions
   Maximum anticipated levels of NOx, CO, and SOx, based on the fuel characteristics provided in the RFP.

C. Water discharge:
   - Provide particulate concentration and composition of wastewater discharge, other than sanitary discharge.
   - Provide provisions made for treatment of wastewater and sanitary water.

1.6 Auxiliary load consumption by Project: ....................MW

1.7 Provide information requested in paragraph 13.2 with respect to characteristics of the Facility (i.e. cold start time, etc.)
2.0 **Basic Technical Information**

2.1 Provide a short description of the Facility, and supporting facilities and Site infrastructure.

2.2 Source of major components.

<table>
<thead>
<tr>
<th>Component</th>
<th>Information Requested</th>
<th>Manufacturer / Model / type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stream Turbine</td>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model/type</td>
<td></td>
</tr>
<tr>
<td>Generator</td>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model/type</td>
<td></td>
</tr>
<tr>
<td>Control system</td>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td>Generator Step-up Transformer</td>
<td>Manufacturer</td>
<td></td>
</tr>
</tbody>
</table>

2.3 Provide a listing of the Codes and Standards to be used in design, manufacturing, construction, performance testing, and quality control for Civil, Electrical, Mechanical and Control/Instrumentation works of the Project. Describe provisions made for SCADA system.

3.0 **Drawings**

- Outline drawings of steam turbine generator
- Conceptual station layout drawings

4.0 **Proposed Facility Design and Components Experience**

Project Sponsor shall provide historical data for the following items:

4.1 Overall Design of Facility

If a Facility of similar size, with similar design of systems and preferably the same equipment manufacturer, has been operating for the past three (3) years, provide the name of the Facility, year commissioned, name of owner and representative (phone and Fax number), with data on reliability, availability, GigaWatt hours (GWh) produced for each of the last two years, and the number of forced outages or reduced output due to technical difficulties. Information on more than one Facility is desirable but not mandatory.

4.2 Information on Other Equipment

For the following equipment to be used in the Facility, provide similar information, as above (and as applicable), from manufacturers for at least three (3) projects, for the past three (3) years.

- Steam Turbine

4.3 Information on EPC Contractor and Engineering and Design Subcontractors (if any).
5.0 **Detailed Technical Information**

Project Sponsor shall fill out the data sheets provided herewith. If the information is not available at the Proposal stage, the Project Sponsor will be required to complete the same at time of negotiations.

<table>
<thead>
<tr>
<th>DATA SHEETS</th>
<th>Project Sponsor’s Response:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td><strong>Insert in this column all the data requested.</strong></td>
</tr>
</tbody>
</table>

As a minimum, the following data sheets, drawings, and performance curves relating to the Company’s proposal shall be provided:

### 5.1 Steam Turbine

- **Manufacturer**
- **Model No.**
- **Guaranteed Output at Reference Site Condition** [kW]
- **Reference Heat Rate at Reference Site Condition** [kJ/kWh]
- **RPM**
- **Year of Manufacture**
- **Net Fuel consumption** [gm/kWh]
- **Status of machine**
- **Start up time for hot engine** [minutes]
- **Start up time for cold engine** [minutes]

### 5.2 Generator & Accessories

- **Generator**
- **Manufacturer**
- **Capacity** [MVA]
- **Rated voltage at generator terminal** [kV]
- **Frequency range** [Hz]
- **Operating voltage range**
- **Operating power factor range**
- **Rated Power factor**
- **Insulation class**
- **Type of cooling**
- **Design standard**
- **Efficiency**
- **Reactive capability curve** to be attached
- **Short Circuit Ratio**

**Excitation System**

- **Type**
- **Current rating and voltage**
### DATA SHEETS

<table>
<thead>
<tr>
<th>Description</th>
<th>Project Sponsor’s Response:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5.3 Generator Circuit Breakers</strong></td>
<td></td>
</tr>
<tr>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td>Type/Model</td>
<td></td>
</tr>
<tr>
<td>Rated voltage</td>
<td>kV</td>
</tr>
<tr>
<td>Rated Frequency</td>
<td>Hz</td>
</tr>
<tr>
<td>Continuous Current rating</td>
<td>kVA</td>
</tr>
<tr>
<td>Maximum Interrupting current rating</td>
<td>kA</td>
</tr>
<tr>
<td>Maximum interrupting time (cycles)</td>
<td></td>
</tr>
<tr>
<td>Maximum closing time (cycles)</td>
<td></td>
</tr>
<tr>
<td>BIL rating</td>
<td></td>
</tr>
<tr>
<td>Interrupting medium</td>
<td></td>
</tr>
<tr>
<td><strong>5.4 Generator Step-up Power Transformers</strong></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td></td>
</tr>
<tr>
<td>Quantity</td>
<td></td>
</tr>
<tr>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td></td>
</tr>
<tr>
<td>Applicable Standards</td>
<td></td>
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<tr>
<td>Design Data</td>
<td></td>
</tr>
<tr>
<td>Voltage ratio</td>
<td></td>
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<tr>
<td>Maximum Continuous Rating</td>
<td>MVA</td>
</tr>
<tr>
<td>Rated temperature rise</td>
<td>°C</td>
</tr>
<tr>
<td>Basic Insulation Level:</td>
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</tr>
<tr>
<td>a. Of HV winding</td>
<td>kV</td>
</tr>
<tr>
<td>b. Of neutral of HV winding</td>
<td>kV</td>
</tr>
<tr>
<td>c. Of LV winding</td>
<td>kV</td>
</tr>
<tr>
<td>d. Of neutral of LV winding</td>
<td>kV</td>
</tr>
<tr>
<td>Type of tap changer</td>
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<tr>
<td>Total power requirements of auxiliary equipment</td>
<td>kW</td>
</tr>
<tr>
<td>Power factor</td>
<td></td>
</tr>
<tr>
<td>Impedance per unit</td>
<td>%</td>
</tr>
<tr>
<td>Insulation class</td>
<td></td>
</tr>
<tr>
<td>Type of cooling</td>
<td></td>
</tr>
<tr>
<td>Type of connection</td>
<td></td>
</tr>
<tr>
<td>High voltage winding</td>
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<tr>
<td>Low voltage winding</td>
<td></td>
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<tr>
<td>Design standard</td>
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</tr>
<tr>
<td>Vector Group</td>
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</table>
### DATA SHEETS

<table>
<thead>
<tr>
<th>Description</th>
<th>Project Sponsor’s Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5.5 Black Start Diesel Generator</strong></td>
<td></td>
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<tr>
<td>Capacity</td>
<td>kW</td>
</tr>
<tr>
<td>Generator voltage</td>
<td>kV</td>
</tr>
<tr>
<td>Manufacturer</td>
<td></td>
</tr>
</tbody>
</table>

6.0 **DRAWINGS**

<table>
<thead>
<tr>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6.1 Outline drawings of steam turbine generator (to be submitted)</strong></td>
</tr>
<tr>
<td><strong>6.2 Plant Layout</strong></td>
</tr>
<tr>
<td>Overall site layout drawing showing principal dimensions, major</td>
</tr>
<tr>
<td>component of the Facility, fuel storage tanks, buildings, roads, etc</td>
</tr>
<tr>
<td>(to be submitted)</td>
</tr>
</tbody>
</table>

7.0 **PERFORMANCE & CORRECTION CURVES** (to be submitted)

<table>
<thead>
<tr>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Steam Turbine generator output versus ambient temperature</td>
</tr>
<tr>
<td>b. Correction curve for barometric pressure</td>
</tr>
<tr>
<td>c. Correction curves for variation in humidity</td>
</tr>
</tbody>
</table>

8.0 **PROJECT SUMMARY DATA**

<table>
<thead>
<tr>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8.1 Type of plant</strong>: Describe technology used, number of units,</td>
</tr>
<tr>
<td>ratings, and method to recover heat (if used).</td>
</tr>
<tr>
<td>**8.2 Steam Turbine and generator suppliers. Show model identification,</td>
</tr>
<tr>
<td>when applicable.</td>
</tr>
<tr>
<td>**8.3 Describe standards applied to Project design and equipment</td>
</tr>
<tr>
<td>selection.</td>
</tr>
<tr>
<td>**8.4 All designs, materials, and equipment will conform to the</td>
</tr>
<tr>
<td>requirements of Paragraph 3.4 of the Functional Specification. The</td>
</tr>
<tr>
<td>codes and standards that follow will be used where applicable to the</td>
</tr>
<tr>
<td>equipment, material, components, or construction practices. All work</td>
</tr>
<tr>
<td>described will be designed, constructed, tested and installed in</td>
</tr>
<tr>
<td>accordance with the latest edition of the following list of codes</td>
</tr>
<tr>
<td>and standards (To be completed by the Project Sponsor). In order not</td>
</tr>
<tr>
<td>to create possible duplication or different interpretations, the</td>
</tr>
<tr>
<td>names and initials of the respective entities must not be translated.</td>
</tr>
</tbody>
</table>

In the event conflicts arise between the codes and standards of practice described herein and codes, laws, rules, decrees, regulations, standards, etc., of the locality where the equipment is to be installed, the codes and standards of practice described herein will govern. In the event conflicts arise between any of the codes and standards described herein, the more stringent section of the applicable codes will govern. Each of the equipment and designs will comply with one or more of the above codes, but none will necessarily comply with all the listed standards.
8.5 Provide the information requested below for all major equipment suppliers that have been selected for the Project.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Supplier’s Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam Turbine</td>
<td></td>
</tr>
<tr>
<td>Boiler</td>
<td></td>
</tr>
<tr>
<td>Generator</td>
<td></td>
</tr>
<tr>
<td>Generator Circuit Breakers</td>
<td></td>
</tr>
<tr>
<td>Step-up Transformers</td>
<td></td>
</tr>
<tr>
<td>Distributed Control System</td>
<td></td>
</tr>
</tbody>
</table>

8.6 List of Participants. Check all of the following that have been selected:

<table>
<thead>
<tr>
<th>Participant</th>
<th>Check if Selected</th>
<th>Name</th>
<th>Status (letter of intent, contract, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Consulting Firm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Firm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Advisor/Lead Arranger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Arranger</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.7 Attach the following data clearly labeled. Individual data should be numbered to correspond to the question they are addressing.

8.7.1 Describe the equipment suppliers’ experience with the specific models that will be used for each major piece of equipment.

8.7.2 Not used.

8.7.3 Provide drawings of the Facility’s Site layout and major equipment arrangement.

8.7.4 Provide any additional technical information that is available (e.g., drawings, specifications, etc.).

8.7.5 Provide preliminary generator capability curves and specify the reactive capability and control strategies for the Project. Also describe any voltage or equipment limitation affecting the National Load Dispatch Center’s ability to control the reactive output.

8.7.6 Describe the equipment procurement plan. Provide information concerning how commitments to purchase major equipment items relate to the schedules for acquiring permits and financing. Provide information concerning any equipment production space that has been reserved with suppliers of major components. Note that all equipment must be new.

8.7.7 Provide descriptions of the fire protection systems to be used including those within any equipment enclosures, any buildings and all general Site facilities.
8.7.8 Provide descriptions of equipment enclosures (including buildings) and what protection against the weather will be provided to major machines during periods of maintenance, especially if no high-bay buildings are to be constructed.

8.7.9 Provide a description of the overall control system used for the Project equipment, including all local, centralized and remote controlling including the proposed means to communicate with the National Load Dispatch Center to follow its instructions.

8.7.10 Describe how the Facility will be started, including the expected amount of time to synchronize each unit, starting with the equipment in “hot” “cold” and “warm” conditions. State the maximum MVA and MW required from BPDB system to start the Facility.

8.7.11 Provide a description of the monitoring and protection systems to be used on major equipment including the prime movers, generators, transformers, substations and interconnection lines. Describe how the protection systems will be coordinated with the corresponding BPDB installations.

8.7.12 Not used.

8.7.13 Describe the proposed methods to dispose of solid wastes and sludge produced by the combustion of fuels as well as normal O&M of the Facility.

8.7.14 Provide design values for seismic, wind and any other data

9.0 ENVIRONMENTAL DATA

9.1 Answer the questions below or attach a detailed environmental impact study that includes answers to at least the following questions:

9.1.1 Describe the technology to be used to maintain air emissions and air pollution within the specified guidelines.

9.1.2 Describe control devices (if applicable), and proposed monitoring systems and procedures.

9.2 Address the following issues as they relate to design and construction of the Project.

9.2.1 Describe the proposed timetable to carry out the Environmental Impact Assessment, if you are selected as the Project Sponsor. Indicate the scope of the Environmental Impact Assessment and the methodology to be used to perform this study and to present its findings and recommendations. State also the commitment of the Project Sponsor to carry out all suggestions and recommendations of the study, including possible design modifications.

9.2.2 Threatened and endangered species assessment and mitigation.

9.2.3 Cultural and archeological impact (natural, national and state landmarks, historical status and other historical landmarks, graveyards, burial ground proximity to nearby parks and other recreational areas).
9.2.4 Noise impact analysis and mitigation; please describe technology to be employed or actions to be taken to reduce noise. Provide the guaranteed maximum sound levels for the plant at all of the plant boundaries and at any plant interfaces with other entities including residential, industrial and others. Provide the guaranteed sound level for the plant at one meter from the equipment enclosures or exterior walls of the powerhouse(s), which should not exceed 85 dB(A). The measurement shall not include the existing background noise.

Also provide the guaranteed sound level at the station boundary, which shall not exceed 70 dB(A).

9.2.5 Indicate the height of the proposed exhaust stack(s) for the Facility and indicate reasons for this selection (could include “good engineering practices”, dispersion of pollutants, height of other exhaust stacks in the immediate vicinity, etc.). Why does Project Sponsor feel this height is adequate from an environmental standpoint? Indicate if this height selection could be changed by the Environmental Impact Assessment to be carried out by the Project Sponsor.

9.2.6 Land use impact mitigation techniques, including the effect on nearby inhabited and tourist areas.

9.2.7 Hazardous waste - type generated and disposal.

9.2.8 Solid waste - type generated and disposal.

9.2.9 With regard to projected air emissions, please fill out the following table for the Facility.

<table>
<thead>
<tr>
<th>Emission</th>
<th>Percent Removal Efficiency at 100% Capacity</th>
<th>100% Capacity</th>
<th>75% Capacity</th>
<th>50% Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>ppmv</td>
<td>ppmv</td>
<td>ppmv</td>
<td>ppmv</td>
</tr>
<tr>
<td></td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>lb/hr</td>
</tr>
<tr>
<td></td>
<td>g/kJ</td>
<td>g/kJ</td>
<td>g/kJ</td>
<td>g/kJ</td>
</tr>
<tr>
<td></td>
<td>mg/m$^3$</td>
<td>mg/m$^3$</td>
<td>mg/m$^3$</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>ppmv</td>
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<td>ppmv</td>
</tr>
<tr>
<td></td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>lb/hr</td>
</tr>
<tr>
<td></td>
<td>lb/kJ</td>
<td>lb/kJ</td>
<td>lb/kJ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>mg/m$^3$</td>
<td>mg/m$^3$</td>
<td>mg/m$^3$</td>
<td></td>
</tr>
<tr>
<td>SO$_2$</td>
<td>ppmv</td>
<td>ppmv</td>
<td>ppmv</td>
<td>ppmv</td>
</tr>
<tr>
<td></td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>lb/hr</td>
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<tr>
<td></td>
<td>lb/kJ</td>
<td>lb/kJ</td>
<td>lb/kJ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>mg/m$^3$</td>
<td>mg/m$^3$</td>
<td>mg/m$^3$</td>
<td></td>
</tr>
<tr>
<td>Air Toxics (list)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### AIR EMISSIONS LEVELS

<table>
<thead>
<tr>
<th>Emission</th>
<th>Percent Removal Efficiency at 100% Capacity</th>
<th>100% Capacity</th>
<th>75% Capacity</th>
<th>50% Capacity</th>
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</thead>
<tbody>
<tr>
<td>Particulates (PM-10)</td>
<td>ppmv</td>
<td>ppmv</td>
<td>ppmv</td>
<td></td>
</tr>
<tr>
<td></td>
<td>lb/hr</td>
<td>lb/hr</td>
<td>lb/hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>lb/kJ</td>
<td>lb/kJ</td>
<td>lb/kJ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>mg/m³</td>
<td>mg/m³</td>
<td>mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Notes: 1. Capacity is defined as the total capacity of the Facility as commissioned.
2. ppmv is defined as volumetric parts per million at 15% O₂.
3. lb/hr is defined as pounds per hour.
4. g/kJ is defined as pounds per kilo Joule.
5. mg/m³ is defined as milligrams per cubic meter.
6. Provide total emissions for all air toxics on an aggregate basis, not on an individual basis. Air toxic pollutants are described on the US EPA Web page: [http://www.epa.gov/ttn/atw/allabout.html](http://www.epa.gov/ttn/atw/allabout.html)

#### 10.0 ELECTRIC INTERCONNECTION DATA

10.1 Provide the following items:

10.1.1 A detailed single-line diagram from the generators and proposed interconnection to the 230 kV PGCB lines. Include the Project Sponsor’s switchyard.

10.1.2 Equipment descriptions and functional specifications of:

10.1.2.1. Generators, transformers, disconnect switches, switchgear equipment, circuit breakers, etc.

10.1.2.2. Protective relays, current transformers, voltage transformers, etc.

10.1.2.3. Metering System

10.1.2.4. Telecommunication equipment

10.1.2.5. Control and data acquisition system

Any design changes which may affect the interconnection must be reviewed and approved by PGCB. This approval does not relieve the Project Sponsor from any contractual responsibility.
11.0 **PERFORMANCE DATA**

11.1 Provide a Heat Rate Curve for each Unit in the Facility, assuming that the load will be allocated to each unit in proportion to its maximum output power level.

11.2 The Project Sponsor shall fill-in data in Tables 11.1 and 11.2.

**Table 11.1: Reference Heat Rates**

<table>
<thead>
<tr>
<th>Plant Factor (PF&lt;sub&gt;b&lt;/sub&gt;) (% of Dependable Capacity) (See Note 1)</th>
<th>Reference Heat Rate (HHV) KJ/kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>[●]</td>
</tr>
<tr>
<td>95%</td>
<td>[●]</td>
</tr>
<tr>
<td>90%</td>
<td>[●]</td>
</tr>
<tr>
<td>85%</td>
<td>[●]</td>
</tr>
<tr>
<td>80%</td>
<td>[●]</td>
</tr>
<tr>
<td>75%</td>
<td>[●]</td>
</tr>
<tr>
<td>70%</td>
<td>[●]</td>
</tr>
<tr>
<td>65%</td>
<td>[●]</td>
</tr>
<tr>
<td>60%</td>
<td>[●]</td>
</tr>
<tr>
<td>55%</td>
<td>[●]</td>
</tr>
<tr>
<td>50% (See Note 2)</td>
<td>[●]</td>
</tr>
<tr>
<td>45% (See Note 2)</td>
<td>[●]</td>
</tr>
<tr>
<td>40% (See Note 2)</td>
<td>[●]</td>
</tr>
</tbody>
</table>

Note 1: Reference Heat Rates shall be interpolated for Plant Load Factors between the specified points above.

Note 2: For a Dispatch Instruction above 50% of Dependable Capacity following a Dispatch Instruction of 50% and below of Dependable Capacity (and where the applicable Declared Capacity was greater than 50% of Dependable Capacity), a Start-up of a Steam turbine unit shall be counted.

Note 3: The heat rates in Table 11.1 have to include expected heat rate degradation during the term of the PPA as no adjustments for degradation will be allowed when calculating the fuel charge component of the tariff during the term of the PPA.
### TABLE 11.2: OVERALL PERFORMANCE OF FACILITY
(based on 100% load)

<table>
<thead>
<tr>
<th>Description</th>
<th>Units</th>
<th>Entire Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Gross Output</td>
<td>KW</td>
<td></td>
</tr>
<tr>
<td>Auxiliary Power + Losses</td>
<td>kW</td>
<td>*</td>
</tr>
<tr>
<td>Step-up Transformer Losses</td>
<td>kW</td>
<td>*</td>
</tr>
<tr>
<td>Total Losses</td>
<td>kW</td>
<td>*</td>
</tr>
<tr>
<td>Net Power Output at high voltage side of Generator Step-up Transformer**</td>
<td>kW</td>
<td>*</td>
</tr>
<tr>
<td>Net Heat Rate (based on HHV)</td>
<td>kJ/kWh</td>
<td>*</td>
</tr>
<tr>
<td>Noise Level (World Bank Group Guidelines) @ Facility boundary</td>
<td>db(A)</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>@ 1 meter</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The Project Sponsor shall fill-in data.  
** The Project Sponsor shall guarantee these values as Contracted Facility Capacities.

### Table 11.3: Contracted Capacity
(at Reference Site Conditions)

<table>
<thead>
<tr>
<th>Year</th>
<th>(MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 25</td>
<td>⚫</td>
</tr>
</tbody>
</table>

Request for Proposal (Khulna 150-300 MW Coal Fired Project)
### 12.0 TECHNOLOGY AND DESIGN DATA

#### 12.1 Technical Maturity:

<table>
<thead>
<tr>
<th>Quantity (of all that apply)</th>
<th>One or more similar facility(ies) has (have) achieved an annual equivalent availability equal to or greater than 85% over two consecutive years during operation.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One or more similar facility(ies) is(are) currently in operation.</td>
</tr>
<tr>
<td></td>
<td>One or more similar facility(ies) is(are) under construction.</td>
</tr>
<tr>
<td></td>
<td>None of the above.</td>
</tr>
</tbody>
</table>

12.1.1 For each of the facilities referenced above, fill out a copy of the form below which describes operating history and statistics.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact at Plant</td>
<td>Name</td>
</tr>
<tr>
<td>Phone Number</td>
<td>Plant Owner</td>
</tr>
<tr>
<td>Name</td>
<td>Phone Number</td>
</tr>
<tr>
<td>Power Purchaser</td>
<td>Name</td>
</tr>
<tr>
<td>Phone Number</td>
<td></td>
</tr>
</tbody>
</table>

*The Project Came On-line in XXXX.*

<table>
<thead>
<tr>
<th>Year of Operation:</th>
<th>XXXX</th>
<th>XXXX</th>
<th>XXXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Months that Year:</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Annual Equivalent Availability</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
</tbody>
</table>
13.0 OPERATIONS AND MAINTENANCE DATA

13.1 Operating Characteristics

13.1.1 Net Generation Levels of Facility:

| Net capability: the maximum level that the Facility could be dispatched during normal system conditions | MW |
| Minimum operating level: the minimum level that the Facility could be dispatched during normal system conditions (i.e., the must-run level) | MW |

13.2 Operating Parameters

Provide the operating parameters of the Facility measured in minutes in Table 13.2. The maximum time required for Hot Start, Warm Start and Cold Start shall be 1 hour, 4 hours and 5 hours respectively.

Table 13.2
Synchronizing and Load Pick-up Times

<table>
<thead>
<tr>
<th>Action</th>
<th>Minutes to Achieve Action</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hot Start</td>
</tr>
<tr>
<td>Hot Start</td>
<td></td>
</tr>
<tr>
<td>Warm Start</td>
<td></td>
</tr>
<tr>
<td>Cold Start</td>
<td></td>
</tr>
</tbody>
</table>
The Project Sponsor shall fill-in Data.

(a) For the purposes of this Schedule, Start Up of the Facility is classified as follows:

(i) “Hot Start” - A necessary start following a continuous shutdown for a period of 8 hours or less; provided that the shutdown was not the result of a Forced Outage, a Scheduled Outage, a Maintenance Outage or an Other Force Majeure Event, as the case may be.

(ii) “Warm Start” - A necessary start following a continuous shutdown for a period between 8 and 48 hours; provided that the shutdown was not the result of a Forced Outage, a Scheduled Outage, a Maintenance Outage or an Other Force Majeure Event, as the case may be.

(iii) “Cold Start” - A necessary start following a continuous shutdown for a period more than 48 hours; provided that the shutdown was not the result of a Forced Outage, a Scheduled Outage, a Maintenance Outage or an Other Force Majeure Event, as the case may be.

(b) The notice required to synchronize a steam turbine generator for a Hot Start shall apply provided the previous shutdown was not the result of a trip.

(c) Step changes in Dispatch load are allowable, provided that the Facility load is greater than 40% of Dependable Capacity as adjusted to Reference Conditions, but in no case can such step change result in operation of the Facility below 40% of Dependable Capacity.

(d) The Facility minimum continuous loading shall be 40% of the Facility’s Dependable Capacity. The Facility shall be capable of automatic operation and control from the Dependable Capacity of the Facility to 40% of Dependable Capacity.

13.3 Maintenance

13.3.1 Annual Maintenance Outage Schedule

<table>
<thead>
<tr>
<th>Duration (number of days):</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of Year (season):</td>
<td></td>
</tr>
<tr>
<td>Cycle (number of operating hours):</td>
<td></td>
</tr>
</tbody>
</table>

13.3.2 Major Overhaul Outage Schedule

<table>
<thead>
<tr>
<th>Duration (number of days):</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of Year (season):</td>
<td></td>
</tr>
<tr>
<td>Cycle (number of operating hours):</td>
<td></td>
</tr>
</tbody>
</table>

Note: As a requirement of this solicitation, Project Sponsor must agree to schedule maintenance and planned outages with BPDB and accommodate any reasonable request for revisions required by BPDB.
13.3.3 Annual Availability of the Facility:

<table>
<thead>
<tr>
<th>% Annual Availability</th>
<th>% Planned and Maintenance Outages</th>
<th>% Forced Outages</th>
<th>100 % Total</th>
</tr>
</thead>
</table>

Note: Annual Availability measure exclude major overhaul outages.

13.3.4 Expected Maintenance Intervals

Table 13.3 lists the frequency of Scheduled Outages.

Table 13.3
Scheduled Outages

<table>
<thead>
<tr>
<th>Schedule Maintenance</th>
<th>Approximate Frequency(^1) (months)</th>
<th>Recommended Interval(^2) (actual or equivalent operating hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Major Overhaul</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

\(^1\) Note - Recommended frequency of Scheduled Outages may vary based on Dispatch and operation of the Facility.

\(^2\) Note: Recommended frequency of Scheduled Outages may vary amongst original equipment manufacturers. Any variations as such from the above proposed maintenance schedule shall be submitted to BPDB after the finalization of the Construction Contract.

13.4 Operations and Maintenance Staff and Services

Attach the following data clearly labeled. Individual data should be numbered to correspond to the question they are addressing; e.g., data submitted in response to Question 13.4.1 should be labeled “Article 13.4.1”.

13.4.1 Operator’s experience with Facility technology - provide number of unit-years of experience with generating facilities of the same or similar technology and size as the Facility.

13.4.2 Describe briefly procedure that will be followed for daily, weekly, monthly and yearly maintenance programs.

13.4.3 Provide brief description of plans for the purchasing and warehousing of tools, parts and supplies.

13.4.4 Provide a major maintenance schedule
EXHIBIT V
ADDITIONAL SUPPORTING DATA

1. Legal Form and Organization of Bidder

(In Table 1 and Table 2, the Bidder shall provide the required information regarding each member of the Bidder consortium, as prequalified, or with any change in the consortium as approved by BPDB pursuant to the RFP.)

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of Bidder</td>
<td>[Lead Member]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Other members of Bidder consortium]</td>
</tr>
<tr>
<td>2</td>
<td>Home Office Address</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Telephone/Fax/Email</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Regional Office Address</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Telephone/Fax/Email</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Authorized Person for contact for the Project</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Contact Address of Authorized Person</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Telephone/Fax/Email of Authorized Person</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Legal Form</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>10</td>
<td>Capitalization of Bidder</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Organizational Charts</td>
<td>[To be attached by Bidder]</td>
</tr>
<tr>
<td>12</td>
<td>Memorandum and Articles of Association</td>
<td>[To be attached by Bidder]</td>
</tr>
<tr>
<td>13</td>
<td>Joint Venture Agreement</td>
<td>[To be attached by Bidder]</td>
</tr>
<tr>
<td>No.</td>
<td>Item</td>
<td>Lead Member</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>1</td>
<td>Name</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>2</td>
<td>Legal Form</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>3</td>
<td>Country of Registration/Incorporation</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>4</td>
<td>Home Office Address</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>5</td>
<td>Telephone/Fax/Email</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>6</td>
<td>Name and Position of Contact Person</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>7</td>
<td>Address of Contact Person</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>8</td>
<td>Telephone/Fax/Email of Contact Person</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>9</td>
<td>Share in Total Equity of the Project (%)</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>11</td>
<td>Organizational Charts</td>
<td>[To be attached by Bidder]</td>
</tr>
</tbody>
</table>

*(Bidder to add or delete column as required)*
2. Not used

3. Information regarding Construction Contractor

(In Table 3 and Table 4, the Bidder shall provide the required information regarding the proposed Construction Contractor and main sub-contractors as necessary.

Separate Table 3 and Table 4 shall completed by Bidder for the Facility, Electrical Interconnection Facilities and Transportation Facilities if the Contractors are different from each of these facilities.

Any standard printed material may be included as an attachment to support their relevant experience and qualifications.

A listing of proposed subcontracts for the major elements of the Project; to include subcontractor’s name, address, scope of supply or services, and amount of subcontract.)
### Table 3: General Information about Construction Contractor

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of Construction Contractor</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Legal Form</td>
<td>[e.g. company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>3</td>
<td>Country of Registration/Incorporation</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Home Office Address</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Telephone/Fax/Email</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Name and Position of Contact Person for the Project</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Address of Contact Person</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Telephone/Fax/Email of Contact Person</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Area of Main Business</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Number of Staff in Main Business</td>
<td>Engineers: Others:</td>
</tr>
<tr>
<td>11</td>
<td>Number of [Power/Fuel] Projects successfully completed</td>
<td></td>
</tr>
</tbody>
</table>

Note: The Bidder shall complete this Table 3 for each main sub-contractor for the Project separately as necessary, including scope of work in the Project, in addition to the above items.
### Table 4: Project Reference of Construction Contractor

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of Project</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Location of Plant</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Name of Owner</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Name of Off-taker</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Capacity of Plant</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Type of Plant</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Fuel</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Number and Rated Capacity of Units</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Status of Plant</td>
<td>[Under Construction or Commercial Operation]</td>
</tr>
<tr>
<td>10</td>
<td>Principal Manufacturers of Major Equipment</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Role in the Project</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Duration of Construction Period</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Commercial Operations Date</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Value of Contract</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Other Details</td>
<td></td>
</tr>
</tbody>
</table>

Note: This Table 4 shall be completed for each reference project (at least three projects) separately as necessary.
4. Information regarding O&M Contractor (if applicable)

(In Table 5 and Table 6, the Bidder shall provide the required information regarding the proposed O&M Contractor and main sub-contractors as necessary.

Any standard printed material may be included as an attachment to support their relevant experience and qualifications.)

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of O&amp;M Contractor</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Legal Form</td>
<td>[e.g., company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>3</td>
<td>Country of Registration/Incorporation</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Home Office Address</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Telephone/Fax/Email</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Name and Position of Contact Person for the Project</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Address of Contact Person</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Telephone/Fax/Email of Contact Person</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Area of Main Business</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Number of Staff in Main Business</td>
<td>Engineers: Others:</td>
</tr>
<tr>
<td>11</td>
<td>Number and Years of [Power/Fuel] Projects under Operation</td>
<td></td>
</tr>
</tbody>
</table>

Note: The Bidder shall complete this Table 5 for each main sub-contractor for the Project separately as necessary, including scope of work in the Project, in addition to the above items.
<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of Project</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Location of Plant</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Name of Owner</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Name of Off-taker</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Capacity of Plant</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Type of Plant</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Fuel</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Number and Rated Capacity of Units</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Principal Manufacturers of Major Equipment</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Commercial Operations Date of each Unit</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Annual Availability Factor</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Annual Load Factor</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Annual Overall Station Efficiency</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Other Details</td>
<td></td>
</tr>
</tbody>
</table>

Notes: This Table 5 shall be completed for each reference project separately (at least one project of similar type and size which has been in successful operation for at least one year) as necessary.

The Bidder shall complete this form for O&M sub-contractor as necessary.
5. **Information regarding Main Equipment Manufacturer/Supplier**

(In Table 7 and Table 8, the Bidder shall provide the required information regarding the proposed manufacturers/suppliers of main equipment for the Project, up to a maximum of three (3) suppliers for each equipment category.

Any standard printed material may be included as an attachment to support their relevant experience and qualifications.)

<table>
<thead>
<tr>
<th>No.</th>
<th>Main Equipment</th>
<th>Name of Supplier</th>
<th>Country of Make</th>
<th>Address of Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Steam Turbine</td>
<td>1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Generators</td>
<td>1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Step Up Transformer</td>
<td>1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Generators</td>
<td>1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Item</td>
<td>Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Name of Project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Location of Plant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Name of Owner/Client</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Name of Power Purchaser</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Type, size and Main Parameters of the Equipment Used</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Type of Plant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Fuel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Year of Commissioning of Equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Relevant Operational Parameters of Equipment</td>
<td>[e.g. hours of operation]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Other Details</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: This Table 8 shall be completed for each reference project separately (at least three projects) as necessary.

The Bidder should complete this Table 8 for each type of main equipment.
6. **Information regarding Project Company/Owner’s Engineer**

(In Table 9 and Table 10, the Bidder shall provide the required information regarding the Company’s or Owner’s Engineer.

Any standard printed material may be included as an attachment to support their relevant experience and qualifications.)

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of Owner’s Engineer</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Legal Form</td>
<td>[e.g., company, corporation, partnership, consortium, joint venture, individual]</td>
</tr>
<tr>
<td>3</td>
<td>Nationality / Country of Registration</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Home Office Address</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Telephone/Fax/Email</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Name and Position of Contact Person</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Address of Contact Person</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Telephone/Fax/Email of Contact Person</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Area of Main Business</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Number of Staff in Main Business</td>
<td>Engineers: Others:</td>
</tr>
<tr>
<td>11</td>
<td>Number of Power Projects successfully completed</td>
<td></td>
</tr>
</tbody>
</table>
7. **Information regarding Financial Advisor/Lead Arranger**

(The Bidder shall provide herein a description of the proposed financial advisor or lead arranger (with a letter of interest from the financial advisor/lead arranger) for the financing of the Project, indicating, inter alia:

- name, country of home office and address of such organization;
- name, nationality and business address of the lead individual representing the financial advisor or lead arranger;
- scope of work;

8. **Information regarding Environmental Consultant**

(The Bidder shall provide herein a description of the proposed Environmental Consultant for the Project, indicating, inter alia:

- name, nationality and address of the organization;
- name, nationality and address of the project manager;
- scope of work;

9. **Information regarding Insurance Advisor**

(The Bidder shall provide herein a description of the proposed Insurance Advisor for the Project, indicating, inter alia:

- name, nationality and address of the organization;
- name, nationality and address of the lead person;
- scope of work;
EXHIBIT VI
EXCEPTIONS TO THE RFP DOCUMENTS

1.0 List Exceptions to the RFP (other than Annexes) terms and conditions.

2.0 List Technical exceptions.

3.0 List exceptions (with brief explanation) to the draft Project Agreements, individually, by agreement and section number.

(Attach initialed draft Project Agreements showing the Bidder’s and Lender’s required changes as listed above)

4.0 Exceptions to Financial plan

5.0 Exceptions to Project Schedule

Bidders are advised that any material exception/modification to documents may result in disqualification. If there are no exceptions, please so state for each document.
EXHIBIT VII
BIDDER’S PROJECT SCHEDULE

1.0 Bidder shall provide its detailed Bidder’s Project Schedule which supports and confirms compliance of the development and construction phase of the Project Milestone Schedule with the Project Effective date, the RFCD and the RCOD, starting from the issuance of the Letter of Intent.

1.1 Bidder’s Project Schedule shall be submitted in the milestones shown in 1.2.1 below for financing, engineering, procurement, shipping, construction activities, etc. necessary to demonstrate a complete and accurate knowledge of the Project, as well as his knowledge of procedures and prevailing conditions in Bangladesh.

1.2 The Bidder’s Project Schedule shall address all details of the Plant Finance, Engineering, Procurement and Construction which as a minimum include the following:

1.2.1 Bidder’s Milestone Schedule

For all milestones specify the day, month and year for commencing and completing the milestone. Any item not applicable to the Project must be so marked with a brief explanation as to why it is not applicable. This list is not intended to be inclusive, but rather to include appropriate milestones to allow BPDB to evaluate proposals. It is the Bidder’s sole responsibility to identify and complete all the appropriate milestones necessary for the completion of its Project whether included here or not. This includes the identification and acquisition of all necessary permits.

1.2.2 Milestone Schedule

<table>
<thead>
<tr>
<th>Description</th>
<th>Number of Calendar days from issuance of Letter on Intent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>A. Issuance of Letter of Intent</td>
<td>0</td>
</tr>
<tr>
<td>• Project Company created</td>
<td></td>
</tr>
<tr>
<td>• Project Agreements signed</td>
<td></td>
</tr>
<tr>
<td>C. Financial Closing</td>
<td></td>
</tr>
<tr>
<td>• Finalize Loans and Investment Agreements with lenders and Investors.</td>
<td></td>
</tr>
<tr>
<td>• Financial Close</td>
<td></td>
</tr>
<tr>
<td>D. Construction</td>
<td></td>
</tr>
<tr>
<td>• Procurement of major Equipments</td>
<td></td>
</tr>
<tr>
<td>• Major Equipment Installation</td>
<td></td>
</tr>
<tr>
<td>• Fuel Receiving Facilities</td>
<td></td>
</tr>
<tr>
<td>• Electrical Interconnection</td>
<td></td>
</tr>
<tr>
<td>• Start-up and testing for Initial Operation</td>
<td></td>
</tr>
<tr>
<td>• Start-up and testing for Commercial Operation</td>
<td></td>
</tr>
<tr>
<td>• Commercial Operation Date</td>
<td></td>
</tr>
</tbody>
</table>
### ANNEX E

**DRAFT PROJECT AGREEMENTS**

#### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Exhibit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhibit I</td>
<td>Draft Implementation Agreement</td>
</tr>
<tr>
<td>Exhibit II</td>
<td>Draft Power Purchase Agreement</td>
</tr>
</tbody>
</table>
ANNEX F

Government of Bangladesh sponsored IPFF Financing Facility for Private Sector

The Government of Bangladesh, through Bangladesh Bank has established the Investment Promotion and Financing Facility (IPFF) in 2006, with the assistance of the World Bank, to make available partial debt financing for eligible, government-endorsed infrastructure projects to be developed by private sector.

The IPFF fund is now available for private infrastructure project financing. The maximum term of the loan repayment is 20 years with 3-10 years grace period. Facility loan can be made in local currency or in dollar / other currency.

Contact Details:

IPFF Project Cell, Bangladesh Bank
Telephone No: 88 02 9512553
Fax: 88 02 7114706
e-mail: abul.quasem@bb.org.bd
abul.quasem@bangladeshbank.org.bd