



**B-R POWERGEN LTD.**

**TENDER DOCUMENT**

**FOR**

**CONSTRUCTION OF SREEPUR 150 MW ( $\pm 10\%$ )  
HFO BASED POWER PLANT PROJECT.**

**VOLUME 1 OF 2**

INSTRUCTION TO TENDERERS,  
GENERAL CONDITIONS &  
SPECIAL CONDITIONS



## **B-R Powergen Ltd.**

### **CONSTRUCTION OF SREEPUR 150 MW ( $\pm 10\%$ ) HFO BASED POWER PLANT PROJECT.**

#### **INVITATION FOR INTERNATIONAL TENDER**

1.	Ministry / Division	Ministry of Power, Energy & Mineral Resources / Power Division.
2.	Procuring Entity Name	B-R Powergen Ltd.
3.	Invitation for	Tenders for Engineering, Design, Manufacturing, Inspection, Supply, Erection, Installation, Testing & Commissioning of Sreepur 150 MW ( $\pm 10\%$ ) HFO Based Power Plant Project on turnkey basis at Sreepur, Gazipur, Bangladesh.
4.	Procurement Method	Open Tendering method. The Tenderers shall submit the Technical and Financial proposal in two (2) separate envelopes in accordance with the requirements of the Tender documents.
5.	Source of Fund	ECA/Buyer's Credit. Sovereign gauranty will be provide by MoF.
6.	Invitation for Tenders Ref. & Date	Memo no. : 27.31.0000.200.45.001.17.1225, Date: 28.11.2017.
7.	Start of selling Tender document	29/11/2017
8.	Tender Name	Construction of Sreepur 150 MW ( $\pm 10\%$ ) HFO Based Power Plant Project.
9.	Time for Completion of Commissioning from the effective date of contract.	450 days.
10.	Eligibility of Tenderers	Bids will only be considered from reputed international or Local firms or consortiums who are actually engaged and experienced in the lines of work described herein. The tenderer himself and/or a member of JVCA having minimum 20% stake shall have experience in complete design, manufacturing, supply, erection, installation, testing and commissioning and put into commercial operation of a fuel based Power Plant having capacity of 100 MW or higher (each unit capacity is not less than 05 MW) during the last ten (10) years and has been in continuous commercial operation for minimum two (02) years as mentioned in Clause 5.0 of Instructions to Tenderers. <b>In case of overseas Bidders, the above experience shall be from outside the bidder's own country.</b>
11.	Price of Tender Document	Tk. 1,00,000.00 (BDT. One lac) only payable in the form of Pay order/ Demand draft in favor of the B-R Powergen Ltd., Dhaka for each set of tender document.
12.	Amount of Tender Security	US\$ 25,00,000 (USD. Twenty five hundred thousand) in the form of an irrevocable and unconditional bank guarantee issued by any scheduled Bank of Bangladesh with full responsibility or by a Foreign Bank duly endorsed by a scheduled Bank in Bangladesh payable in favor of the B-R Powergen Ltd..
13.	Validity of Tender and Tender Security	180 (One hundred eighty) days and 208 (Two hundred and eight) days respectively from the date of opening of tender.
14.	Name and address of the Office for selling the tender document	Company Secretary B-R Powergen Ltd. House -39, Road No-12 Sector-4, Uttara Model Town, Dhaka-1230.
15.	Name and address of the Office for receiving and opening of tender	Company Secretary, B-R Powergen Ltd. House -39, Road No-12 Sector-4, Uttara Modal Town, Dhaka-1230.
16.	Last Date and Time for selling the Tender document	Date: 28/01/2018 Time: 17 :00 hours (BST)

17.	Last Date and Time for submission of Tenders	Date: 29/01/2018 (Monday) Time: 12:00 hours (BST)
18.	Date and Time for opening of Tenders	The tenders shall be opened at 29/01/2018 (Monday) hours BST, 12:30 Tenderers and thier authorized representative are allowed to attend.
19.	Date and Time of Pre-Tender Meeting	12:00 hours (BST), 07/01/2018 (Sunday).
20.	Place of Pre-Tender Meeting	BREB Auditorium, Bangladesh Rural Electrification Board (1 <sup>st</sup> Floor), Head Office Building, Nikunja-2, Joarsahara, Khilkhet, Dhaka-1229, Bangladesh.
21.	Special Instructions	Tender Documents will be posted in the following website : B-R Powergen Ltd. website <a href="http://www.brpowergen.org.bd">http://www.brpowergen.org.bd</a> BPDB's website <a href="http://www.bpdb.gov.bd">http://www.bpdb.gov.bd</a> , BREB website : <a href="http://www.reb.gov.bd">http://www.reb.gov.bd</a> , CPTU website: <a href="http://www.cptu.gov.bd">http://www.cptu.gov.bd</a> and RPCL website : <a href="http://www.rpcl.org.bd">http://www.rpcl.org.bd</a> Tenders submitted by Fax, Telex, Swift, Cable, E-mail & by post/courier shall not be accepted. The Procuring Entity reserves the right to accept any or reject any/ all tenders prior to acceptance without assigning any reason.
22.	Brief Description of Works & Services	Complete engineering, design, manufacturing, inspection, testing, supply, delivery to the site, site preparation, related civil and building works, installation, erection, testing & commissioning of HFO 4 Stroke Engine Generating Sets Power Plant Project [capacity of each identical unit shall not be less than 10 MW] having net output <b>(at H.T. side of power transformer)</b> of 150 MW ( $\pm 10\%$ ) at Site conditions of 35°C, 1.013 bar, 98% R.H., including necessary auxiliaries and ancillaries on Turnkey basis as stated in the scope of work of the Tender document. The Tenderer shall also provide 02 (two) years warranty period for the entire works.
23.	Name of official Inviting the Tender	Md. Khurshed Alam.
24.	Designation and address inviting the Tender	Company Secretary, B-R Powergen Ltd., House -39, Road No-12 Sector-4, Uttara Modal Town, Dhaka-1230. Tel: 88-02-8932774 Fax: 88-02-8933150

**(Md. Khurshed Alam )**

Company Secretary  
B-R Powergen Ltd.  
House -39, Road No-12  
Sector-4, Uttara Modal Town, Dhaka-1230.

Memo no. : B-R Powergen/Board-??/2017/??

Date: ???.???.2017.

Copy for information & necessary action to:

1. Secretary, Power Division, Ministry of Power, Energy and Mineral Resources, Dhaka.
2. DG, CPTU, IMED, Planning commission, Dhaka. He is requested to take necessary action for posting the said notice in the CPTU website.
3. Chairman, BPDB, Dhaka.
4. Chairman, BREB & B-R Powergen Ltd., Dhaka.
5. MD, RPCL & CEO, B-R Powergen Ltd., Dhaka.
6. P.S to Hon'ble Advisor to Prime Minister for Power, Energy and Mineral Resources, Dhaka.
7. PS to Hon'ble State Minister, Ministry of Power, Energy and Mineral Resources, Dhaka.
8. Project Director, Sreepur 150 MW $\pm$ 10% Power Plant HFO Based Power Plant Project, B-R Powergen Ltd.
9. Director, Purchase, BPDB, Dhaka.
10. Director, Public Relation, BPDB, Dhaka.
11. Senior System Analyst, BPDB, Dhaka/ System Analyst, RPCL/S.E ICT, REB, Dhaka: they are requested to post the said notice in respective website.
12. Office copy/master copy.

**Company Secretary**

B-R Powergen Ltd.  
House -39, Road No-12  
Sector-4, Uttara Modal Town, Dhaka-1230.

**B-R Powergen Ltd.**

**CONSTRUCTION OF SREEPUR 150 MW ( $\pm 10\%$ )  
HFO BASED POWER PLANT PROJECT.**

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# **Chapter I**

## **Instructions to Tenderers**

## **Rejection of Tenders**

The Tender shall be rejected and shall not be considered for evaluation if the Tenderers do not submit / fulfil the followings among other terms and conditions as stipulated in this tender document:

- a) Certificate from the end user on tenderer's experience and evidence of financial capability as stated under clause 5.0 (Requirement of Tenderers) of Instruction to Tenderers.
- b) Certificate from the end user for offered engine generating set as evidence of proven-ness as stated under clause 3.3.1 of Technical Requirement, Volume 2 of 2 of tender document.
- c) Tender validity as stated under clause 3.0 of Instruction to Tenderers.
- d) Tender security & validity [180+28=208 days] of tender security as stated under clause 27.0 of Instruction to Tenderers, Volume 1 of 2 of tender document.
- e) Tender proposing the power plant having net output not less than 135 mw at site condition of 35<sup>0</sup> C, 1.013 bar & 98% RH (Relative Humidity) as stated under clause 25.0 of Instruction to Tenderers, Volume 1 of 2 of tender document.
- f) All data to be furnished with Technical Proposal as stated in Guarantee Schedule-A, Volume 2 of 2 of tender document.
- g) Deviation from Price Schedule as given in Appendix 3 of Instruction to Tenderers, Volume 1 of 2 of tender document.
- h) For ECA/Buyer's Credit, credit proposal for implementation of the project as stated under clause 17.0 of Instruction to Tenderers.
- i) In case of joint venture, consortium or association, any of the partner shall have necessary experience as stated and all the partners shall be jointly and severally liable for execution of the contract. In this regard joint venture agreement as stated under clause 5.0 of Instruction to Tenderers is also to be submitted.
- j) Completion period as stated under clause 25.0 of Instruction to Tenderers.
- k) Authorization letter from the manufacturer of main equipments viz Engine Generating Set, Step-up Transformer and HV/MV Circuit Breaker as stated under clause 12.0, xxi) of Instruction to Tenderers of tender document.
- l) Capacity of individual unit as stated under clause 1.0, of Instruction to Tenderers of tender document.
- m) Compliance of Environmental Standard (effluent & emission standard, noise level, stack height (not less than 50 meter) etc.) as stated under section 20, Appendix 20.6 of Environmental Standards, Volume 2 of 2 (Part A) of Tender Document.

## 1.0 **INVITATION**

In accordance with the Invitation for Tender, B-R Powergen Ltd. (herein after called B-R Powergen Ltd.) will receive the sealed Proposals submitted as specified in Tender Documents for the design, manufacture, inspection, testing, delivery to the Site, installation, testing & commissioning, performance test and related civil and building works including necessary auxiliaries and ancillaries on Turnkey basis of 150 MW $\pm$ 10% HFO Based Power Plant Project consisting of identical units (each unit not less than 10 MW) of engine generators (heavy duty, low/medium speed, 4 stroke, HFO Based engine) in Borama Sreepur, Gazipur, having net output of 150 MW $\pm$ 10% at Site conditions of 35°C, 1.013 bar, 98% R.H. and two (2) years warranty period. Before submission of proposal, Tenderers are requested to consider and examine the transportation of heavy equipment from the sea port to the project site.

## 2.0 **SUBMISSION OF PROPOSAL**

This Tender is invited in ***Open Tendering Method***. Bids shall be enclosed in two sealed envelopes; one containing technical proposal & other containing financial proposal in accordance with the requirements of the Tender document including addenda, if any.

The Technical & Financial Proposals shall be submitted by the Tenderer in the sealed envelopes marked for "Sreepur 150 MW $\pm$ 10% (HFO based) Power Plant Project". The ***original and three (3) copies of the Technical Proposal*** and the original and three copies of Financial Proposal shall be submitted within the date and time as mentioned in the tender notice in the following manner:

Specimen form of the Proposals [Form of Tender] are furnished in Appendix- 2.

The original and three copies of the Proposals shall be addressed and submitted to:

**Company Secretary,  
B-R Powergen Ltd.,  
House -39, Road No-12  
Sector-4, Uttara Model Town, Dhaka-1230.  
Website: [brpowergen.org.bd](http://brpowergen.org.bd)**

The Proposals shall be submitted preferably by hand on or before the closing date and time. The Proposals shall be submitted in sealed envelopes bearing the above addresses and clearly labeled to show the name of the Tenderer.

The original and all copies of the Tender shall be typed or written in indelible ink and shall be sealed & signed by the Tenderer or a person or persons duly authorised to bind the Tenderer to the Contract. ***The letter of authorisation shall be indicated by the written Power-of-Attorney accompanying the***

***Tender.*** The person or persons signing the Tender shall initial all pages of the Tender. The Tender shall contain no inter-lineations, erasures or overwriting except as necessary to correct errors made by the Tenderer, in which case such corrections shall be initialled by the person or persons signing the Tender.

The Tender Document comprises of the following parts:

- a)      Volume 1                      Chapter 1:      Instruction to Tenderers  
   Chapter 2:      General Conditions  
   Chapter 3:      Special Conditions
- b)      Volume 2 (Part A)      Technical Requirements  
   (Part B)      Technical Particulars [Schedules & Data Sheets]

***The Tenderer shall also submit one set of Tender Documents sealed & signed by the authorised person.***

The Tenderer shall bear all costs associated with the preparation and submission of its Tender and site visit. B-R Powergen Ltd. will in no case be responsible or liable for those costs.

### 3.0 **TENDER VALIDITY**

Each Proposal shall be irrevocable and cannot be altered, withdrawn, or resubmitted for a period of 180 calendar days after the date set for submission of Proposals.

In exceptional circumstances, prior to the expiration of the Tender validity period, B-R Powergen Ltd. may solicit the Tenderers' consent to an extension of the period of validity of their Tenders. The request and the responses shall be made in writing. The Tender Security provided under ITT Clause 27.0 shall also be suitably extended promptly. If a Tenderer does not respond or refuses the request it shall not forfeit its Tender Security, but its Tender shall no longer be considered in the evaluation proceedings. A Tenderer agreeing to the request will not be required or permitted to modify its Tender.

### 4.0 **ACCEPTANCE OF PROPOSAL**

The B-R Powergen Ltd. reserves the right to waive minor irregularities and informalities in any Proposals submitted, reject any or all Proposals without assigning any reason and award the Contract to one which, in its judgement, is the best.

### 5.0 **REQUIREMENTS FOR TENDERERS**

Tenders will only be considered from internationally/local reputed firms or consortia, who are actually engaged and experienced in the lines of work described herein, and who are capable of undertaking the design, manufacture, inspection, testing, delivery to the Site, installations, commissioning, performance test, related

civil and building work and overall management of the project on turnkey basis. Evidence of actually engaged and experienced in the line of work described herein shall be furnished with the Tender.

A Tenderer who is not a manufacturer shall provide a "Letter of Authorization" from the manufacturer concerned, certifying that he has been authorized to offer the equipment in tender on behalf of the manufacturer. If the manufacturer of any offered equipment/ machinery is not the designer of the same, then Tenderer must have to submit collaboration/ licensee agreement.

In case of joint venture, consortium or association, at least one member of JVCA having not less than 20% stake in the JVCA shall have necessary experience as stated and all the partners shall be jointly and severally liable for execution of the Contract.

## 5.1 Experience of Project Implementation

### **In case of International firm or consortia:**

The Tenderer shall have the experience outside the tenderer's country of supply, erection, installation, testing and commissioning of a fuel based Power Plant on Turnkey basis having capacity of 100 MW or higher during last 10 (ten) years. In support of his experience, the Tenderer shall submit with his Tender for all work performed by him, detailed evidence that the Tenderer himself and/or members of JVCA have carried out the design, manufacture, supply, construction, erection, testing, commissioning and put into commercial operation of a fuel based Power Plant having capacity as stated above. At least one of such power plants with capacity as stated above shall have to be in continuous commercial operation for minimum two (02) years. It is to be noted that Subcontractors' experience and resources will not be taken into account in determining the Tenderer's compliance with the qualifying criteria.

The Tenderer shall submit at least one certificate outside Tenderer's country from the end users on two years satisfactory performance of the plant with capacity 100 MW or higher outside his own country which was designed, supplied, constructed, tested & commissioned by the Tenderer to establish the Tenderer's minimum required experience to Tender. This certificate shall mention the name of power plant, number of units, capacity and commissioning date of the power plant (make, model) supplied by the Tenderer, issue date, name and address (telephone/fax/e-mail) of the end user duly signed in the official pad. Certificates furnished by the Tenderer in the Tender proposal shall have the information as stated above. **Without such certificate or where the certificates are unsatisfactory to B-R Powergen, the Tender shall be considered technically non-responsive.** These certificates must be notarized and have authentication from the Chamber of Commerce of the Tenderer's country or the Embassy/High commission of the end user's country situated in Dhaka. In absence of that, authentication from bidder's Embassy/High Commission in Dhaka.

### **In case of local firm or consortia:**

The Tenderer shall have the experience of supply, erection, installation, testing and commissioning of a fuel based Power Plant on Turnkey basis having capacity of 100 MW or higher during last 10 (ten) years. In support of his experience, the Tenderer shall submit with his Tender for all work performed by him, detailed evidence that the Tenderer himself and/or members of JVCA have carried out the design, manufacture, supply, construction, erection, testing, commissioning and put into commercial operation of a fuel based Power Plant having capacity as stated above. At least one of such power plants with capacity as stated above shall have to be in continuous commercial operation for minimum two (02) years. It is to be noted that Subcontractors' experience and resources will not be taken into account in determining the Tenderer's compliance with the qualifying criteria.

The Tenderer shall submit certificate from the end users on two years satisfactory performance of the plant with capacity 100 MW or higher which was designed, supplied, constructed, tested & commissioned by the Tenderer to establish the Tenderer's minimum required experience to Tender. This certificate shall mention the name of power plant, number of units, capacity and commissioning date of the power plant (make, model) supplied by the Tenderer, issue date, name and address (telephone/fax/e-mail) of the end user duly signed in the official pad. Certificates furnished by the Tenderer in the Tender proposal shall have the information as stated above. **Without such certificate or where the certificates are unsatisfactory to B-R Powergen, the Tender shall be considered technically non-responsive.** These certificates must be notarized or have authentication from the Chamber of Commerce.

## 5.2 **Financial Qualification**

The Tenderer must demonstrate average annual turnover of at least US\$ 100 million equivalent as total certified payments received for contracts or work in progress or completed works within the last five years. In case of JVCA, total average annual turnover of JVCA partners should be at least US\$ 100 million within the last five years. In case of local tenderer, the amount will be US\$ 50 million.

If the Tenderer is a JVCA, it must submit a copy of the JVCA Agreement. The respective documents shall be signed by all legally authorized signatories of all the parties to the JVCA.

Tenders submitted by a JVCA shall comply with the following requirements:

- (a) the Tender shall be signed so as to be legally binding on all partners;
- (b) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
- (c) one of the partners will be nominated as being Lead partner (having not less than 51% stake in the JVCA), authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and
- (d) the execution of the entire Contract, including payment, shall be done exclusively with the Lead partner;
- (e) the composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the ' B-R Powergen Ltd.'.
- (f) the Tender security of a JVCA shall be in the name of JVCA that submit the Tender.

## 6.0 **REQUEST FOR INFORMATION**

If any party contemplating the submission of the Proposal for the Work be in doubt as to the true meaning of any part of the Drawings, Technical Requirements or any other part of the Tender Documents shall be made by letter, Fax or Internet and to be received not later than 15 (fifteen) days before Tender closing and addressed as follows:

Company Secretary,  
B-R Powergen Ltd.,  
House -39, Road No-12  
Sector-4, Uttara Model Town, Dhaka-1230.  
Website: brpowergen.org.bd

## 7.0 **INTERPRETATION OF SPECIFICATION AND ADDENDA**

The Engineer, on behalf of the ' B-R Powergen Ltd.', will explain the true meaning of the Tender Documents. If requested by the prospective tenderers , and deemed accommodative to the tendering process, a pre-bid meeting may be arranged not later than 15 (fifteen) days prior to the Tender closing date. But any interpretation of, or change in, the Tender Documents prior to the closing date set forth herein will be made only by an addendum issued by the Company Secretary to each prospective Tenderer and which shall become part of the Tender Documents. No other interpretation or explanation shall be valid. The Tenderer submitting the request shall be responsible for its prompt delivery. The Engineer will not be responsible for any other explanation or interpretation of the Tender Documents.

## 8.0 **SITE VISIT**

*Each Tenderer before submitting tender shall carefully examine the Tender Documents and shall visit the Site to acquaint himself with, and determine the existing conditions and limitations. The Tenderer shall thoroughly inform himself of all conditions and factors which would affect the prosecution and completion of the Work, including, but not be limited to, condition of the land, soil condition, water quality, the availability and cost of labour, applicable laws and regulations and facilities for transportation, handling and storage of materials and equipment and limitation of working days due to monsoon.*

It must be understood and agreed that such factors have been properly investigated and considered in the preparation of the Proposal submitted. No claims for financial and time adjustment to the Contract awarded for the Work under these Specifications and Documents will be permitted by the B-R Powergen Ltd./Engineer which are based on the lack of such prior information or its affect on the cost of the work and its completion time.

## 9.0 **DEPARTURES FROM SPECIFICATIONS**

Tenderers shall base their Proposals on the Tender requirement. However, if they so desire, they may also submit alternate Proposals on equipment which departs from these requirement and which would, in the opinion of the Tenderer, be of benefit to the B-R Powergen Ltd.. The Tenderer shall state in detail the departures which he deems advisable, and how they will be of benefit to the B-R Powergen Ltd.. Alternate Proposals shall be accompanied by drawings showing the suggested layout and arrangements. Alternative proposal shall be a separate complete proposal with complete set of drawings, catalogues, manual, etc. without any reference to the main Proposal. Alternate proposal of only technically responsive lowest evaluated Tenderer shall be considered.

## 10.0 **INFORMATION TO BE SUPPLIED WITH THE PROPOSALS**

Tenderers shall supply sufficient details to permit complete evaluation of all aspects of the Proposals. Tenderers are requested not to put any clause of their own i.e. anything outside this Tender Document.

The drawing showing the location and the layout recommended by the Tenderer shall also be submitted along with the Proposal. Proposals shall be in English and executed on the Tender Forms, annexed hereto, for that purpose. All the Tender Forms shall be completely and legibly filled in and all information asked for in the Tender Documents shall be furnished.

## 11.0 **TIME SCHEDULE**

The Construction Schedule in the Tender Documents for performing the specified work will be a basic consideration of the Contract. The construction schedule shows the period in calendar days for completion of the Power Plant as desired by

the B-R Powergen Ltd. and the estimated equipment delivery and erection time that will be required to meet this period for completion.

The Tenderer shall furnish with his Proposal, Time Schedule showing the respective times for manufacture, shipment from shop to the Site, erection, preliminary testing, trial operation and performance testing for complete Power Plant included in his Proposal.

## 12.0 **TECHNICAL PROPOSAL**



Tenderer must give complete information and performance data on the equipment offered, including the followings:

- i) Manufacturer's information of all equipment including construction details, materials and special features.
- ii) Drawings in plan and elevation of the complete power station, fuel tanks, switchyard, power cable route and supporting equipment showing arrangement of equipment, overall dimensions and details of construction.
- iii) Design criteria for structures and foundations.
- iv) Schematic diagrams of the following systems (among others) showing design flows, pressures, temperatures, line sizes, valves, strainers, controls and equipment.
  - Fuel supply system including unloading, storage, cleaning and heating.
  - Air intake and Exhaust system
  - Steam Generating System
  - Cooling system.
  - Water treatment & supply and Fire fighting system.
  - Lube oil system.
  - Effluent Treatment System
- v) Electrical schematic diagrams of the following.
  - Generator protection system.
  - Fuel control systems.
  - Generator excitation system.
  - All HV, MV and LV System
  - All instruments and controls of the plant.
- vi) Electrical single line diagram showing all equipment, ratings, current and potential transformer ratios, metering and relaying.
- vii) Project schedule in bar chart form as well as Critical Path Method.
- viii) Description of training program including curriculum and training aids.
- ix) List of recommended spare parts including description, quantity, unit cost, total cost for each item, and total cost for all items.
- x) A list and description of similar projects which the Tenderer has successfully completed.
- xi) Description of expatriate camp facilities (if any).
  - xii) Capacities, numbers and mobilization schedule of construction equipment.
  - xiii) Manpower mobilization schedule.
- xiv) List of sources, quantities and unit costs of construction materials.

- xv) Local material delivery schedule.
- xvi) Description of Site Laboratory facilities during construction (if any).
- xvii) Description of proposed method of transportation and unloading of equipment at the Site.
- xviii) De-rating curves of power output and fuel consumption VS ambient temperature, ambient pressure, humidity etc.
- xix) A list of plant equipment, material etc. which the contractor intend to re-export or sale in Bangladesh after the completion of the contract.
- xx) A list of special tools and equipment for maintenance and overhauling of the machine/equipment to be handed over to B-R Powergen Ltd..
- xxi) Authorization Certificates from the manufacturers of main equipment and type test report (where applicable) viz Engine Generating Set, Step up Transformers, HV Circuit Breakers etc. that they will supply their machine/equipment through the tenderer for this project, in the event the tenderer concerned is not the manufacturer of the same. In case of Authorization Certificate for offered engine generating set, the following information at generating end need to be provided:
  - a) Output in Kw
  - b) Heat Rate with 5% tolerance in Kj/Kwh at site condition (35<sup>0</sup> C, 1.013 bar, 98% Relative Humidity)
  - c) Lube oil consumption in g/Kwh

### 13.0 **TENDER CURRENCIES**

The prices shall be quoted in the following currencies :

- a) The prices for the Goods and Services which the Tenderer will supply from outside Bangladesh shall be quoted in U.S. Dollars or Euro.
- b) The prices for the Goods and Services which the Tenderer will supply from within Bangladesh shall be quoted in Bangladesh Taka.

### 14.0 **FINANCIAL PROPOSAL**

The Tenderer shall fill in the Price Schedule and shall quote **a firm turnkey contract price** for the Power Plant as described in the Technical Requirements including all required spare parts and consumables during Warranty period. No additional cost will be considered for any items/works of the Tender documents which the Tenderer/Contractor has overlooked but the essential for the full completion of the project in every respect. Prices quoted shall be firm for a period of 180 Calendar days from the closing date for receipt of Proposals and be valid for the entire period of the Contract execution. The total prices shall be quoted both in figures and words.

**No escalation or addition of price whatsoever in the firm proposal price till the successful completion of the Power Plant is allowed.**

Price Proposals determined to be substantially responsive will be checked by TEC/ B-R Powergen Ltd. for any arithmetic errors. Arithmetic errors will be rectified on the following basis. If there is a discrepancy between the unit rate and the total cost that is obtained by multiplying the unit rate and quantity, the unit rate shall prevail and the total cost will be corrected. If there is a discrepancy between the total Tender amount and the sum of total costs, the sum of the total costs shall prevail and the total Tender amount will be corrected. If there is a discrepancy between word and figure, the amount quoted in word will prevail. **If the Tenderer does not accept correction of arithmetic errors, his tender shall be rejected.**

The Tenderer shall quote a price against each item in the Price Schedule (Annexure-3). Unit prices furnished by the Tenderers in the Price Schedule will be used in determining the value of Variation Orders, if any.

The prices quoted shall be deemed to include all direct, Indirect and ancillary charges and costs, including for example, Export Credit Insurance Premiums. The ' B-R Powergen Ltd.' will be under no obligation to the Contractor for and will not be liable to pay to the Contractor any additional sums other than as expressly provided for under the Contract.

The prices submitted by the Tenderer in the Price Schedule shall include all the works to be performed under the Contract and without limitation shall include the cost of accommodation, transporting all his construction equipment, men, materials and supplies to, from and at the Site.

**TENDERERS` QUOTED PRICE MUST INCLUDE ALL THE ITEMS AND QUANTITIES AS STIPULATED IN TENDER DOCUMENT INCLUDING ALL SPARES, CONSUMABLES & SERVICES FOR WARRANTEE PERIOD OTHERWISE TENDER SHALL BE REJECTED.**

**Proposal of pricing to be made by the Tenderers shall be made in foreign currency with respect to the equipment, machinery, materials and services to be acquired from all eligible countries other than Bangladesh and in Bangladesh Taka with respect to the equipment and services to be acquired/hired from sources in Bangladesh.**

The Tenderers shall furnish the break-up of the price in the following manner for effecting progress payments.

- i) CIF prices on job-site basis for the equipment and materials furnished for the Works shall consist of design, manufacture, factory testing, export packing, transportation from manufacturer's shop to the port of loading, ocean freight, heavy lift charges incurred by the vessel, fees, charges etc, inland transportation Including unloading at the port of destination and movement to the project storage area, warehouse to warehouse insurance, checking and verifying all shipments received against shipping documents, issuing, receiving and damage reports. Customs duty and other charges levied by Bangladesh Customs and Port Authorities for the permanent materials/ goods of the Project will be paid by the B-R Powergen Ltd..
- ii) Prices for installation and commissioning of the equipment and materials at the Site. Such prices shall include handling from site storage to point final installation, construction, erection and installation including insurance, local

purchased materials, inspection, initial start-up, trial operation, training of the B-R Powergen Ltd.'s personnel in operation, performance test and responsibility for operation and maintenance of equipment/ machinery until acceptance by the B-R Powergen Ltd.. The cost of local purchase and transportation of any Bangladesh manufactured equipment/ machinery and materials shall also be included under this category.

- iii) Prices of essential spare parts & consumables shall be quoted in accordance with ITT Clause 24.0.
- iv) Prices for the training of the B-R Powergen Ltd.'s personnel at the manufacturer's factory shall include cost required for the Contractor at manufacturer's factory plus the required expenditure for the B-R Powergen Ltd.'s personnel during the training.
- v) The Tenderer may submit cost saving proposal (optional) with the financial offer, but this will not be considered in the evaluation, as the evaluation will be done on the basis of tender requirement. However, if the Tenderer's offer found to be lowest at the evaluation, then this cost saving proposal may be considered during negotiation.

#### **15.0 DEVIATION IN PAYMENT SCHEDULE ( Applicable for Buyer's Credit only)**

Tenderer shall state their Tender price for the payment schedule outlined in the General Conditions of Contract. Tenders will be evaluated on the basis of this base price. Tenderers are, however, permitted to state additionally an alternative payment schedule and indicate the reduction in Tender price they wish to offer for such alternative payment schedule. The employer may or may not consider the alternative payment schedule offered by the selected Tenderer.

#### **16.0 CONDITIONS OF CONTRACT**

Tenderers are advised that the Contractor will be required to function within General Conditions and Special Conditions as stipulated in the Tender Document which will form part of the Contract Documents.

#### **17.0 SOURCE OF FINANCE**

Source of finance will be from ECA/Buyer's Credit to the B-R Powergen Ltd.. The Tenderer shall enclose a complete and firm credit proposal. The Credit Proposal shall mainly include the followings:

- a) Offered credit
- b) Rate of interest
- c) Repayment period
- d) Grace period etc.

**The credit amount shall cover 85% of the turnkey price (both foreign and local currency portion of the offered price) and the Grace Period of not less than two (02) years and Repayment Period (on half yearly basis) of**

**minimum ten (10) years. The proposal should include an *Amortization Schedule* considering above mentioned features.**

**B-R Powergen Ltd. will provide sovereign guarantee from GoB.**

**18.0 CURRENCY OF PAYMENTS**

Currency of payments to be made to the Contractor shall be in US dollar/Euro and in Bangladesh it will be in Taka as described in the General Conditions of the Contract Document.

**19.0 LANGUAGE, UNITS AND DIMENSIONS**

The Proposal and data shall be in English, and all dimensions in SI unit and/or metric unit system.

**20.0 VOLUNTARY CLARIFICATION / AMENDMENT AFTER CLOSING OF TENDER**

The Tenderer must note that voluntary clarification or amendment or correction of any sort, after closing of Tender, shall not be entertained by the B-R Powergen Ltd.. Any such communication, if received by the B-R Powergen Ltd. / Engineer, will be completely ignored.

**21.0 BANGLADESH REGULATIONS**

The Tender Documents contain references to certain Government of Bangladesh decrees. Tenderer must acquaint themselves on Bangladesh laws & regulations and shall observe & comply on the same.

These are provided for the convenience of the Tenderer and there is no expressed or implied warranty of their validity.

The Tenderers will be deemed to have a satisfactory understanding of the Bangladesh Laws, Rules & Regulations on goods and materials as applying to all shipments under this Contract.

**22.0 QUALITY ASSURANCE**

The Proposal shall include copies of the Tenderer's "Quality Certification Manual" and a comprehensive statement of the "Scope of Quality Verification" exercised in executing existing contracts.

Sufficient information shall be provided in the Proposal to give assurance that the requirements of quality as described in the Special Conditions are fully understood.

**23.0 USE OF BANGLADESH MATERIALS**

The Tenderers are required to use, wherever possible, equipment, tools, materials and products manufactured in Bangladesh when available, provided that such items shall conform to the applicable specifications.

## 24.0 **SPARE PARTS AND CONSUMABLES**

### **Spare parts after warranty**

The contractor shall submit mandatory spare parts and consumables list with their price schedule from (according to the manufacture's recommendation & guide line) for day to day operation and maintenance of the generating set (Engine & Generator) for plant life time (20) years which will not be included in contract price schedule.

### **SPARE PARTS AND CONSUMABLES DURING WARRANTY PERIOD**

**The Contractor shall submit a list of spare parts and consumables in details with OEM Part No., necessary for day to day operation and maintenance of the generating units and other plant equipment inclusive of emergency use that takes place in the course of operation (according to the Manufacture's recommendation and guideline) during the Warranty period (24 months) with considering 80% plant factor. During the warranty period, the Contractor shall supply all necessary equipment, spare parts, materials/consumables etc. with considering 80% plant factor at his own cost, whether it is listed or not in their list and handover to the plant store (B-R Powergen Ltd.). All the consumables and spares will be collected from store to use in the day to day and schedule maintenance activities.**

## 25.0 **EVALUATION**

The Technical Proposals submitted by the bidders shall be opened first in presence of the Bidders. At the same time the envelope marked "Financial Proposal" submitted by the respective Bidders will be noted for record and kept unopened in proper custody of the Company Secretary, B-R Powergen Ltd. until the Technical Proposals are completely evaluated. Considering all the aspects ( in connection with specified work) offered by each Bidder as well as the data and information submitted and on proper judgement of the capability of individual Bidders, technically qualified proposals shall be selected amongst them and listed. The technical qualifications and overall capability of the Bidder for carrying out the work as specified as well as the specifications of the equipment/materials offered and fulfilment of the key dates shall be the essence for selection of technically qualified Bidders.

The technical qualifications and overall capability of the Tenderer for carrying out the Works as specified as well as the Specifications of the equipment/materials offered and fulfilment of key dates shall be the essence for selection of qualified tenderers.

In the process of evaluation, tender may be considered as responsive only if it is submitted in compliance with the mandatory requirement set out in the tender document, without material deviation or reservation.

A material deviation or reservation is one :

- a) Which affects in any substantial way the scope, quality or performance of the works,
- b) Which limits in any substantial way, inconsistent with the tender document, the procuring entity's rights or the tenderer's obligations under the contract
- c) Whose rectification would affect unfairly the competitive position of other tenderers presenting responsive tenders.

**Total time from Contract Effective Date shall not exceed 450 days to Completion of ICO of the unit**

Guarantee data have to be furnished with technical proposal as stated in guarantee schedule-A, volume 2 of 2 of tender document. **The Tender shall be rejected if the Tenderers do not comply this requirement.**

Data given by the Tenderer which significantly affect the result of evaluation shall be included in the Contract as requirements to be guaranteed and will be subject to verification at the cost of the Tenderer and to the satisfaction of the B-R Powergen Ltd..

Proposal which offers less than 135 MW capacity (Net output at site condition) of Power Plant as specified in Technical Requirements will not be accepted. Excess Net output more than 165 MW at site conditions shall not be considered for evaluation of per KW cost stated hereunder.

The "Financial Proposals" of those eligible Bidders whose offers qualify in the "Technical Proposal" will be opened in presence of the Bidders, if any, on a date to be notified later. If any "Technical Proposal" after having been examined is found to be defective or otherwise not in conformity with Tender Document and thus found unacceptable, the "Financial Proposal" submitted by the same Bidder shall not be opened and shall be returned unopened, if requested by the Bidder, at his own cost. In any case, such "Financial Proposal" shall be disregarded.

The evaluation will take into account both Tender Price and annual operating & maintenance cost. Initial cost of the proposals shall be determined by bringing the scope of works of all the proposals to a common basis (loading of omitted items price from the highest quoted price of other Tenderers). The B-R Powergen Ltd. reserves the right to judge the reasonableness of the cost components quoted by the Tenderers with regard to maintenance cost per year and overhaul cost as enumerated below:

**Financial Analysis:**

For the purpose of evaluation all costs shall be based on equivalent Bangladeshi Taka as of the date of the Tender closing.

The evaluation of the proposal would be done by Financial analysis method taking into account the following:

- A. EPC Tender Price
- B. Initial cost
- C. Debt servicing cost
- D. Fuel cost
- E. O & M cost

Initial cost of the proposals shall be EPC Tender price after arithmetic correction (if any) as per 14.0 Financial proposal of Vol 1 of TD.

Debt servicing cost shall be calculated by considering Non credit amount, Credit amount, Annual interest rate, other financing cost, Re-payment Period, Grace period and others with a view to comparing different nature of Credit Proposal to a equivalent status by applying Net Present Value @ 15% discount factor.

#### Example of Financial analysis for Debt servicing cost

In this example, Credit portion is 85% of EPC price (for both FC and LC), Non Credit portion is 15% of EPC price (for both FC and LC), Annual interest rate  $i\%$ , Grace period/Availability period 02 years, Repayment period 10 years are considered.

In this example, Advance payment to the Contractor, Initial payments for loan effectiveness [such as Insurance premium and other Credit related charge (if any)], Interest during Grace period, Commitment fee etc. are considered as Non Credit amount.

Initial cost = m Bangladeshi Taka (BTk.)

Installment payment duration = 06 months (half yearly)

Discount rate = 15%

$P_o$  = Net Power output (as defined in General conditions of Tender Document Vol.1) at Site Condition in kW, guaranteed by the Tenderer in Guarantee Schedule.

Total Net present value of Repayment amount (NT) will be calculated as shown in Table below:

SI no.	Type of Payment/ Repayment	Cost description		Amount (in Eq. BTK.)	Net present value (in Eq. BTK.)
	Initial payments for loan effectiveness				
0	Initial payments for loan effectiveness	Insurance Premium, IP (if any)		IP=	IP=
		Management fee, MF (if any)		MF=	MF=
		Structuring fee, SF (if any)		SF=	SF=
		Upfront fee, UF (if any)		UF=	UF=
		Arrangement fee, Ar.F (if any)		Ar.F=	Ar.F=
		Agency fee, Ag.F (if any)		Ag.F=	Ag.F=
		Other fee, OF (if any)		OF=	OF=
		Total Initial payment for loan effectiveness, TIP (TIP=IP+MF+SF+UF+Ar.F+Ag.F+OF)		R <sub>0</sub> =TIP=	N <sub>0</sub> =TIP
	Half yearly Grace period payments				
	Principal Repayment	Interest during construction (IDC)	Commitment fee (as per Amortization schedule provided by	Amount (in Eq. BTK.)	Net present value (in Eq. BTK.)



		(as Amortization schedule provided by lender)	per lender)		
1	$P_1 = 0$	$I_1 =$	$C_1 =$	$R_1 = I_1 + C_1$	$N_1 = R_1 / (1.12)^{0.5}$
2	$P_2 = 0$	$I_2 =$	$C_2 =$	$R_2 = I_2 + C_2$	$N_2 = R_2 / (1.12)^1$
3	$P_3 = 0$	$I_3 =$	$C_3 =$	$R_3 = I_3 + C_3$	$N_3 = R_3 / (1.12)^{1.5}$
4	$P_4 = 0$	$I_4 =$	$C_4 =$	$R_4 = I_4 + C_4$	$N_4 = R_4 / (1.12)^2$
<b>Repayment period payments</b>					
	Principal Repayment	Interest Payment		<b>Amount (in Eq. BTK.)</b>	<b>Net present value (in Eq. BTK.)</b>
5	$P_5 = 0.85 \text{ m} / 20$	$I_5 = (0.85 \text{ m} \times i\%) / 2$		$R_5 = P_5 + I_5$	$N_5 = R_5 / (1.12)^{2.5}$
6	$P_6 = 0.85 \text{ m} / 20$	$I_6 = [\{(19 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_6 = P_6 + I_6$	$N_6 = R_6 / (1.12)^3$
7	$P_7 = 0.85 \text{ m} / 20$	$I_7 = [\{(18 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_7 = P_7 + I_7$	$N_7 = R_7 / (1.12)^{3.5}$
8	$P_8 = 0.85 \text{ m} / 20$	$I_8 = [\{(17 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_8 = P_8 + I_8$	$N_8 = R_8 / (1.12)^4$
9	$P_9 = 0.85 \text{ m} / 20$	$I_9 = [\{(16 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_9 = P_9 + I_9$	$N_9 = R_9 / (1.12)^{4.5}$
10	$P_{10} = 0.85 \text{ m} / 20$	$I_{10} = [\{(15 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{10} = P_{10} + I_{10}$	$N_{10} = R_{10} / (1.12)^5$
11	$P_{11} = 0.85 \text{ m} / 20$	$I_{11} = [\{(14 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{11} = P_{11} + I_{11}$	$N_{11} = R_{11} / (1.12)^{5.5}$
12	$P_{12} = 0.85 \text{ m} / 20$	$I_{12} = [\{(13 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{12} = P_{12} + I_{12}$	$N_{12} = R_{12} / (1.12)^6$
13	$P_{13} = 0.85 \text{ m} / 20$	$I_{13} = [\{(12 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{13} = P_{13} + I_{13}$	$N_{13} = R_{13} / (1.12)^{6.5}$
14	$P_{14} = 0.85 \text{ m} / 20$	$I_{14} = [\{(11 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{14} = P_{14} + I_{14}$	$N_{14} = R_{14} / (1.12)^7$
15	$P_{15} = 0.85 \text{ m} / 20$	$I_{15} = [\{(10 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{15} = P_{15} + I_{15}$	$N_{15} = R_{15} / (1.12)^{7.5}$
16	$P_{16} = 0.85 \text{ m} / 20$	$I_{16} = [\{(9 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{16} = P_{16} + I_{16}$	$N_{16} = R_{16} / (1.12)^8$
17	$P_{17} = 0.85 \text{ m} / 20$	$I_{17} = [\{(8 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{17} = P_{17} + I_{17}$	$N_{17} = R_{17} / (1.12)^{8.5}$
18	$P_{18} = 0.85 \text{ m} / 20$	$I_{18} = [\{(7 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{18} = P_{18} + I_{18}$	$N_{18} = R_{18} / (1.12)^9$
19	$P_{19} = 0.85 \text{ m} / 20$	$I_{19} = [\{(6 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{20} = P_{20} + I_{20}$	$N_{19} = R_{19} / (1.12)^{9.5}$
20	$P_{20} = 0.85 \text{ m} / 20$	$I_{20} = [\{(5 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{21} = P_{21} + I_{21}$	$N_{20} = R_{20} / (1.12)^{10}$
21	$P_{21} = 0.85 \text{ m} / 20$	$I_{21} = [\{(4 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{22} = P_{22} + I_{22}$	$N_{21} = R_{21} / (1.12)^{10.5}$
22	$P_{22} = 0.85 \text{ m} / 20$	$I_{22} = [\{(3 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{23} = P_{23} + I_{23}$	$N_{22} = R_{22} / (1.12)^{11}$
23	$P_{23} = 0.85 \text{ m} / 20$	$I_{23} = [\{(2 \times 0.85 \text{ m}) / 20\} \times i\%] / 2$		$R_{24} = P_{24} + I_{24}$	$N_{23} = R_{23} / (1.12)^{11.5}$
24	$P_{24} = 0.85 \text{ m} / 20$	$I_{24} = \{(0.85 \text{ m} / 20) \times i\%\} / 2$		$R_{25} = P_{25} + I_{25}$	$N_{24} = R_{24} / (1.12)^{12}$
					Total Net present value ( $N_T$ ): $= \sum_{n=0}^{24} N_n =$

Total Net present value of Repayment amount ( $N_T$ ) will be added with non credit amount of EPC price to find Total Debt servicing cost ( $D_T$ ). Hence,  $D_T = N_T + 0.15m$ . Per unit Debt servicing cost ( $T_1$ ) in BTK. per kW will be found by dividing  $D_T$  by Net Power output  $P_o$  in kW at site condition. Hence,  $T_1 = D_T / P_o$ .

**Note:**

*In any case, for the financing of 85% of EPC price or above, Total Debt servicing cost ( $D_T$ ) will be Net Present Value of the payment and repayment amount from B-R Powergen's account. Amortization schedules from the proposed lenders/ loan arrangers will be the basis for credit facility related payment and repayment from BPDB's account. Non credit amount of EPC price will be the payment to the EPC Contractor from B-R Powergen's account. 12% discount rate will be considered to calculate Net Present Value.*

**Basis of Financial analysis for Fuel cost and O&M Cost**

For the purpose of Financial analysis, the following data would be considered:

- a. Plant life - 20 years
- b. Plant will operate on HFO
- c. plant will operate at 80% Plant factor
- d. Cost of HFO = Tk 42.00 per Liter
- e. Heat rate to be used for 100 % load under Site Condition  
So  $H = H_{100\%}$  KJ per Kwh
- f. Operation and Maintenance cost,  $O_p$  =  
For 4 stroke engine = Tk 0.50 per kWh + Lube oil consumption cost per kWh  
(Cost of 1 lit. of Lube Oil = Tk. 320.00)
- g. Discount rate on capital investment - 15%

**Example of Financial Analysis:**

$P_o$  = Total Net generated output at high voltage side of step-up transformer at Site Condition in kW

$EP_o$  = Annual generated energy at high voltage side of step-up transformer in Kwh  
=  $P_o \times 24 \times 365 \times 0.8$  Kwh

$H$  = Heat rate of generating unit  
(100% load at Site Condition) in KJ/KWH  
=  $H_{100\%}$  KJ per Kwh

$H_c$  = Annual heat consumption  
=  $H \times EP_o$  in KJ

Fuel Calorific Value (LHV) of HFO  $f_c$  = 93.5% of HHV i.e. 40, 450 kJ/lit  
= 37820.75 kJ/lit

Annual fuel consumption =  $H_c / f_c$ , Litre =  $F_a$

$$F_{ac} = \text{Annual fuel cost} = \text{Tk } 42.00 \times F_a$$

$$Ca = \text{Annual operating and maintenance cost} = O_p \times EP_0$$

A= First cost as described in the Tender Documents, converted into Taka by applying the Exchange Rate as specified.

d = Discount rate  
= 15% per annum

The Total Discounted Fuel and O&M cost,  $T_e$  will be calculated as shown in Table below:

Year	Annual Fuel Cost In Taka	O&M Cost per year In Taka	Discounted Fuel and O&M cost per Year In Taka
1.	Fac	Ca	$(Fac+Ca)/(1+d)$
2.	Fac	Ca	$(Fac+Ca)/(1+d)^2$
3.	Fac	Ca	$(Fac+Ca)/(1+d)^3$
4.	Fac	Ca	$(Fac+Ca)/(1+d)^4$
5.	Fac	Ca	$(Fac+Ca)/(1+d)^5$
6.	Fac	Ca	$(Fac+Ca)/(1+d)^6$
7.	Fac	Ca	$(Fac+Ca)/(1+d)^7$
8.	Fac	Ca	$(Fac+Ca)/(1+d)^8$
9.	Fac	Ca	$(Fac+Ca)/(1+d)^9$
10.	Fac	Ca	$(Fac+Ca)/(1+d)^{10}$
11.	Fac	Ca	$(Fac+Ca)/(1+d)^{11}$
12.	Fac	Ca	$(Fac+Ca)/(1+d)^{12}$
13.	Fac	Ca	$(Fac+Ca)/(1+d)^{13}$
14.	Fac	Ca	$(Fac+Ca)/(1+d)^{14}$
15.	Fac	Ca	$(Fac+Ca)/(1+d)^{15}$
16.	Fac	Ca	$(Fac+Ca)/(1+d)^{16}$
17.	Fac	Ca	$(Fac+Ca)/(1+d)^{17}$
18.	Fac	Ca	$(Fac+Ca)/(1+d)^{18}$
19.	Fac	Ca	$(Fac+Ca)/(1+d)^{19}$
20.	Fac	Ca	$(Fac+Ca)/(1+d)^{20}$
<b><math>T_e =</math></b>			

Then Per unit Discounted Fuel and O&M cost ( $T_2$ ) (calculated for HFO operation) in BTk. per kW will be found out by dividing  $T_e$  by Net Power output  $P_0$  in kW at Site conditions. Hence  $T_2 = T_e / P_0$ .

### **Evaluated Price**

**Finally Evaluated cost (T) in BTK. per kW will be found out by adding  $T_1$  and  $T_2$  . Hence,  $T = T_1 + T_2$ .**

**The tenderer whose T value is the lowest will be adjudged the lowest tenderer.**

**26.0 EXCHANGE RATE**

For comparison of Proposals, the B-R Powergen Ltd. shall convert all the currencies excepting Bangladesh currency quoted by the Tenderers into Bangladesh Taka. Such conversions shall be made on the basis of the selling rates for the relevant currencies quoted by the Sonali Bank on the date of Tender closing and applicable to similar transactions.

**27.0 TENDER SECURITY**

The Technical & Financial Proposals shall be accompanied by a Tender Security in the sum not less than US Dollar 25,00,000 (USD twenty five hundred thousand) in the form of an unconditional and irrevocable Bank Guarantee (on non-judicial stamp) by a scheduled bank in Bangladesh or a foreign bank authenticated by a Scheduled Bank in Bangladesh payable in favour of B-R Powergen Ltd., House -39, Road No-12, Sector-4, Uttara Model Town, Dhaka-1230.

Such Bank Guarantee shall remain valid for a period of twenty-eight [28] days beyond the original validity period of Tender or beyond any period of extension subsequently requested under ITT Clause 3.0 days from the date of opening of the Tender. If a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Tender Form, the Tender Security shall be forfeited. The scheduled bank shall guarantee that after conclusion of successful contract negotiation between the B-R Powergen Ltd. and the selected Tenderer and upon B-R Powergen Ltd.'s issuing notice of award of contract to the successful Tenderer giving him fifteen (15) day's notice to enter into contract with the B-R Powergen Ltd. within the above notice period. Otherwise the Security and the Bank Guarantee shall be liable to be forfeited to the B-R Powergen Ltd.. Failure to enclose the Tender Security with the Proposal shall automatically disqualify the Proposal concerned. A Proposal with a Tender Security in an amount less than US \$ 25,00,000 (USD twenty five hundred thousand) will not be considered and will be rejected. The Tender Securities of all the unsuccessful Tenderers will be returned without interest after the successful Tenderer has signed the contract and furnish the Performance Security. Specimen form of the Tender Security is furnished in Appendix -1.

**28.0 PERFORMANCE SECURITY**

A Performance Security in the form of an irrevocable & unconditional Bank Guarantee issued by a Scheduled Bank in Bangladesh on behalf of the Contractor's banker shall be submitted prior to the signing of Contract which will accompanied with the Contract. **The Performance Security shall be in a penal sum not less than ten percent (10%) of the accepted Tender,** conditioned for the complete and faithful performance of the Contract according to its tenor and effect and the satisfaction of obligations for the materials used and labour employed in

the same, and shall insure the payment of any obligations, damages, liquidated damages or expenses for which the Contractor may become liable to the B-R Powergen Ltd..The Contractor's Performance Security under these specifications shall remain in full force and effect until the Contractor has fully performed the Contract including the maintenance and warranty periods set forth in the scope of works of the Technical Requirements. Unless a different period of time is allowed in the Notice of Tender, the Contract shall be signed by the successful tenderer within twenty eight (28) days after receipt of notice of award. The specimen of Performance Security is furnished at Annexure-5.

At the time of executing the Contract, the Tender Security shall be returned without interest to the Contractor after he has furnished to the satisfaction of the B-R Powergen Ltd. the Performance Security in accordance with the terms and conditions stipulated herein the contract conditions. The Performance Security shall remain valid until completion of warranty period.

The proceeds of the Performance Security shall be payable to the Employer unconditionally upon first written demand as compensation for any loss resulting from the Contractor's failure to complete its obligations under the Contract.

The Employer shall notify the Contractor of any claim made against the Bank issuing the Performance Security.

The Employer may claim against the security if any of the following events occurs for fourteen (14) days or more.

- (a) The Contractor is in breach of the Contract and the Employer has notified him that he is; and
- [
- (b) The Contractor has not paid an amount due to the Employer.

In the event the Contractor is liable to pay compensation under the Contract amounting to the full value of the Performance Security or more, the Employer may forfeit the full amount of the Performance Security.

If there is no reason to call the Performance Security, the Performance Security shall be discharged by the Employer and returned to the Contractor not later than twenty-eight (28) days following the date of completion of warranty period.

## 29.0 **NOTIFICATION OF AWARD**

Following the evaluation of the Proposals, the B-R Powergen Ltd. will issue a Notification of Award to enter into discussion with the successful Tenderer for the execution of the Works. Upon issuance of such Notification of Award by the B-R Powergen Ltd., the successful Tenderer shall submit ten (10) copies of draft Contract and be deemed to be ready to start immediately the discussion with the B-R Powergen Ltd. so as to enter into the Contract. The successful Tenderer have to, to submit acceptance of Notification of Award in writing within seven (7) days of issuance of Notification of Award.

### 30.0 **CONTRACT AGREEMENT**

The successful Tenderer shall, when called upon to do so, enter into and execute a Contract Agreement in the form furnished in Annexure-6, with such modifications as may be necessary. The signing of the Contract by the B-R Powergen Ltd. and the successful Tenderer shall be made in Dhaka, Bangladesh.

Five (5) originals of the Contract Agreement complete in all respects shall be prepared by the successful Tenderer on successful completion of discussion. These will be handed over to the Project Director for final scrutiny together with Performance Security and Power of Attorney. Upon clearance by the Project Director, the successful Tenderer shall submit the Contract Documents to the B-R Powergen Ltd. for signing in Dhaka.

After signing of the Contract, two (2) original Contract Documents will be forwarded to the Contractor. The Contractor shall thereafter, but not later than twenty one (21) days, prepare Fifteen (15) conformed copies of the final Contract Document and shall deliver to the B-R Powergen Ltd. through the Engineer.

### **31.0 Corrupt, Fraudulent, Collusive or Coercive Practices:**

(1) The Government requires that Purchasers, as well as Tenderers and Suppliers shall observe the highest standard of ethics during the implementation of procurement proceedings and the execution of contracts under public funds.

(2) In pursuance of this requirement, the Purchaser shall:

- (a) exclude the Tenderer from participation in the procurement proceedings concerned or reject a proposal for award; and
- (b) declare a Tenderer ineligible, either indefinitely or for a stated period of time, from participation in procurement proceedings under public funds;

if it, at any time, determines that the Tenderer has engaged in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing, a contract under public funds.

(3) Should any corrupt, fraudulent, collusive or coercive practice of any kind come to the knowledge of the Purchaser, it shall, in the first place, allow the Tenderer to provide an explanation and shall, take actions only when a satisfactory explanation is not received. Such exclusion and the reasons thereof, shall be recorded in the record of the procurement proceedings and promptly communicated to the Tenderer concerned. Any communications between the Tenderer and the Purchaser related to matters of alleged fraud or corruption shall be in writing.

(4) The Government defines, for the purposes of this provision, the terms set forth below as follows:

- (a) "*corrupt practice*" means offering, giving, or promising to give, directly or indirectly, to any officer or employee of a Procuring Entity or other governmental/private authority or individual, a gratuity in any form, an employment, or any other thing or service of value, as an inducement with respect to an act or decision of, or method followed by, a Procuring Entity in connection with the procurement proceeding;

- (b) "*fraudulent practice*" means a misrepresentation or omission of facts in order to influence a procurement proceeding or the execution of a contract to the detriment of the Purchaser;
  - (c) "*collusive practice*" means a scheme or arrangement among two or more Tenderers, with or without the knowledge of the Purchaser (prior to or after Tender submission), designed to establish Tender prices at artificial, non-competitive levels and to deprive the Purchaser of the benefits of free, open and genuine competition; and
- (2) "*coercive practice*" means harming or threatening to harm, directly or indirectly, persons or their property to influence the procurement proceedings, or affect the execution of a contract.

### **32.0 Tenderer: Contacting the Purchaser:**

- (1) Following the opening of the Tenders and until the Contract is signed no Tenderer shall make any unsolicited communication to the Purchaser or try in any way to influence the Purchaser's examination and evaluation of the Tenders.
- (2) Any effort by a Tenderer to influence the Purchaser in its decisions on the examination, evaluation, comparison, and post-qualification of the Tenders or Contract award may result in the rejection of its Tender.
- (3) Notwithstanding above Sub Clause (1), from the time of Tender opening to the time of Contract award, if any Tenderer wishes to contact the Purchaser on any matter related to the tendering process, it should do so in writing.

### **33.0 Tenderer: Right to Complain:**

Any Tenderer has the right to complain [Annexure-7] if it has suffered or may suffer loss or damage due to a breach of a duty imposed on the Purchaser by the Public Procurement ACT 2006 (PPA) and Public Procurement Regulations 2008 (PPR).

## APPENDIX-1

### **FORM OF TENDER SECURITY** (SPECIMEN)

To :

Company Secretary,  
B-R Powergen Ltd.,  
House -39, Road No-12  
Sector-4, Uttara Model Town, Dhaka-1230.

Subject : Tender Security

We the undersigned-----whose  
registered office is established and located at-----  
financially guaranteed unconditionally & irrevocably Messrs -----  
----- Tender for the Turnkey Project (name of the project), to the amount of U.S.\$ --  
----- (U.S. Dollar only) for the due performance of the Tenderer's obligations as specified in  
the said Tender Documents. We undertake to pay you the said amount at your first  
demand without warning or any restriction or other condition. The validity of this Tender  
Security shall remain valid upto -----2017 .

If any further extension of this Tender Security is required, the same shall be extended to  
such required period on receiving instruction from the B-R Powergen Ltd..

All demand not presented to the Bank within the above mentioned validity period of this  
Security shall be rejected.

For and on behalf of :

-----  
(Bank)

(Official Seal)

## APPENDIX-2



**FORM OF TENDER**  
(SPECIMEN)

SHORT DESCRIPTION OF WORKS:  
..... Power Plant

(Note : - Tenderers are required to fill up all the blank  
spaces in this Tender Form and Appendices).

To

B-R Powergen Ltd.

GENTLEMEN,

Having examined the Conditions of Contract, Specifications, Drawings, Bill of Quantities and Addenda Nos. --- dated --- for above named works, and having been satisfied as to all conditions under which the above named works must be performed, we the undersigned offer to design, manufacture, furnish, deliver to the Site, store at the Site, construct civil works, erect, start up, trial operation and put into initial commercial operation, carry out Performance Tests, be responsible for two year's supervision of maintenance and operation, of the whole of the said works in conformity with the said Conditions of Contract, Specifications, Bill of Quantities and Drawings etc., for the total Tender Price of Bangladesh Taka------(TK-----) and Foreign Currency------(convertible currency )

1. Should this Tender be accepted by you, we propose to send a representative or representatives having our Power of Attorney to Dhaka, Bangladesh within 10 days following receipt of your written acceptance of this Tender for the purpose of executing a Contract Agreement in the form set out in the Contract Documents with such alterations or additions thereto as you may require to adopt for such agreement to the circumstances of this Tender.
3. We undertake if our Tender is accepted to commence the Works within (30) days of receipt of the B-R Powergen Ltd./Engineer orders to commence and complete all the Work specified in the Contract Documents so that the unit is ready for initial commercial operation from the date of the B-R Powergen Ltd./Engineer's order to commence. schedule of manufacture, delivery, erection, commissioning and making ready for commercial operation to achieve the aforesaid Initial commercial operation dates are given in the Appendix-4.

4. If our Tender is accepted we will submit a Guarantee from a Scheduled Bank of Bangladesh for a sum of 10% (ten percent) of the contract price amount for the due performance of the Contract under the terms of a Security to be approved by you.
5. We agree that this Tender shall remain valid for a period of (180) days, following the date fixed for receiving the same and it shall remain binding on us and may be accepted by you at any time before the expiration of that period.
6. Unless and until a formal agreement is prepared and executed, this Tender, together with your written acceptance thereof, shall constitute a binding Contract between us.
7. We understand that you are not bound to accept the lowest or any tender you may receive and that you will not defray any expense incurred by us in tendering.
8. As security for the due performance for the undertakings and obligations of this Tender, we submit herewith the Tender Security in the amount of..... drawn in your favour or made payable to you and valid for (180+28) days from the date established for opening of Tenders.
9. We understand that all the Appendices attached hereto and those furnished with the Technical proposal including data and information submitted herewith form part of this Tender.

-----

TENDERER

dated-----day of -----2017

**Bill of Materials/Quantities  
&  
Price Schedule**

**The Tenderer shall fill-up the following table of prices and shall include the same in the financial proposal**

## **Schedule-1**

### **Supply of Equipment:**

(Quantity of the lot as stated bellow will be dictated by the offered no. of units by the tenderer and shall have to be adequate for the Gen. Sets offered. But it is to be taken into consideration that individual generating unit capacity will not be less than 10MW.)

Note: star (\*) sign at A6, A9 indicate that item to be quoted in local price (BDT.).

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A	<b>POWER GENERATION</b>											
A1	<b>GENERATING SET</b>											
A1.1	ENGINE	1 (one) lot.										
A1.2	GENERATOR	1 (one) lot										
A1.3	CONNECTIONS Flexible connections between engine and external piping - Flexible hoses and gaskets (set) - Cooling water bellows (set) - Exhaust gas bellows - Charge air bellows compensator	1 (one) lot										
A1.4	PLATFORMS Engine maintenance platform prefabricated	1 (one) lot										

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A2	<b>MECHANICAL AUXILIARY SYSTEMS</b>											
A2.0	AUXILIARY MODULES Engine auxiliary module with integrated compact booster including - Fuel oil filter - Fuel booster pump - Return fuel pump - Fuel oil cooler - Return fuel tank - Lubricating oil automatic filter - Lubricating oil cooler - Pre lubricating oil pump - Pre heating unit - Thermostatic valve lubricating oil back-up cooler - Thermostatic valve high temperature water system - Thermostatic valve low temperature water system - Pressure increasing pump - Steam heater - Piping and insulation - Valves and gauges - Module control panel Exhaust gas module - Low temperature expansion tank - Charge air silencer - Exhaust gas branch pipe - Piping and insulation - Oil mist separator Pipe rack	1 (one) lot										

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A2.1	FUEL SYSTEM											
A2.1.1	LIGHT FUEL OIL SYSTEM including Light fuel oil unloading pump unit Light fuel oil digital flow meter for measuring unloading fuel in Kg Light fuel oil tank Light fuel oil tank equipment Light fuel oil transfer pump unit Light fuel oil day tank (1x0.5 million liter) Light fuel oil day tank equipment Heavy / light fuel oil feeder unit - Pressure regulating system with variable frequency drive - Light fuel oil feeder pump - Automatic filter - Manual by-pass filter - Viscosity control system Piping and valves light fuel oil system inside engine hall Piping and valves light fuel oil system outside engine hall	1 (one) lot										
A2.1.2	HEAVY FUEL OIL SYSTEM including Heavy fuel oil unloading pump unit Heavy fuel oil flow meter for measuring unloading fuel in Kg Heavy fuel oil storage tank (4x4.0 million liter) Heavy fuel oil storage tank equipment Heavy fuel oil transfer pump unit Heavy fuel oil storage tank suction heater Heavy fuel oil buffer tank Heavy fuel oil buffer tank insulation	1 (one) lot										

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
	Heavy fuel oil buffer tank equipment Heavy fuel oil separator unit - Separator - Delivery pump - Strainer - Steam heater - Sludge tank - Sludge pump - Steel frame - Control panel - Interconnection pipes, flanges, seals and valves Heavy fuel oil day tank (2x1.0 million liter) Heavy fuel oil day tank insulation Heavy fuel oil day tank equipment Heavy / light fuel oil feeder unit - Heavy fuel oil feeder pump - Pressure regulating system with variable frequency drive - Automatic filter - Manual by-pass filter - Viscosity control system Heavy fuel oil flow meter for engine consumption in Kg Piping and valves heavy fuel oil system inside engine hall Heavy fuel oil trace heating material inside engine hall Heavy fuel oil pipe insulation inside engine hall Piping and valves heavy fuel oil system outside engine hall Heavy fuel oil trace heating material outside engine hall Heavy fuel oil pipe insulation outside engine hall											

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A2.2	LUBRICATING OIL SYSTEM including Lubricating oil separator unit Lubricating oil unloading pump unit: fresh oil Lubricating oil storage tank: fresh oil Equipment for lubricating oil storage tank: fresh oil Lubricating oil service tank Lubricating oil service tank equipment Lubricating oil transfer pump unit (mobile) Lubricating oil transfer pump unit (stationary) Lubricating oil storage tank: used oil Lubricating oil unloading pump unit: used oil Equipment for lubricating oil storage tank: used oil Piping and valves lubricating oil system inside engine hall Lubricating oil system pipe insulation inside engine hall Piping and valves lubricating oil system outside engine hall Lubricating oil system pipe insulation outside engine hall	1 (one) lot										
A2.3	COMPRESSED AIR SYSTEM including Starting air bottle Starting air compressor unit – consists of two units each two stage type Starting air compressor unit – consists of one units each two stage type Instrument air compressor unit Instrument air bottle Piping and valves compressed air system (set)	1 (one) lot										



Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A2.4	COOLING SYSTEM including Cooling radiator/ tower Cooling radiator/tower legs (set) Cooling radiator/tower ladder and railings Maintenance water tank units (fresh water) Piping and valves maintenance water system (set) Piping and valves cooling system inside engine hall Piping and valves cooling system outside engine hall	1 (one) lot										
A2.5	CHARGE AIR SYSTEM including Charge air filtration system Ducting charge air system (set) Charge air silencer	1 (one) lot										
A2.6	EXHAUST SYSTEM including Exhaust gas silencer Bellows for exhaust gas silencer Ducting exhaust gas system (set) Bellows for exhaust gas ducting Insulation exhaust gas ducting (set) Exhaust gas stack pipe	1 (one) lot										
A2.7	STATION SUPPORT SYSTEM											
A2.7.1	OILY WATER SYSTEM including Oily water transfer pump units Oily water buffer/interceptor tank with separation compartment considering 1% sludge of the quantity of consumed fuel for 80% plant factor for three (03) months. Oily water feed pump unit	1 (one) lot										

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
	Automatic Oily water treatment unit (Emulsion breaking unit) Sludge tank considering 1% sludge of the quantity of consumed fuel for 80% plant factor for three (03) months. Sludge loading pump unit Piping and valves oily water treatment system (set) Sludge disposal											
A2.7.2	WATER TREATMENT SYSTEM including Water treatment unit Treated water storage tank <b>having capacity of 15 days plant usage water</b> Water booster units Piping and valves treated water system (set)	1 (one) lot										
A2.7.3	FIRE FIGHTING SYSTEM associated with the Engine	1 (one) lot										
A2.8	HEAT RECOVERY SYSTEM											
A2.8.1	STEAM GENERATION SYSTEM	1 (one) lot										
	STEAM GENERATION SYSTEM FOR FUEL HEATING including Exhaust gas boiler - Inlet and outlet hoods with inspection doors - Modulating exhaust gas by-pass damper with actuator - Manual steam soot blowing equipment - Shut-off valves - Blow-down drain - Safety valve - Relief valve											

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
	<ul style="list-style-type: none"> <li>- Pressure switches</li> <li>Level switches</li> <li>- Level control device</li> <li>- Insulation and cladding</li> <li>- Counter flanges, bolts, nuts and gaskets</li> <li>- Mounting supports</li> <li>- Boiler service platform</li> <li>Bellows for exhaust gas boiler</li> <li>Heat recovery container</li> <li>- Feed water tank</li> <li>- Feed water pump</li> <li>- Chemical dosing unit</li> <li>- Blow-down tank</li> <li>- Local control panel</li> <li>- Light fuel oil fired boiler for steam generation during startup and emergency</li> <li>- Oil detector</li> <li>Steam header</li> <li>Boiler washing water tank</li> <li>Boiler washing water pump</li> <li>Piping, valves and insulation for steam generation system for fuel heating (set)</li> </ul>											

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A2.9	FUEL UNLOADING SYSTEM (HFO & LFO)	1 (one) lot										
	Fuel unloading system including - Fuel unloading house, jetty/pontoon - Fuel unloading jetty/pontoon - Fuel unloading pumps (2x100 m <sup>3</sup> for HFO & 2x30 m <sup>3</sup> for LFO) for each unloading point - Piping, valves and insulation											
A2.10	Other miscellaneous System/equipment/materials for mechanical auxiliary system	1 (one) lot										
A3	<b>EMERGENCY DIESEL GENERATOR (EDG)</b>											
A3.1	EMERGENCY DIESEL GENERATING SET (not less than 500 kVA) complete in all respect including all auxiliaries and ancillary systems.	1 (one) lot										
A4	<b>132 KV Switchgear, Equipment And Transformers</b>											
A4.1	<b>132 KV Switchgear Equipment</b>											
A4.1.1	132 kV circuit breaker [3 phase trip, Live/ Dead Tank type]	1 (one) lot										
A4.1.2	132 KV Current Transformers	1 (one) lot										
A4.1.3	132 KV Voltage Transformers	1 (one) lot										
A4.1.4	132 KV Lightning Arresters.	1 (one) lot										
A4.1.5	132 KV Isolators	1 (one) lot										
A4.1.6	Steel structures for supporting the switchgear, equipment, posts and beams and gantry structures.	1 (one) lot										
A4.1.7	Suspension/post insulator string sets, tension insulator string sets and station post supporting insulator set with necessary hardware	1 (one) lot										

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A4.1.8	Shield wire connectors and necessary hardware	1 (one) lot										
A4.1.9	All other equipment and materials for interconnection with grid	1 (one) lot										
A4.2	<b>Step-Up Transformers And Associated Equipment</b>											
A4.2.1	3 phase step-up transformers and associated equipment	1 (one) lot										
A4.3	<b>Auxiliary Transformer and Associated Equipment</b>											
A4.3.1	Auxiliary transformer and associated equipment	1 (one) lot										
A5	<b>Control And Protection System</b> including -unit control panels, -central control panel & desks, -protection panels, -11kv switchgear control desk, -synchronizing panel, -auxiliary power supply panel, -132 kV control and protection panel - any other required control & protection panel and desk etc.	1 (one) lot										
A6	CONSUMSBLES											
A6.1	CONSUMSBLES (initial filling)											
*A6.1.1	First filling of chemicals for water treatment	1 (one) lot	Please quote price "Items to be quoted in BDT Price" at the bottom of schedule-1.									
*A6.1.2	First filling of Lubricating oil for engine	1 (one) lot										
A6.1.3	Other consumables (filters, grease etc.)	1 (one) lot										

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A6.2	CONSUMSBLES (during warranty period with considering 80% plant factor)											
*A6.2.1	Chemicals for water treatment	1 (one) lot	Please quote price “Items to be quoted in BDT Price” at the bottom of schedule-1.									
*A6.2.2	Lubricating oil for engine	1 (one) lot										
A6.2.3	Other consumables (filters, grease etc.)	1 (one) lot										
A7	Other Mechanical System (if not mentioned above)	1 (one) lot										
A8	Other Electrical System (if not mentioned above) including - 6.6 kV switchgear (if required), - 415 V power center, - 41 5 V common power Centre - 415 unit motor control center for each engine gen. set. - 11 kV XLPE power cables (copper) - 6.6 kV XLPE power cables ( copper). (if required) - Low Voltage power cables (copper). - Control and instrument cables (copper). - Race way materials - Grounding system. - Lighting and small power supply - Communication system including PLC, PABX, Paging System - DC power supply system including 2(two) banks of 125 V Battery and 2(two) sets of battery chargers (Thyristor type) and other associated facilities. - UPS for unit control system in addition to Control & Communication system.	1 (one) lot										

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A9	MAINTENANCE FACILITY											
A9.1	OVER-HEAD CRANES											
A9.1.1	Engine hall overhead Crane (5 Ton each)	2 (Two) lot										
A9.1.2	Ware house overhead Crane (3 Ton)	1 (one) lot										
A9.1.3	Workshop overhead Crane (2 Ton)	1 (one) lot										
A9.2	LIFTING EQUIPMENT											
A9.2.1	Fork lift (5 ton)	2 no.										
*A9.2.2	Jeep	1 no.	Please quote price "Items to be quoted in BDT Price" at the bottom of schedule-1.									
*A9.2.3	Half track-double cab (2 Ton)	1 no.										
*A9.2.4	Microbus	1 no.										
*A9.2.5	Single cab pick up (1 Ton)	1 no.										
A10	OFF BASE FIRE FIGHTING FACILITY											
A10.1	Foam Based Fire-fighting facilities	1 (one) lot										
A10.2	Hydrant system including water main, hydrant stands, hoses, motor driven and engine driven firefighting pumps, jockey pump etc.	1 (one) lot										
A10.3	Portable firefighting equipment.	1 (one) lot										
A10.4	Other firefighting related equipment	1 (one) lot										
A11	SPARE PARTS AND CONSUMABLES FOR 2 YEARS WARRANTY PERIOD with considering 80% plant factor											
A11.1	CONSUMABLES FOR WARRANTY PERIOD OPERATION (including lubricating oils except engine, chemicals, filters, gaskets etc.)	1 (one) lot										
A11.2	SPARES FOR WARRANTY PERIOD OPERATION	1 (one) lot										
A12	MAINTENANCE TOOLS including											

Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A12.1	Special Maintenance Tools											
A12.1.1	Special Engine maintenance tools (set) for plant maintenance	1 (one) lot										
A12.1.2	Tools for turbocharger (set)	1 (one) lot										
A12.1.3	HFO separator tools (set)	1 (one) lot										
A12.1.4	Lubricating oil separator tools (set)	1 (one) lot										
A12.2	Plant Hand Tools											
A12.2.1	Hand tools set for engine maintenance	1 (one) lot										
A12.2.2	Other tools.	1 (one) lot										
A13	OFFICE EQUIPMENT	1 (one) lot										
A14	ELECTRICAL WORKSHOP TOOLS [Current injection test set, Megger, Digital Multimeter, Relay testing kit, process calibrator, pressure simulator, AVO insulation tester, temperature simulator bath, voltage detector with insulating telescopic stick, Electric power supply test bench, clamp on meter]	1 (one) lot										
A15	MACHINE SHOP EQUIPMENT & TOOLS including Lathe, Pillar drill, Grinding machine, Small universal machine tools, Welding sets (arc, tig, mig), Valve seat grinding machine, Engine cylinder peak meter, seat removing and fixing tools, Bench vices, Cylinder liner honing machine, Cylinder head bench, Cylinder head ultrasonic washing m/c, sand blasting m/c, measuring tools set for work shop activities etc.	1 (one) lot										



Sl. No	Item Name	Qty	Foreign Currency						Bangladesh Taka			
			FOB Price		Freight		Insurance		Insurance for Transportation up to Site		Custom Clearance and Inland Transportation	
			Rate	Total	Rate	Total	Rate	Total	Rate	Total	Rate	Total
A16	CHEMICAL LAB EQUIPMENT Spectrophotometer, Fuel/Lube oil testing (Water in oil content, BN, Insoluble, AN, Density, Viscosity, Compatibility), water (PH, Conductivity, TDS, Total Hardness, Nitrite, Total Alkalinity, Silica), Exhaust (SO <sub>x</sub> , NO <sub>x</sub> , Particulate matter) measuring instrument.	1 (one) lot										
A17	OTHERS, if necessary (Tenderer shall specify those items)	1 (one) lot										

**Items to be quoted in BDT Price:**

Sl. No	Item Name	Qty	Bangladesh Taka	
			Price	
			Rate	Total
*A6.1.1	First filling of chemicals for water treatment	1 (one) lot		
*A6.1.2	First filling of Lubricating oil for engine	1 (one) lot		
*A6.2.1	Chemicals for water treatment	1 (one) lot		
*A6.2.2	Lubricating oil for engine	1 (one) lot		
*A9.2.2	Jeep	1 no		
*A9.2.3	Half track-double cab (2 Ton)	1 no.		
*A9.2.4	Microbus	1 no		
*A9.2.5	Single cab pick up (1 Ton)	1 no.		

**Schedule-2**  
**Erection & Commissioning**

Sl. No.	Description	Qty	Erection & Commissioning				Insurance for Erection & Commissioning	
			Foreign currency		Bangladesh Taka		Bangladesh Taka	
			Rate	Total	Rate	Total	Rate	Total
2A	Engine Generating sets complete with all auxiliary equipment	1 lot						
2B	Step-Up Transformer and 132 KV switchgear, equipment, Grid Inter-connection etc.	1 lot						
2C	Control equipment and other electrical equipment and materials.	1 lot						
2D	Maintenance facilities, fuel unloading and handling facilities, fire fighting facilities and other mechanical facilities.	1 lot						
2E	OTHERS, if necessary (Tenderer shall specify those items)	1 lot						
	<b>Sub-total : Sch.2</b>							

**Schedule-3**  
**Civil & Building Works:**

SI No	Description	Qty	Civil & Building Works				Insurance for Civil & Building works	
			Foreign currency		Bangladesh Taka		Bangladesh Taka	
			Rate	Total	Rate	Total	Rate	Total
3	CIVIL WORKS AND STRUCTURES							
3A	POWER PLANT BUILDINGS							
3A.1	ENGINE HALL including Superstructures, engine hall Earthworks and substructures, engine hall Earthworks and substructures, generating set Inlet ventilation, generator side Inlet ventilation, auxiliary side Outlet ventilation, roof monitor Plumbing and sanitary installations, engine hall Electrification, engine hall Fire detection, engine hall Sunlight shed Hydrant valve pairs Standpipe hose cabinet Portable fire extinguisher (dry powder type) Mobile foam unit Overhead crane, engine hall	1 lot						
3A.2	UTILITY BLOCK including Superstructures, Utility block Earthworks and substructures, Utility block Ventilation,	1 lot						

SI No	Description	Qty	Civil & Building Works				Insurance for Civil & Building works	
			Foreign currency		Bangladesh Taka		Bangladesh Taka	
			Rate	Total	Rate	Total	Rate	Total
	Utility block Air-conditioning, Utility block Plumbing and sanitary installations, Utility block Electrification, Utility block Fire detection, Utility block Fire fighting, hose reel, Portable fire extinguisher (dry powder type), Portable fire extinguisher (CO2 type) Overhead cranes, Utility block Pillar jib crane, pipe support.							
3A.3	FUEL TREATMENT BUILDING including Superstructures, Fuel treatment building Earthworks and substructures, Fuel treatment building Ventilation, Fuel treatment building Plumbing and sanitary installations, Fuel treatment building Electrification, Fuel treatment building Fire detection, Fuel treatment building Portable fire extinguisher (dry powder type) Portable fire extinguisher (dry powder type) Overhead crane, Fuel treatment building Earthworks and substructures, pipe support	1 lot						
3A.4	FIRE FIGHTING STRUCTURES Earthworks and substructures	1 lot						
3B	ANCILLIARY SERVICE BUILDINGS							

SI No	Description	Qty	Civil & Building Works				Insurance for Civil & Building works	
			Foreign currency		Bangladesh Taka		Bangladesh Taka	
			Rate	Total	Rate	Total	Rate	Total
3B.1	GUARD HOUSE, Ansar Shed Complete guard house	1 lot						
3B.2	ADMINISTRATION BUILDING Complete administration building	1 lot						
3B.3	WORK SHOP Complete workshop building	1 lot						
3B.4	STORE Complete store building for spares and consumables	1 lot						
3B.5	DORMETORY Complete dormitory building (minimum 12000 sq.ft, 6 storied with all facilities for living)	1 lot						
3C	OIL STORAGE AND CONTAINMENT AREAS							
3C.1	DAY TANK CONTAINMENT AREA including Earthworks and substructures, light fuel oil day tank Earthworks and substructures, heavy fuel oil buffer tank Earthworks and substructures, heavy fuel oil day tank Earthworks and substructures, oily water buffer tank Earthworks and substructures, sludge tank Earthworks and substructures, lubricating oil storage tank: fresh oil Earthworks and substructures, lubricating oil storage tank: used oil Earthworks and substructures, lubricating oil service tank	1 lot						
3C.2	FUEL STORAGE CONTAINMENT AREA including Earthworks and substructures, light fuel oil storage tank Earthworks and substructures, heavy fuel oil storage tank	1 lot						

SI No	Description	Qty	Civil & Building Works				Insurance for Civil & Building works	
			Foreign currency		Bangladesh Taka		Bangladesh Taka	
			Rate	Total	Rate	Total	Rate	Total
	Earthworks and substructures, dike bottom Earthworks and substructures, dike wall Earthworks and substructures, pipe support							
3C.3	FUEL UNLOADING STATION including Superstructures, fuel unloading station Earthworks and substructures, fuel unloading station Plumbing and sanitary installations, fuel unloading station Electrification, fuel unloading station Portable fire extinguisher (dry powder type) Earthworks and substructures, pipe support	1 lot						
3C.4	LUBRICATING OIL HANDLING FACILITIES including Earthworks and substructures, lubricating oil unloading station, structure for Lube oil drum storage	1 lot						
3D	AUXILIARY STRUCTURES							
3D.1	COOLING SYSTEM STRUCTURES including Earthworks and substructures, cooling radiator/tower Earthworks and substructures, pipe support	1 lot						
3D.2	CHARGE AIR / EXHAUST GAS DUCTING AND BOILER SUPPORT STRUCTURES including Steel structures for charge air duct support (set) Steel structures for auxiliary equipment support (set) Steel structures outside the building (set) Superstructures, exhaust gas stack Earthworks and substructures, exhaust gas stack Earthworks and substructures, heat recovery container Superstructures, boiler support Earthworks and substructures, boiler support	1 lot						

SI No	Description	Qty	Civil & Building Works				Insurance for Civil & Building works	
			Foreign currency		Bangladesh Taka		Bangladesh Taka	
			Rate	Total	Rate	Total	Rate	Total
3D.3	OIL/WATER COLLECTING AND SEPARATION STRUCTURES including Oily water collecting pit Superstructures, oily water transfer pump shelter Superstructures, oily water treatment unit and separation compartment Earthworks and substructures, oily water treatment unit Plumbing and sanitary installations, oily water treatment unit	1 lot						
3D.4	WATER TREATMENT SYSTEM STRUCTURES including Earthworks and substructures, treated water storage tank, treated water tank having capacity of 15 days water for plant usage	1 lot						
3E	POWER TRANSMISSION AREAS							
3E.1	POWER TRANSFORMER AREAS Earthworks and substructures, power transformer Fence, around power transformer	1 lot						
3E.2	SWITCHYARD AREAS Earthworks and substructures, switchyard Switchyard surface covering Fence, around switchyard	1 lot						
3F	SITE WORKS Land Development works, Earthworks, soil stabilization (piles, soil reinforcement, etc.) (if required) Existing elements on plot (demolition, protection, cleaning, top soil removal, etc.) (if required)	1 lot						

SI No	Description	Qty	Civil & Building Works				Insurance for Civil & Building works	
			Foreign currency		Bangladesh Taka		Bangladesh Taka	
			Rate	Total	Rate	Total	Rate	Total
	Earth excavation on plot (if required) Rock excavation on plot (if required) Filling on plot (if required) Remedial work for the ground and / or groundwater contamination (if required) Pipelines on plot, cable trench to switchyard Pavements, roads and parking Power plant surface covering (gravel) Lawns Boundary Wall and Fence, Pavements, kerbs and rain water drainage Road to plant Fuel pipe to plant Water pipe to plant Sewage pipe to plant Telephone line to plant							
3G	OTHERS, if necessary (Tenderer shall specify those items)	1 lot						
	<b>Sub-total : 3</b>							



#### Schedule-4

#### Services :

Sl. No.	Description	Qty	Services			
			Foreign currency		Bangladesh Taka	
			Rate	Total	Rate	Total
4A	DESIGN AND ENGINEERING	1 lot				
4B	WORKSHOP TESTS INCLUDING TEST WITNESSING	1 lot				
	TRAINING					
4C1	Training at manufacturers factory	1 lot				
4C2	Traveling charges, 15 persons	1 lot				
4C3	Living allowance, 15 Man-Month	1 lot				
4C4	Training at the site	1 lot				
4D	DOCUMENTS (DRWINGS, OPERATION MANUALS etc.)	1 lot				
4E	Service for Execution of maintainance works(inspection, repair, overhauling etc.) during 2 years warranty period	1 lot				
4F	Operation and maintenance services after satisfactory performances test. (Warrantee engineers for 2 years warranty period).	1 lot				
	<b>Sub-total : 4</b>					

## Summary of Prices:

Sch. No.	Description	Foreign currency			Bangladesh Taka			
		FOB	Insurance & Freight	Service/ Erection, Commissioning , Civil & Building works	Insurance		Customs Clearance & Inland transportation	Erection, Commissioning, civil and building works
					Transportation upto site	Erection commissioning, civil & building works		
Sch. 1	<b>Supply of Equipment</b>							
Sch. 2	<b>Erection &amp; Commissioning</b>							
Sch. 3	<b>Civil and Building works</b>							
Sch. 4	<b>Services</b>							
<b>Total</b>								
<b>Grand Total</b>								

**TIME SCHEDULE****Manufacture, Delivery, Erection and Commissioning****Time In Days From Contract Effective Date**

<b>Generating unit</b>	<b>Date of FOB Delivery</b>	<b>Delivery to The Site</b>	<b>Erection Completion</b>	<b>Completion of Initial commercial operation</b>
	<b>in Days</b>	<b>in days</b>	<b>in Days</b>	<b>in Days</b>

**FORM OF PERFORMANCE SECURITY**  
(SPECIMEN)

To :-----  
-----  
-----

Subject : Performance Security.

1. With reference to the Contract No. -----dated-----  
between  
B-R Powergen Ltd. herein after called the "B-R Powergen Ltd." and -----  
hereinafter called the 'Contractor' for the Turnkey Project of -----  
Power Plant , -----, we, the undersigned hereby irrevocably guarantee  
the Contractor to the Powergen Ltd. up to the sum of 10% (Ten percent) of the Contract  
Amount i.e. -----(convertible currency) Plus Taka------(Tk.-----  
-----) for the due execution and proper performance of the Contract.
2. Now, therefore, if the Contractor shall duly and faithfully observe its performance in all  
particulars and abide by each and every convenience condition and part of said Contract  
and the conditions, specifications, drawings and other contract documents attached with  
the Contract, or by reference made a part thereof according to the intent and meaning of  
each case, then this obligation will be null and void, otherwise it shall remain in full force  
and effect.
3. That we now hereby clearly and specifically undertake to pay the said amount at your first  
demand without warning or any restriction or without making any reference to any party  
in case of default of performance of the Contractor.
4. That we, on behalf of the Bank, hereby agree that no extension of time, change additions  
or any other modifications of the terms of the Contract or the Work to be performed  
thereunder or of the Specifications or other Contract Documents shall in any way affect  
our obligations under this guarantee.
5. That this guarantee shall be binding on us and on our successors or permitted assigns and  
shall be irrevocable and unconditional.

Our liability under this guarantee is restricted to -----(convertible currency)  
Plus Taka------(Tk.-----) and shall not extend. beyond -----(date).This  
guarantee shall remain valid upto warranty period of the Plant  
(Sreepur 150 MW±10% (HFO BASED) Power Plant, -----, on execution of the  
turnkey job with successfully passing the Acceptance Test of the Plant.

Yours faithfully

For and on behalf of

-----  
(Bank)

(Official Seal)

**Form of Agreement**  
(SPECIMEN)

B-R POWERGEN LTD.

----- POWER PLANT-----

THIS AGREEMENT, made and entered into as of  
this -----day  
of -----A.D. 2017

BETWEEN

THE B-R POWERGEN LTD.

(hereinafter called -the "B-R Powergen Ltd.")

Party of the First Part :

AND

(hereinafter called the "CONTRACTOR")

Party of the Second Part :

WHEREAS the B-R Powergen Ltd. has requested proposals for the complete project Management, design, manufacturing, construction, commissioning and supervision of initial operation of ----- Power Plant within ----- and for the in plant training of B-R Powergen Ltd.'s operating personnel for this Power Plant, and

WHEREA'S, the Contractor has submitted a Tender for this work completed as specified, and WHEREAS the B-R Powergen Ltd. has accepted the Tender submitted by the Contractor, and

WHEREAS, the parties now desire to evidence their agreement for the performance of the Work, for the compensation and upon the terms and conditions herein set forth.

Now therefore this agreement witness, and the parties hereto agree as follows :

1. The Contractor, for and in consideration of the payment to be made to the Contractor as hereinafter provided, agrees to furnish all labour, equipment and materials necessary or required for the Work described in and in strict conformity with the Terms and Conditions



Signed and Sealed in  
the Presence of :

-----  
(Name)

-----  
(Name)  
-----  
(Title)  
(CONTRACTOR)

BY:-----CORPORATE SEAL  
(Name)  
-----  
(Title)

Signed and Sealed in  
the Presence of :

-----  
(Name)

BY :-----  
(Name)  
-----  
(Title)

**COMPLAINTS AND APPEALS**

**In Case of Complain and Appeals PPA-2006 & PPR-2008  
of Government of Bangladesh will be followed.**



## **Chapter II**

# **General Conditions**

## **CHAPTER II : GENERAL CONDITION**

### **1.0 CONTRACT DOCUMENTS**

It is understood and agreed that the Form of Agreement and the Tender Security, Performance Security, Instructions to Tenderers, Completed Tender Form with Appendices/Annexure/Exhibit (and Data supplied by the Contractor), General Conditions, Special Conditions, Technical Requirements, Drawings, Addenda, and Amendments, all as issued by the B-R Powergen Ltd. and the Engineer, and the Drawings, Specifications and Engineering Data which may be furnished by the Contractor in the form agreed upon by the B-R Powergen Ltd. included in this Contract and the Works will be done in accordingly.

The documents forming the Contract are to be taken as mutually explanatory of one another. If there is an ambiguity or discrepancy in the Documents, the B-R Powergen Ltd. shall issue necessary clarifications or instructions to the Contractor, and the priority of the documents shall be as follows:

- a. The Contract Agreement
- b. Performance Guarantee
- c. Power of Attorney
- d. Final Price Schedule.
- e. The Letter of Acceptance
- f. Notification of Award
- g. Minutes of Contract Negotiation.
- h. Volume 1:  
Instructions to Tenderers  
General Conditions  
Special Conditions  
Volume 2: Technical Requirement  
Technical Particulars [Schedules, Drawing & Data Sheets]
- i. Addenda, if any.
- j. All Correspondences between B-R Powergen Ltd. and the Contractor.
- k. Contractor's Proposals

### **2.0 DEFINITIONS**

Words, phrases, or other expressions used in these Contract Documents shall have the meanings hereby assigned to them except where the context otherwise requires :

- i) "Contract" or "Contract Document" shall include the items enumerated above under Section 1.0, CONTRACT DOCUMENT.
- ii) "**B-R Powergen Ltd.**" shall mean the **B-R Powergen Ltd.**, a joint venture company of BPDB and RPCL named and designated in the Form of Agreement as "Party of the First Part", acting through its duly authorised representative.

- iii) "Engineer or Consultant" shall mean such person or persons or consulting firm for the time being or from time to time duly appointed by the B-R Powergen Ltd. and whose authority shall be notified in writing to the Contractor by the B-R Powergen Ltd. and who is acting on behalf of the B-R Powergen Ltd. as Engineer for the purpose of the Contract and includes such other person (if any) to whom the Engineer's authority may have been lawfully delegated pursuant to the Contract.
- iv) "Contractor" shall mean the corporation, company, partnership, firm or individual, named and designated in the Form of Agreement as the "Party of the Second Part", who has entered into this Contract for the performance of the Work covered thereby, or its, his, or their duly authorised agent or other legal representative.
- v) "Subcontractor" shall mean a corporation, partnership, or individual having a direct contract with the Contractor for performing work covered by these Contract Documents, but not including the Contractor's regular suppliers of materials and components.
- vi) "Project Director" shall mean the person, designated by the B-R Powergen Ltd., to be stationed at the Site and to represent the B-R Powergen Ltd. in all matters. Notice to him shall be notice to the B-R Powergen Ltd..
- vii) "Project" shall mean all the Works to be done under the Contract for Sreepur 150 MW $\pm$ 10% HFO Based Power Plant Project at Gazipur.
- viii) "Plant" shall mean and include machinery, apparatus, structures, materials, articles, and things of all kinds to be provided under the Contract which will form part of the Permanent Works.
- ix) "Work", "Works" or "Permanent Works" shall mean the equipment, supplies, materials, labour and services to be furnished under the Contract and the carrying out of all obligations imposed by the Contract Document.
- x) "Temporary works" shall mean all temporary works of every kind required in or about the execution, maintenance or completion of the Works but not forming part of the Permanent Works.
- xi) "Date of Contract/Date of Order" or words equivalent thereto, shall mean the date written in the first paragraph of the Contract.
- xii) " Effective Date of Contract [EDOC] " shall mean the date of Contract signing or date of establishing of Letter of Credit or date of handover of site at it's present condition, whichever is later.
- xiii) "Contractor's Representative" shall mean the erection or operating Superintendent designated by the Contractor to be stationed at the Site and to represent the Contractor in all matters. Notice to him shall be notice to the Contractor.

- xiv) "Engineer's Representative" shall mean the Resident Engineer appointed by the Engineer to be stationed at the Site and to represent the Engineer in all matters.
- xv) "Contract Price" shall mean the sum or all sums named in the Contract Agreement.
- xvi) "Site" means the power house grounds and buildings and the surrounding areas where the Work is to be carried on.
- xvii) "Day" or "Days", unless herein otherwise expressly defined, shall mean a calendar day or days of twenty-four hours each.
- xviii) "Specifications" shall mean and include the General Conditions, Special Conditions, Technical Requirements and Tender Forms which are part of the Contract Documents; and all standard specifications of any technical society, organisation, or association to which reference is made.
- xix) "Drawings" shall mean and include all (a) drawings furnished by the B-R Powergen Ltd. as part of this Contract, (b) all supplementary drawings furnished by the B-R Powergen Ltd. as and when required to clear, and to define in greater detail, the intent of the Contract Plans and Specifications, and (c) drawings submitted by the Contractor to the B-R Powergen Ltd., when and as approved by the Engineer.
- xx) "Tests on completion" shall mean such tests to be made by the Contractor before the Works are taken over by the B-R Powergen Ltd. as are provided for in the Contract and such other tests as may be agreed between the B-R Powergen Ltd./Engineer and the Contractor.
- xxi) "Taking Over" shall signify that fabrication, construction, tests, inspections and adjustment has been satisfactorily completed and PAC issued.
- xxii) "Warranty Period" shall mean the period of 2(two) years following Taking over during which the Contractor guarantees the Plant and equipment against defects in design, materials, construction and workmanship.
- xxiii) "Final Acceptance Certificate" shall mean the official notification by the B-R Powergen Ltd. to the Contractor, issued at the end of the warranty period which indicates that the Contractor has completed his obligation under the Contract.
- xxiv) "Payment Certificate" shall mean a certificate issued by the concerned Project Director or a person designated by the B-R Powergen Ltd. that the monies claimed on the Contractor's invoice are correct and that the claim for payment is justified under the terms of the Contract.
- xxv) "Completion Certificate" shall mean a certificate issued by the B-R Powergen Ltd., and signed by the B-R Powergen Ltd. and confirmed by the Engineer confirming the Taking-over of the Plant.

- xxvi) "Award", "Acceptance" or "Letter of Intent" shall mean the official notice issued by the B-R Powergen Ltd. notifying the successful Tenderer that his tender has been accepted and that the B-R Powergen Ltd. desires to enter into a mutually acceptable contract.
- xxvii) Whenever in these Contract Documents the words "as ordered", "as directed", "as required", "as permitted" "as allowed" or words or phrases of like import are used,, it shall be understood that the order, direction, requirement, permission, or allowance of the B-R Powergen Ltd. or the Engineer is intended only to the extent of judging compliance with the terms of the Contract; none of these terms shall imply that the B-R Powergen Ltd. or the Engineer has any authority over or responsibility for supervision of the Contractor's forces or construction operation, such supervision including sole responsibility therefore being strictly reserved for the Contractor.
- xxviii) Similarly the words "approved", "reasonable", "suitable", "acceptable", "properly", "satisfactory", or words of like effect and import, unless otherwise particularly specified herein shall mean approved, reasonable, suitable, acceptable, proper, or satisfactory in the judgment of the B-R Powergen Ltd. or the Engineer, to the extent provided in subsection xxvii) above.
- xxix) Whenever any statement is made in the Contract Documents containing the expression "it is understood and agreed", or an expression of like import, such expression means the mutual understanding and agreement of the parties executing the Contract Documents of which these General Conditions are apart.
- xxx) "FUND" shall mean the foreign currency and local currency to be provided under ECA/Buyer's Credit to the B-R Powergen Ltd..
- xxxi) "Commissioning" shall mean completion of necessary tests of the Power Plant by the Contractor to ensure the reliable commercial operation of the same as per Contract .
- xxxii) "Project Acceptance Committee" shall mean the representatives of the B-R Powergen Ltd. who are responsible for witnessing in collaboration with the representatives of the Engineer, the inspection and test of the Work prior to issue of the "Completion Certificate". The Project Acceptance Committee will be constitute by the B-R Powergen Ltd..
- xxxiii) "Initial Commercial Operation" (ICO) shall relate to the operation of the plant. "ICO" shall mean the successful continuous operation for seven (7) days (168 hours) of the plant including its auxiliaries on automatic and supervisory controls.
- xxxiv) " Taking Over Certificate by the B-R Powergen Ltd." [or PAC] shall mean the Taking Over of the plant completed in all respects after successful completion of ICO and carrying out of the performance test.
- xxxv) " Contract Amount" shall mean the same as " Contract Price"
- xxxvi) " Contractor's Equipment" shall mean the equipment machinery, tool, spares, consumable and goods of kinds (as distinct from "Plant" or "Permanent Work") to be used only for the construction works at the contractor's

expense and remain the property of the Contractor. The Contractor's Equipment will not form a part of the "Permanent Works".

xxxvii) "Turnkey Work" shall mean design, engineering, manufacturing, inspection, testing, supply, delivery to the site, construction, erection, testing and commissioning including all other works to complete the project on a Turnkey Work basis.

xxxviii) "Turn Over" shall mean the total Cash inflow in a particular fiscal year.

xxxix) "Site Condition" Shall mean ambient condition of 35°C, 1.013 bar, 98% R.H.

xl) "Net output" shall mean the total plant power output measured at the low voltage side of the step-up transformer (i.e summation of generators terminal output less the total auxiliary consumptions including Fuel Handling System and excitation power, cooling system and all other auxiliary systems and losses which are normally required in continuous operation)

xli) "TEC" mean Tender Evaluation Committee.

### 3.0 ASSIGNMENT

The Contractor shall not assign the Contract or any part thereof or any benefit or interest therein or thereunder without the prior written consent of the B-R Powergen Ltd..

### 4.0 SUB-LETTING

The Contractor shall not sub-let the whole of the Works. Except where otherwise provided by the Contract, the Contractor shall not sub-let any part of the Works without the prior written consent of the B-R Powergen Ltd. and such consent if given shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Subcontractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workmen.

Should any Subcontractor fail to perform in a satisfactory manner the works undertaken by him, the Contractor upon notice from the B-R Powergen Ltd./the Engineer shall immediately terminate his Subcontract. Nothing contained in this Contract shall create any contractual relationship between any Subcontractor and the B-R Powergen Ltd..

That means that the B-R Powergen Ltd. shall not deal with the affairs of Subcontractors. For all Works, the Contractor shall be held responsible to the B-R Powergen Ltd..

### 5.0 ORAL STATEMENTS NOT BINDING

It is understood and agreed that the written terms and provisions of this Contract shall supersede all oral statements, and oral Statements shall not be effective or be construed as being a part of or altering this Contract in any way.

### 6.0 STANDARD SPECIFICATIONS

Reference to standard specifications of any technical society, organisation, or association, or to codes of local or national authorities, shall mean the latest standard, code, specification, or tentative specification adopted and published at the Date of Contract unless specifically stated otherwise.

## 7.0 EXTENT OF CONTRACT:

The Contract comprises the design of 150±10% MW Power Plant (HFO) fired Engine Generating Sets) and their execution, design, manufacture, factory testing, transportation and delivery to the Site, erection, testing and commissioning and warranty of the Work, and the provision of all labour, materials, temporary works and Contractor's equipment, required in and for such design, manufacture, testing, transportation and delivery to the Site, erection, completion, testing and commissioning, trial run and warranty of the Work, providing training to the B-R Powergen Ltd.'s personnel at the Site so far as the necessity for providing the same as is specified in the Contract.

## 8.0 SCOPE, NATURE AND INTENT OF SPECIAL CONDITION, TECHNICAL PROVISIONS AND PLANS

The Special Conditions, Technical Requirements, and other parts of the Contract Documents are intended to supplement, but not necessarily duplicate each other. Any work exhibited in the one and not in the others shall be executed as if it had been set forth in all, in order that the Work be completed according to the complete design as determined by the Engineer.

Should anything be omitted from the Special Conditions, Technical Requirement and other Contract Documents which is necessary for a clear understanding of the Work, or should it appear that various instruction are in conflict, then the Contractor shall secure written instructions from the Engineer before proceeding with the Work affected by such omissions or discrepancies. It is understood and agreed that the Work shall be performed and completed according to the true spirit, meaning, and intent of the Contract Documents.

## 9.0 INSPECTION OF SITE

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and to have satisfied himself, so far as is practicable, before submitting his Proposal, as to the form and nature of the Site, the quantities and nature of the Work necessary for the completion of the Works and means of access to the Site, the accommodation he may require and in general shall himself obtain all necessary information as to risks, contingencies and all other circumstances which may influence or affect his Proposal.

The Contractor shall be deemed to have fully investigated without any commitment on the Engineer, and made appropriate arrangements for the establishment of proper accommodation, near the Site, of his workforce consistent with all Local and Governmental Regulations in force.

## 10.0 APPROVAL OF ENGINEERING DATA AND DRAWINGS

- i) The Contractor shall submit to the B-R Powergen Ltd./the Engineer for approval, within the time specified in the Specifications, such drawings, documents and data sheets as may be called for there in or as the Engineer may reasonably require. Within a reasonable period after receiving such drawings, documents and data sheets, the Engineer shall signify his approval or comment. Copies of all drawings which shall be required to be

approved by the Engineer shall be provided by the Contractor. The Contractor shall supply additional copies of approved drawings in accordance with the detail set out in the Specifications.

Approval of drawings shall in no way relieve the Contractor of any of his duties or responsibilities for engineering, design, workmanship, materials and all other liabilities under the Contract.

- iii) The contractor shall, within the time specified in the Specifications, provide drawings showing the manner in which the equipment and materials is to be affixed together with all information relating, unless otherwise agreed, only to the Works, required for preparing suitable foundations, for providing suitable access for equipment and materials and any necessary equipment which are to be erected and for making all necessary connections to the equipment and materials (whether such connections are to be made by the Contractor under the Contract or not).
- iv) Any expenses resulting from an error or omission in or from delay in delivery of the drawings and information mentioned in this Clause shall be borne by the Contractor.
- v) The Contractor shall be responsible for any discrepancies, errors, or omissions in the drawings and other particulars supplied by him. Whenever the work is carried out on the basis of such discrepancies, errors, or omissions, any revision of the work shall be made at the expense of the Contractor.
- vi) At least one copy of the final approved drawings shall be kept by the Contractor at the Site and the same shall at all reasonable times be available for inspection and use by the B-R Powergen Ltd./Engineer and by any other person authorised by the B-R Powergen Ltd./Engineer.

#### 11.0 LEGAL ADDRESSES

Both the business address of the Contractor given in the Contract, and the Contractor's office in the vicinity of the Work, are hereby designated as the places to which all notices, letters, and other communications to the Contractor may be mailed or delivered. The business address of the B-R Powergen Ltd. appearing in Section Definitions, hereof is hereby designated as the place to which all notices, letters, and other communication to the B-R Powergen Ltd. may be mailed or delivered. The delivery by one party to the other party at an address so designated, or the depositing in any mail box regularly maintained by the post office, of any notice, letter, or other communication addressed to such address postage prepaid, registered or certified mail, with return receipt requested, in Bangladesh shall be deemed sufficient service thereof, and the date of said service shall be the date of such delivery or mailing. Either Party may change the said address or addresses at any time by an instrument in writing delivered to the Engineer and to the other party. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or communication upon either party personally.



## 12.0 OFFICE AT SITE OF WORKS

The Contractor shall maintain at Site an office for themselves and **a separate office for use of the Consultant/Engineer and Project Office with proper equipment, furniture, appliances and appurtenance.**

### 12.01 CONTRACTOR'S OFFICE AT SITE OF WORK

During the performance of this Contracts the Contractor shall maintain a suitable office at or near the Site of the Work which shall be the headquarters of the Contractor's Representative authorised to receive drawings, instructions, or other communications or articles from the B-R Powergen Ltd. or the Engineer's Representative; and any such communications given to the representative or deposited in a prescribed location or manner at the Contractor's office at the Site of the Work in his absence shall be deemed to have been given to the Contractor.

## 13.0 METHOD OF OPERATION

The Contractor shall inform the Engineer in advance concerning his plans for carrying on each phase of the work. If at any time the Contractor's plant or equipment or any of his methods of executing the Work appear to the Engineer to be unsafe, inefficient, or inadequate to insure the required quality or rate of progress of the Work, the Engineer may order the Contractor to increase or improve his facilities, or methods and the Contractor shall promptly comply with such orders; but neither compliance with such orders nor failure of the Engineer to issue such orders shall relieve the Contractor from his obligation to secure the degree of safety, the quality of the Work, and the rate of progress required by this Contract. The Contractor alone shall be responsible for the safety, adequacy, and efficiency of his plant, equipment, and methods.

Any method of work suggested by the Engineer, but not specified, will be used at the risk and responsibility of the Contractor, and the Engineer and the B-R Powergen Ltd. will assume no responsibility therefore.

Approval by the Engineer of any method of work proposed by the Contractor shall not relieve the Contractor of any responsibility therefore, and such approval shall not be considered as an assumption of any risk or liability by the B-R Powergen Ltd. or the Engineer, or any officer, agent, or employees thereof. The Contractor shall have no claim on account of the failure or inefficiency of any method so approved. Such approval shall mean only that the B-R Powergen Ltd. or the Engineer has no objection to the adoption or use by the Contractor of such method at the Contractor's own risk and responsibility.

## 14.0 AUTHORITY OF THE ENGINEER

To prevent delays and disputes, and to discourage litigation, it is agreed by the parties to this Contract that the Engineer shall resolve, by written opinion, all questions in relation to the Work performed under this Contract.

In case of any decision or instruction involving financial implications, the Engineer shall obtain written confirmation from the B-R Powergen Ltd. Through Project Director and advise the Contractor accordingly. The Engineer shall issue instructions in consultation with the Project Director.

If, in the opinion of the Contractor or the B-R Powergen Ltd., a written decision made by the Engineer is not in accordance with the meaning and intent of the Contract, either party may file with the engineer and the other party to the Contract, within thirty (30) days after receipt written decision, a written objection to the decision. Failure to file an objection within the allotted time will be considered as acceptance of the Engineer's decision and the decision shall become final and conclusive. If such written objection is timely filed, the objecting party may at any time thereafter and prior to final payment under the Contract, request that the matter be referred to arbitration pursuant to the provisions hereinafter set forth in Clause "Arbitration".

The Engineer's decision and the filing of the written objection thereto shall be Conditions precedent to the right to request arbitration or to start action in court.

It is the intent of this agreement that there shall be no delay in the execution of the Work, and the decision of the Engineer as rendered shall be promptly observed. The Contractor shall proceed with the Work in accordance with the Engineer's written decision, provided, however, that the Contractor shall not be requested to recognise or accept any change order or decision requiring extra or additional Work, unless the amount of additional compensation therefore is agreed upon by the B-R Powergen Ltd. in accordance with the provisions of Clause 71.0, "Modifications. If, in any case, the Contractor is required to proceed over his objection, the Contractor shall be authorised, in an appropriate case, to notify the B-R Powergen Ltd..

#### 15.0 WORK TO THE SATISFACTION OF B-R Powergen Ltd. / ENGINEER

The Contractor shall execute and complete the Work in strict accordance with the Contract to the satisfaction of the B-R Powergen Ltd./the Engineer and shall comply with and adhere strictly to the Engineer's instructions and directions on any matter, whether mentioned in the Contract or not, concerning the Work. The Contractor shall take instructions and directions only from the Engineer. Such instruction by the Engineer shall always be in writing and approved by the B-R Powergen Ltd..

#### 16.0 FACTORY WITNESS TEST (ENGINEERING INSPECTION)

It is agreed by the Contractor that the B-R Powergen Ltd. shall be and is hereby authorised to appoint or employ (either directly or through the Engineer) such inspectors as the B-R Powergen Ltd. may deem proper to inspect the materials furnished under the Work performed under this Contract, for compliance with the Contract Documents. The Contractor shall furnish all reasonable aid and assistance required by the Engineer, or inspectors, for the proper inspection and examination of the Work and all parts thereof.

The Contractor shall obey the directions of the Engineer or inspector when they are consistent with the obligations of this Contract. Should the Contractor object to any order given by any inspector, the Contractor may make written appeal to the Engineer for his decision.

Inspectors and other properly authorised representatives of the B-R Powergen Ltd. or the Engineer shall be free at all times to perform their duties, and any intimidation or attempted intimidation of any one of them by the Contractor or by any of his employees shall have sufficient reason, if the B-R Powergen Ltd. so decides, to terminate the Contract.

Such inspection shall not relieve the Contractor from any obligation to perform the Work in accordance with the Contract Documents. Work not so constructed shall be removed and made good by the Contractor at his own expense.

The Engineer and B-R Powergen Ltd.'s authorised representative shall have the right to inspect and/or to test the Goods at Site and at manufacturer's premises to confirm their conformity to the Contract. The cost of performing any tests shall be borne by the Contractor. The payment for inspection and tests at the manufacturer's premises and training on tests including travelling expenses, daily pocket expenses and lodging at actual for **six round trips (two Engineers/round trip)** and a maximum of seven working days spend with the addition of two days preparation for each participating engineer. The cost of subsequent inspection(s) due to rejection/additional re-testing of Goods at the first inspection shall also be borne by the Contractor.

#### 17.0 NO WAIVER OF RIGHTS

Neither the inspection by the B-R Powergen Ltd. or the Engineer or any of their officials, employees, or agents, nor any order by the B-R Powergen Ltd. or the Engineer for payment of money, or any payment for, or acceptance of, the whole or any part of the Work by the B-R Powergen Ltd. or the Engineer, nor any extension of time, nor any possession taken by the B-R Powergen Ltd. or its employees, shall operate as a waiver of any provision of this Contract, or of any power herein reserved to the B-R Powergen Ltd., or any right to claim of damages herein provided, nor shall any waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach.

#### 18.0 CONTRACTOR'S SUPERINTENDENCE

The Contractor shall give or provide all necessary superintendence during the execution of the Work and as long thereafter as the B-R Powergen Ltd. may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. A competent and authorised agent or representative approved of in writing by the Engineer, which approval may at any time be withdrawn, shall be constantly on the Work and shall give his whole time to the superintendence of the same. Such authorised agent or representative shall receive on behalf of the Contractor directions and instructions from the Engineer.

If such approval shall be withdrawn by the Engineer, the Contractor shall, as soon as is practicable having regard to the requirement of replacing him as hereinafter mentioned, after receiving written notice of such withdrawal, remove the agent from the Site and shall not thereafter employ him again on the Site in any capacity and shall replace him by another agent approved by the Engineer.

## 19.0 CONTRACTOR'S EMPLOYEES

The Contractor shall provide and employ in connection with the execution of the Works:

- (a) only such technical assistants as are skilled and experienced in their respective trades and such sub-agents, foremen and leading hands as are competent to give proper supervision to the Work they are required to supervise and
- (b) such skilled, semi-skilled and unskilled labour as is necessary for the proper and timely execution and maintenance of the Works.

The Engineer will be after notifying and discussion with the Contractor to object to and require the Contractor to remove forthwith from the Work any person employed by the Contractor in or about the execution or maintenance of the Work who in the opinion of the B-R Powergen Ltd./the engineer misconduct himself or is incompetent or negligent in the proper performance of his duties or whose employment is otherwise considered by the B-R Powergen Ltd./the Engineer to be undesirable and such person shall not be again employed upon the Work without the written permission of the B-R Powergen Ltd. through the Engineer. Any person so removed from the Work shall be replaced immediately by a competent substitute approved by the B-R Powergen Ltd..

## 20.0 SETTING OUT

The Contractor shall be responsible for the true and proper setting out of the Work in relation to original points, lines and levels of reference given by the Engineer in writing and for the correctness, subject as above mentioned, of the position, levels, dimensions and alignment of all parts of the Work and for the provision of all necessary instruments, appliances and labour in connection therewith.

If at any time during the progress of the Work any error shall arise in the position, levels, dimensions or alignment of any part of the Work, the Contractor, on being required to do so by the Engineer, shall at his own expense rectify such error to the satisfaction of the Engineer. The checking of any setting out or of any line or level will be verified by the Engineer but shall not in any way relieve the Contractor of his responsibility for the correctness thereof and the Contractor shall carefully protect and preserve all bench marks, sight rails, pegs and other things used in setting out the Work. The Contractor shall from time to time recheck the setting out of the Work and notify the Engineer accordingly.

## 21.0 FENCING, LIGHTING AND GUARDING

The Contractor Shall be responsible for the proper fencing, lighting, guarding and watching of all the Work on the Site until Taking-over and for the proper provision during a like period of temporary roadways, foot-ways, guards, and fences as far as the same may be deemed necessary by reason of the Work for the accommodation and protection of the B-R Powergen Ltd. and occupiers of adjacent property, the public and others.

## 22.0 CARE OF WORK

From the Commencement to the completion of the Work the Contractor shall take full responsibility for the care thereof and of all Temporary Work and Contractor's Equipment and in case any damage, loss or injury shall happen to the Works or to any part thereof or to any Temporary Work or Contractor's Equipment from any cause whatsoever shall at his own cost, repair and make good the same so that at completion, the Work shall be in good order and condition and in conformity in every respect with the requirements of the Contract and the Engineer's instructions.

The Contractor shall also be liable for any damage to the Work occasioned by him in the course of any operations carried out by him for the purpose of the complying with his obligations under this Contract.

## 23.0 FORCE MAJEURE

The term "Force Majeure" means any cause beyond the control of the B-R Powergen Ltd. or the Contractor which the B-R Powergen Ltd. or the Contractor could not foresee and or reasonably provide against at the time the Contract was made and which prevents the B-R Powergen Ltd. or the Contractor from wholly or partly performing any duties under the Contract. Force Majeure includes, but is not limited to, any of the following :

- War, revolution, insurrection or hostilities (whether declared or not);
- Riot, civil commotion, or civil uprising
- Earthquake, flood, tempest, hurricane, lightning or other natural disasters;
- Any fire of major proportions;
- Epidemic;
- Port Congestion.

If any event occurs constituting Force Majeure the B-R Powergen Ltd. or the Contractor shall give written notice to the other party of the Contract as the case may be, as soon as possible after the occurrence but within fifteen (15) days of the event, including a statement describing the Force Majeure event and its effect upon the performance of this Contract. The parties shall within ten (10) days after such notice, consult each other regarding action to be taken. In the event of a Force Majeure the Contractor unless otherwise directed by the B-R Powergen Ltd. in writing, shall continue to undertake and perform the duties set forth in this Contract so far as circumstances admit. In the event of a Force Majeure resulting in a suspension of the Work, this Contract may be extended subject to the mutual agreement of the parties to the Contract by a period equal to that for which the B-R Powergen Ltd. or the Contractor was prevented from performing.

If the B-R Powergen Ltd.'s or the Contractor's inability to perform by reason of Force Majeure lasts more than ninety (90) days after notice has been given to the either party as the case may be, the B-R Powergen Ltd. or the Contractor may :

i) request for an extension of time schedule.

ii) or request for termination of the Contract in the event of which the parties shall negotiate an equitable adjustment.

Failure to arrive at a mutually acceptable equitable adjustment shall be a dispute under Clause Arbitration.

#### 24.0 DAMAGE TO PERSONS AND PROPERTY

The Contractor shall (except in so far as the Contract provides otherwise) indemnify and keep indemnified the B-R Powergen Ltd./Engineer against all losses and claims for injuries or damage to any person or any property whatsoever, including surface or other damage to land or crops being on the Site suffered by tenants or occupiers, which may arise out of or in consequence of the execution of the Work and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto, provided always that nothing herein contained shall be deemed to render the Contractor liable for or in respect of or to indemnify the B-R Powergen Ltd./Engineer against any compensation or damages for or with respect to :

- (a) The permanent use or occupation of land by the Work or any part thereof.
- (b) The right of the B-R Powergen Ltd. to execute the Work or any part thereof on, over, under, in or through any land.
- (c) Interference whether temporary or permanent with any right of lights, air, way or water or other easement or quasi-easement which is the unavoidable result of the construction of the Work in accordance with the Contract.
- (d) Injuries or damage to persons resulting from negligence committed during the currency of the Contract by the B-R Powergen Ltd., his agents servants or other Contractors employed by the B-R Powergen Ltd., (not being employed by the Contractor) or for or in respect of any claims, demands, proceedings damages, charges and expenses in respect thereof or in relation thereto.

Provided further that for the purpose of this Clause the expression "the Site" shall be deemed to be limited to the area defined in the specifications or shown on the drawings in which land and crops will be disturbed or damaged as an inevitable consequence of the carrying out of the Work.

#### 25.0 ACCIDENT OR INJURY TO WORKMEN

The B-R Powergen Ltd. will not be liable for or in respect of any damages or compensation payable by law in respect or in consequence of any accident or injury to any workman or other person in the employment of the Contractor or any Subcontractor save and except an accident or injury resulting from any act or default of the B-R Powergen Ltd., his agents or servants and the Contractor shall indemnify and keep indemnified the B-R Powergen Ltd. against all such damages and compensation, save and except as aforesaid, and against all claims, demands,

proceeding, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

The Contractor, shall insure against such liability with an insurer approved by the B-R Powergen Ltd., which approval will not be unreasonably withheld, or as required by Law and shall continue such insurance during the whole of the time that any persons are employed by him on the Work and shall provide the B-R Powergen Ltd. and the Engineer with a copy of such policy of insurance and the receipt for payment of the current premium.

Provided always that in respect of any persons employed by Subcontractor the Contractor's obligation to insure as aforesaid under this sub-clause shall be satisfied if the Subcontractor shall have insured against the liability in respect of such persons in such manner that the B-R Powergen Ltd. is indemnified under the policy but the Contractor shall require such Subcontractor to provide to the B-R Powergen Ltd. and the Engineer with a copy of such policy of insurance and the receipt for payment of the current premium or evidence that it has complied with the law in this respect.

All accidents shall be reported by the Contractor directly to the appropriate Civil Authority as per Regulations remaining in force.

## 26.0 CONTRACTOR'S OBLIGATION TO INSURE

The Contractor shall provide to the B-R Powergen Ltd. and the Engineer copies of Policy or policies of insurance, undertaken by the Contractor for detailed security and approval. The B-R Powergen Ltd. may accept or reject any company policy or section thereof, which in the B-R Powergen Ltd.'s opinion do not meet the intent of Clause "INSURANCE". The contractor shall provide draft copies of his proposed contracts of insurance to the B-R Powergen Ltd. immediately after such insurance come into effect.

The B-R Powergen Ltd. reserves the right to effect the insurance referred to in this Clause at his own cost and under his own arrangement, in which case this Clause shall not be applicable. The Tenderer shall therefore, quote separately the cost of Insurances referred to in the appropriate spaces provided for in the Schedule of Prices.

In case the Insurances are arranged by the B-R Powergen Ltd., the Contract Price shall be adjusted accordingly.

All insurance Policies shall provide that the insurance shall not without approval of the B-R Powergen Ltd., be cancelled, reduced, restricted, or changed in any way without at least fifteen(15) days' written notice being given to the B-R Powergen Ltd. and sent by registered mail to the head office of the B-R Powergen Ltd.. In the event of any such cancellation, reduction, restriction or change in any insurance, the Contractor shall immediately replace such insurance.

If the Contractor shall fail to effect and keep in force the insurance or any other insurance which he may be required to effect under the term of the Contract or if he should fail to provide evidence of this insurance being kept in effect then and in such case the B-R Powergen Ltd. will effect and keep in force any such insurance and pay such premiums as may be necessary for that purpose and from time to

time deduct the amount so paid by the B-R Powergen Ltd. from any monies due or that may become due to the Contractor or recover the same as a debt due from the Contractor. It is expressly provided that any action on the part of the B-R Powergen Ltd. in this respect will in no way change or reduce the Contractor's responsibilities and liabilities under this Contract.

## 27.0 PATENT RIGHTS

The contractor shall fully indemnify the B-R Powergen Ltd. against all actions, claims, demands, costs, charges and expenses arising from or incurred by reason of any infringement of letters patent, design, trademark or copyright protected in the country of supply or manufacture or in the country in which the Plant or Work is to be erected by the use of any Plant supplied or equipment or appliances or material used by the Work otherwise than for the purpose indicated by or reasonably to be inferred from the Specifications.

In the event of any claim being made or action brought against the B-R Powergen Ltd. arising out of the matters referred to in this Clause, the Contractor shall be promptly notified thereof and may at his own expense conduct all negotiations for the settlement of the same, and any litigation that may arise therefrom.

The B-R Powergen Ltd. will not, unless and until the Contractor shall have failed to take over the conduct of the negotiations or litigation, make any admission, which might be prejudicial thereto. The conduct by the Contractor of such negotiations or litigation shall be conditional upon the Contractor having first given to the B-R Powergen Ltd. such reasonable security as shall from time to time be required by the B-R Powergen Ltd. to cover the amount ascertained or agreed or estimated as the case may be, of any compensation, damages, expenses, and costs for which the B-R Powergen Ltd. may become liable in respect of such infringement as aforesaid. The B-R Powergen Ltd. will, at the request of the Contractor, afford all available assistance for the purpose of contesting any such claim or action, and shall be repaid any expenses in so doing.

The B-R Powergen Ltd. on his part warrants that any design or instructions furnished or given by him will not be such as to cause the Contractor to infringe any letters patent, registered design, trademark, or copyright in the performance of the Contract.

## 28.0 ARBITRATION

Before bringing any action in court pertaining to a decision of the Engineer, the objector (hereinafter referred to as party A) to the decision shall first offer to arbitrate the question with the other party to the Contract (hereinafter referred to as party B) by notifying him in writing and setting forth in such notice the question to be arbitrated.

Party B can elect to arbitrate or not. If party B agrees to arbitrate he shall so advise does not wish to arbitrate or failure of party B to notify party A within the thirty(30) days period will give party A the right to start action in court.

If party B agrees to arbitrate, the same shall be referred to arbitration and final determination of a single arbitrator nominated by agreement between the Contractor and the B-R Powergen Ltd. or, failing agreement, by and arbitrator



appointed by the court of arbitration of the Bangladesh Chamber of Commerce & Industries, or other Agency mutually agreed upon by the B-R Powergen Ltd. and the Contractor.

The arbitrator if he shall desire it or if one of the parties to the dispute recommends it shall have the assistance of a legal adviser. **To any proceedings under this Clause the provisions of the Bangladesh Arbitration act of 2001 and its subsequent amended time to time shall apply.** The Work under this Contract shall, if reasonably possible, continue during the arbitration proceedings, and no payment due to the Contractor shall be withheld on account of such proceedings.

Reference to arbitration shall be a condition precedent to any other action of law. The venue of arbitration shall be at **Dhaka**.

In any arbitration or litigation, the parties shall be at liberty to rely on reasons in addition to those stated in any protests or objections.

#### 29.0 PROVISION FOR EMERGENCIES

Whenever, in the opinion of the Engineer, the Contractor has not taken sufficient precaution for the safety of the public or the protection of the Work under this Contract, or of adjacent structures or property which may be injured by processes of the Work on account of such neglect, and whenever, in the opinion of the Engineer, an emergency shall arise and immediate action shall be considered necessary in order to protect public or private personal or property interests, then the B-R Powergen Ltd., with or without notice to the Contractor, may provide Suitable protection to the said interests by causing such work to be done and material to be furnished and placed as the B-R Powergen Ltd. may consider necessary and adequate. The cost and expense of such work and material so furnished shall be borne by the Contractor, and if the same shall not be paid on presentation of the bills therefore, such costs shall be deducted from any amounts due or to become due to the Contractor. The performance of such emergency work shall in no way relieve the Contractor of responsibility for damage which may occur during or after such precaution has been duly taken.

#### 30.0 INSPECTION, TESTING, PROGRESS AND EXPEDITING DURING MANUFACTURE

The Engineer shall be entitled at all reasonable times during manufacture to inspect, examine, and test on the Contractor's premises the materials and workmanship of all Plant to be supplied under the Contract, and if part of the said plant is being manufactured on other premises the Contractor shall obtain for the Engineer permission to inspect, examine and test as if the said Plant were being manufactured on the Contractor's premises. Such inspection, examination or testing, if made, shall not release the Contractor from any obligation under the Contract.

The Contractor shall co-operate with and provide full opportunity to the Engineer to regularly monitor the progress of manufacture in the Works of the Contractor and Subcontractor to the detailed extent necessary to establish that satisfactory progress relative to the Contract Schedule is being achieved.

All pertinent information such as shop loading, detailed manufacturing programmes to enable the Engineer to determine the adequacy of the advance planning for material procurement, machine and manpower resources to meet the Contract Schedule shall be made freely available to the Engineer when visiting the manufacturing facilities.

These requirements shall be incorporated in orders placed with major sub-suppliers.

The Contractor shall give the Engineer reasonable notice in writing of the date on and the place at which any plant will be ready for testing as provided in the Contract and unless the Engineer shall attend at the place so named twenty eight(28) days in advance of the date which the Contractor has stated in his notice the Contractor may proceed with the tests, which shall be deemed to have been made in the Engineer's presence, and shall forthwith forward to the Engineer duly certified copies of the test readings. The Engineer will give the Contractor notice in writing of his intention to attend the tests.

Where the Contract provides for tests on the premises of the Contractor or of any subcontractor, the Contractor shall provide such assistance, labour, materials, electricity, fuel, stores, apparatus and instruments as may be required and as may be reasonably demanded to carry out such tests efficiently.

#### 31.0 ACCESS TO SITE

The B-R Powergen Ltd./Engineer and any person authorised by them will at all times have access to the Works and to the Site and to all workshops and places where Work is being prepared or whence materials, manufactured articles or machineries are being obtained for the Work and the Contractor shall afford every facility for and every assistance in obtaining the right to such access.

#### 32.0 RIGHT OF B-R Powergen Ltd. TO TERMINATE CONTRACT

If the Work to be done under this Contract shall be abandoned by the Contractor, or if his Contract shall be assigned by him otherwise than as herein provided, or if the Contractor would be adjudged bankrupt, or if a general assignment of his assets be made for the benefit of his creditors, or if a receiver should be appointed for the Contractor or any of his property, or if at any time the Engineer shall certify in writing to the B-R Powergen Ltd. that the performance of the Work under this Contract is being unnecessarily delayed, or that the Contractor is violating any of the conditions or covenants of this Contract or the Specifications therefore, or that he is executing the same in bad faith or otherwise not in accordance with the terms of said Contract, or if the Work be not substantially completed within the time named for its completion or within the time to which such completion date may be extended, then the B-R Powergen Ltd. may serve written notice upon the Contractor and his surety, of said B-R Powergen Ltd.'s intention to terminate this Contract and, unless within thirty (30) days after the serving of such notice upon the Contractor, a satisfactory arrangement is made for the continuance thereof, this Contract shall cease and terminate. In the event of such termination, the B-R Powergen Ltd. shall immediately serve notice thereof upon the surety and the Contractor, and the surety shall have the right to take over and complete the Work through employment of Contractor approved by the B-R Powergen Ltd., such

approval not to be unreasonably withheld, provided, however, that if the surety does not commence performance thereof within sixty (60) days from the date of said notice of termination the B-R Powergen Ltd. may take over the Work and prosecute same to completion, by Contract or otherwise, for the account and at the expense of the Contractor, and the Contractor and his surety shall be liable to the B-R Powergen Ltd. for any and all excess cost sustained by the B-R Powergen Ltd. by reason of such prosecution and completion, and in such event the B-R Powergen Ltd. may take possession of, and utilise in completing the Work, all such materials, equipment, tools, and plant as may be on the Site of the Work and necessary therefore.

### 32.01 TERMINATION FOR CONVENIENCE

The B-R Powergen Ltd. reserves the right to terminate the Contract, in whole or in part, for its convenience. If the Contract is so terminated, an equitable downward adjustment will be made in the Contract Price resulting in a revised price that compensates the Contractor fairly under all the circumstances for the Work performed under the Contract, but shall not include any compensation for unearned profit. The revised price shall be based on Contractor's cost and disbursements reasonably incurred and attributable to the Contract Work, as certified by Contractor and reviewed for substantiation by the Engineer, plus a reasonable profit thereon.

If the B-R Powergen Ltd. shall fail to comply with performance or deadline requirements imposed on him by the provisions of the Contract, time being of the essence, the Contractor may, by written notice to the B-R Powergen Ltd., advise the B-R Powergen Ltd. that it deems the B-R Powergen Ltd.'s failure to evidence an election on the part of the B-R Powergen Ltd. to terminate the Contract for its convenience under this Clause and the Contract, on the giving of such notice by Contractor shall be deemed terminated.

### 33.0 REJECTION

If at any time before the Work is taken over by the Engineer, the Engineer

- (a) decides that any work done or Plant supplied or materials used by the Contractor or any Subcontractor is or are defective or not in accordance with the Contract or that the Work or any portion thereof are defective or do not fulfill the requirements of the Contract.
- (b) as soon as reasonably practicable gives to the Contractor notice in writing of the said decision, specifying particulars of the defects alleged and of where the same as alleged to exist or to have occurred, and
- (c) so far as may be necessary places the Work at the Contractor's disposal, then the Contractor shall with all speed and at his own expense make good the defects so specified. In case the Contractor shall fail to do the Engineer may provided he does so without undue delay, take, at the cost of the Contractor, such steps as may in all circumstances be reasonably practicable to make good such defects.

The Contractor shall be entitled to remove and retain all Work that the Engineer may have replaced at the Contractor's cost.

Nothing contained in this Clause will affect any claim by the B-R Powergen Ltd. under Clause 45.0 (Liquidated Damages).

#### 34.0 SUSPENSION OF THE WORK

The B-R Powergen Ltd. reserves the right to suspend and reinstate execution of the whole or any part of the Work without invalidating the provisions of the Contract. Orders for suspension or reinstatement of the Work will be issued by the B-R Powergen Ltd. to the Contractor in writing. The time for completion of the Work will be extended for a period equal to the duration of the suspension. Changes in Contractor's Contract Price or delivery schedules which occur during a period of suspension ordered by the B-R Powergen Ltd. shall not affect the Contract except as agreed by the B-R Powergen Ltd. and the Contractor. The phrase "changes in delivery schedule" as used in the preceding sentence shall mean extension of the scheduled time of delivery in excess of the number of days of the suspension period. If the Contractor proposes to change Time Schedule of the Contract, he shall present his proposal to the B-R Powergen Ltd. In writing. During the sixty (60) days period from and after the receipt by the B-R Powergen Ltd. of such written proposal, the B-R Powergen Ltd. shall be permitted to reinstate the Work without change. If the Work is not reinstated during this sixty (60) days period, the B-R Powergen Ltd. and the Contractor shall agree upon reasonable and proper changes or the B-R Powergen Ltd. may terminate the Works.

Any necessary and demonstrable costs incurred by the Contractor as a result of suspension of the Work will be paid by the B-R Powergen Ltd., unless otherwise specified, provided such costs are substantiated to the satisfaction of the B-R Powergen Ltd..

#### 35.0 COMMENCEMENT OF THE WORK

The Contractor shall commence the work immediately after effectiveness of the Contract and shall proceed with the Work with due expedition and without delay in accordance with the provisions of the Contract Schedule except as may be expressly authorised or ordered by the Engineer or be wholly beyond the Contractor's control to be intimated by the Contractor to the B-R Powergen Ltd. in time and be mutually agreed upon. The time is the essence in the execution of this Contract.

#### 36.0 POSSESSION OF SITE

The B-R Powergen Ltd. through the Engineer will, upon the date of the written order to commence the field work, give to the Contractor possession of so much of the Site as may be required to enable the Contractor to commence and proceed with the Construction of the Work in accordance with the Contract Schedule.

Access to and possession of the Site shall not be exclusive to the Contractor but only such as shall enable him to execute the Work. The Contractor shall afford to

the B-R Powergen Ltd., to the Engineer and to other Contractors engaged upon the Site every reasonable facility for the execution of Work concurrently with his own.

### 37.0 TIME FOR COMPLETION

The Work shall be completed in accordance with the Schedule specified in the Contract. The Contractor will be required to furnish, for approval by the Engineer, a construction schedule setting forth in detail the procedure he proposes to follow, and give the date on which he expects to start and to complete separate portions of the Work. The construction schedule shall be of the Critical Path Method (CPM) type in the form of a network diagram and an activity listing. The network diagram shall show in detail and in orderly sequence all activities, their descriptions, duration and dependencies necessary to the completion of the Work. The activity listing shall show the following information for each activity on the network diagram:

- i) Identification of code numbers and descriptions.
- ii) Duration.
- iii) Earliest start and finish dates.
- iv) Latest start and finish dates.
- v) Total float time.

Other scheduling methods may be utilised subject to the approval of the Engineer. If at any time in the opinion of the Engineer, proper progress is not being maintained, the Engineer will notify the Contractor in writing to take proper steps to expedite progress so as to complete the work by the schedule time.

The Contractor shall furnish the Engineer regular monthly and quarterly progress reports showing status and schedules of the supply of major or critical items and progress of the Work. The Engineer shall also be kept informed of any impending or actual delays that may affect the progress of the Work.

### 38.0 RATE OF PROGRESS

The whole of the materials, plant and labour to be provided by the Contractor and the mode, manner and speed of execution of the Work shall be of a kind and conducted in a manner to the satisfaction of the Engineer. Should the rate of progress of the Work or any part thereof be at any time in the opinion of the Engineer too slow to ensure the completion of the Work by the prescribed time for completion, the Engineer will so notify the Contractor in writing and the Contractor shall thereupon take such steps, as the Contractor may think necessary and the Engineer may think necessary and the Engineer may approve, to expedite progress so as to complete the Works by the prescribed time or extended time for completion. The Contractor shall not be entitled to any additional payment for taking such steps.

#### 39.0 URGENT REPAIRS

If by reason of any accident or failure or other event occurring to in or in connection with the Work or any part thereof either during the execution of the Work or during the warranty period any remedial or other work or repair shall in the opinion of the Engineer be urgently necessary for security and the Contractor is unable or unwilling at once to do such work or repair the B-R Powergen Ltd. may by his own or other workmen do such work, or repair so done by the B-R Powergen Ltd. is work which the Contractor was liable to do at his own expense under the Contract all costs and charges properly incurred by the B-R Powergen Ltd. in so doing shall on demand be paid by the Contractor to the B-R Powergen Ltd. or may be deducted by the B-R Powergen Ltd. from any monies due or which may become due to the Contractor. Provided always that the Engineer will as soon after the occurrence of any such emergency as may be reasonably practicable notify the Contractor thereof in writing.

#### 40.0 CONTRACTOR TO CHECK PLANS AND SCHEDULES

During the course of the Work, the Contractor shall check all dimensions elevations, and quantities shown on the plans and schedules related to the Work given to him by the Engineer, and shall notify the Engineer of any discrepancy found between the plans and the conditions on the ground, or any error or omission in plans or in the layout as given by staked points, or instruction, which he may discover. The Contractor will not take advantage of any minor error or omission in the plans or the Contract Documents. Full instructions will be furnished by the Engineer should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

No work shown on the plans, the dimensions of which are not indicated, shall be executed until necessary dimensions have been obtained from the Engineer.

#### 41.0 LAWS AND REGULATIONS

The Contractor shall observe and comply with all applicable ordinances, laws and regulations in the Country or Countries where the Contractor may reside or perform work, directly or indirectly under this Contract. The Contractor shall protect and indemnify the B-R Powergen Ltd. and the B-R Powergen Ltd.'s officers and agents against any claim or liability arising from or based on violation of ordinances, regulations, or laws of the Country where the Contractor may reside or perform any of the Work.

The Contractor shall observe, comply with and respect Bangladesh laws, rules and regulations and shall not interfere with Bangladesh Political or religious affairs either directly or indirectly.

The Contractor shall comply with such other rules and regulations as the B-R Powergen Ltd. and the Engineer may establish from time to time with respect to the construction work and personnel employed by the Contractors provided such rules and regulations shall not modify any of the Contract Documents.

The Contractor shall, in all dealings with labour in his employ, have due regard to all recognised festival days of rest and religious or other customs.

The Contractor shall not give or barter or otherwise dispose of, to any person or persons, any arms or ammunition of any kind, or permit the same as aforesaid.

In the event of any outbreak of illness of an epidemic nature the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government of the People's Republic of Bangladesh or the local medical or sanitary authorities, for the purpose of dealing with and overcoming the same.

#### 42.0 CHARACTER OF WORKMEN

The Contractor shall employ only workmen who are competent to perform the Work assigned to them and, in the case of skilled labour, foremen, leadsmen, and supervisors, those who are actually trained and experienced in their respective trades and who do satisfactory work.

Notwithstanding any security clearances which may be required or given by the Government of the People's Republic of Bangladesh, if any, the Contractor shall be solely responsible for determining the suitability for employment of all personnel performing services provided pursuant to the Contract.

In all cases local labour shall be used to the greatest extent practical. The number of key personnel imported shall be limited to that necessary to accomplish the Work on schedule and in a satisfactory manner, taking into consideration all factors affecting work of this nature in Bangladesh.

The imported personnel of the Contractor shall respect all Bangladesh laws, rules, and regulations and shall not interfere with Bangladesh political or religious affairs either directly or indirectly and shall comply with such other rules and regulations as the Contractor, the B-R Powergen Ltd./Engineer may establish from time to time with respect to the imported personnel employed by the Contractor. The imported personnel of the Contractor shall work and live in harmony with their co-workers (both imported and Bangladesh) employed on the Work and at all times conduct themselves in an orderly manner. The imported personnel shall not engage, directly or indirectly, in any other employment, service or business whatever, nor shall they take part in local politics.

The local employees of the Contractor shall abide by all Bangladesh laws, rules, and regulations. The Contractor shall conform to all Bangladesh laws and regulations pertaining to the employment of Bangladesh nationals for the specific Work covered by these Specifications.

The Contractor shall at all times take reasonable precautions to prevent any unlawful, riotous or disorderly conduct by, or amongst his employees, and for the preservation of peace and protection of persons and property in the neighbourhood of the Work against the same.

Whenever the Engineer's Representative shall notify the Contractor in writing that any man on the Work is, in his opinion, incompetent, unfaithful, or disorderly, or who uses threatening or abusive language to any person representing the B-R

Powergen Ltd. when on the Work, such man shall be immediately discharged from the Work and shall not be re-employed thereon except with the consent of the Engineer. The Contractor shall replace such employees so discharged as is practical if replacement is required.

All imported personnel of the Contractor under this Contract shall remain employees of the Contractor and shall receive their salaries and allowances directly from the Contractor. The Contractor agrees not to discriminate against any employee or applicant for employment by reason of race, colour or national origin in carrying out this Contract.

The Contractor shall be responsible for observance of his Subcontractors of the foregoing provisions.

#### 43.0 WORKING HOURS

No work shall be done on legal Bangladesh holidays or at times other than the regularly established working hours without the written approval of the Engineer. However, work necessary in case of emergencies or for the proper case, receipt, unloading, transporting, maintenance, and protection of equipment or finished work may be done without prior approval.

This requirement shall not preclude the Contractor's use of scheduled overtime work and such work may be established by the Contractor, as a regular procedure, with the written permission of the Engineer; such permission, however, may be revoked at any time by the, Engineer if the Contractor fails to maintain adequate equipment and supervision for proper prosecution and control of the Work and all operations performed thereunder.

#### 44.0 UNFAVOURABLE CONSTRUCTION CONDITIONS

During unfavourable weather, the Contractor shall confine his operations to portions of the Work which will not be affected adversely thereby. No portion of the Work shall be constructed under conditions which would affect adversely the quality or efficiency thereof, unless special means or precautions are taken by the Contractor to perform that portion of the Work in a proper and satisfactory manner.

#### 45.0 LIQUIDATED DAMAGES

It is understood and agreed that time is the essence of the Contract. Should the Contractor fail to complete the specified supply and portions of the Work within the periods of time stipulated in the Contract, after due allowance for any extension of time which may be granted under the provisions set forth hereinafter, the Contractor shall pay to the B-R Powergen Ltd. Liquidated Damages for "each" day of default. The amount of the Liquidated Damages shall be assessed at the rate of 0.10 percent of contract price for each calendar day of default in completion of initial commercial operation (ICO) as guaranteed in Schedule-A [Guarantee], Vol. 2 of 2.

The total amount of Liquidated Damages assessed against the Contractor for failure to comply with the specified schedule shall not exceed twenty percent (10%) of the-Contract Price.



Further, should the plant or the equipment furnished by the Contractor fails to meet the specified Performance Guarantee stipulated in respective Technical Specifications and Technical Particulars then the Contractor shall pay to the B-R Powergen Ltd. the Liquidated Damages computed in accordance with the provisions of the Clause 30.0 of Chapter III, Special Conditions.

In the matter of assessment of Liquidated Damages on account of failure to achieve guaranteed net power output ,net heat rate, transformer loss, auxiliary consumption, Boiler efficiency & output, minimum stable load etc., consideration shall be made for the unit and Liquidated Damages assessed as per terms of the Contract shall be subject to, however, to the condition that the total Liquidated Damages so assessed under this Contract shall not exceed twenty percent (20%) of the Contract Price.

The B-R Powergen Ltd. shall have the right to deduct any unpaid Liquidated Damages from any monies in its hands or otherwise due, or to become due, to the Contractor, or to sue for and recover compensation for such Liquidated Damages including encashment of the Performance Bond.

The payment by the Contractor of the Liquidated Damages is in lieu of all other liabilities to the B-R Powergen Ltd. for damages arising from delays and the ceiling of Liquidated Damages expressed constitute the ceiling of the Contractor's liability for delay in completion of the Work, and beyond this ceiling the Contract can be terminated under the provision of this Contract.

#### 46.0 HINDRANCES AND DELAYS

In executing the Contract, the Contractor expressly covenants and agrees that . in undertaking to complete the Work within the time therein fixed, he has taken into consideration and made allowances for all hindrances and delays incident to such Work, whether growing out of delays in securing materials or workmen or otherwise. No charge shall be made by the Contractor for hindrances or delays from any cause during the progress of the Work, or any portion thereof, embraced in this Contract.

#### 47.0 EXTENSION OF TIME

Should the Contractor be delayed in the final completion of the Work by any cause or causes outside of and beyond the control of the Contractor, such as but not limited to acts of the public enemy, war, blockades. insurrections, riots, epidemics, civil disturbances, strikes, fire, and other causes not within the control of the Contractor, including acts of the B-R Powergen Ltd., which makes the performance of the Contract unfeasible and which by the exercise of due diligence the Contractor in performance of the Contract is unable to overcome, then an extension of time sufficient to compensate for the delay, as recommended by the Engineer, shall be granted by the B-R Powergen Ltd. and the Contractor shall not be charged with Liquidated Damages for such delay; provided, however, that the Contractor shall give the B-R Powergen Ltd. and the Engineer notice in writing of the cause of delay in each case within ten (10) days after determination of the cause has been made, and shall demonstrate that he has used all reasonable means to minimize the delay. If such notice is not given within ten (10) days in writing, then no claim shall be made for an extension of time for the period of delay.

If any such delays last for more than ninety (90) days or if the cumulative effect of the prior delays plus the then current delay is the total delay of more than ninety (90) days, the parties shall at any time thereafter on the basis on which the Contractor shall immediately consult with each other for the purpose of agreeing upon the basis on which the Contractor shall resume work at the end of the delay. If they do not agree upon a solution of the problems involved, including adjustment of the price, if justified, within sixty (60) days from the ninetieth (90<sup>th</sup>) day of such delay, then either party may, by written notice, cancel that portion of the Work which is delayed and in such event the B-R Powergen Ltd. shall pay to the Contractor reasonable and proper cancellation charges as mutually agreed.

Extension of time will not be granted for delays caused by inadequate work force, or the failure of the Contractor to place orders for equipment or materials sufficient time in advance to ensure delivery when needed, unless such causes are beyond the Contractor's control in which case the foregoing paragraphs shall apply. Extension of time may be granted for unfavourable weather only in those cases where the weather is unseasonal and sufficiently severe or unusually extended to prevent the Contractor from working. In each such case, the Contractor's authorised representative shall notify the Engineer's representative immediately for agreement and confirmation, whereupon the Engineer shall confirm with approval of the B-R Powergen Ltd., the authorisation in writing to the Contractor within seven (7) days of such notification.

#### 48.0 MATERIALS AND EQUIPMENT

Unless specifically provided otherwise in each case, all materials and equipment furnished for permanent installation in the Work shall conform to applicable standard specifications and shall be new, unused, and undamaged when installed or otherwise incorporated in the Work. No such material or equipment shall be used by the Contractor for any purpose other than that intended or specified, unless such use is specifically authorised by the Engineer in each case.

After signing of the Contract, Contractor shall not change the manufacturer, specification of any equipment/ materials without prior approval of the B-R Powergen Ltd.. If any such change is detected before issuance of Final Acceptance Certificate, Contractor have to replace the Equipment/ materials by those as mentioned in the contract at his own cost. If Contractor failed to oblige, B-R Powergen Ltd. has the right to deduct full cost of such equipment/ materials from the amount payable against Contractor's bill/ invoice/ performance guaranty.

When equipment or material furnished by the Contractor cannot be installed as specified or as shown on the plans, the Contractor shall, without extra cost to the B-R Powergen Ltd., make all modifications required to properly install the equipment or material such modifications shall be subject to approval of the Engineer.

Excess and un-used goods imported for permanent installation for which customs duties, sales tax etc. have been paid by the B-R Powergen Ltd. shall be the property of the B-R Powergen Ltd.. At the completion of the Project, the Contractor shall prepare a proper inventory of the excess and un-used goods and hand over the same to the B-R Powergen Ltd..

#### 49.0 CLEAN UP OF SITE

The Contractor shall clean the working areas periodically of all trash and waste materials and shall maintain the Site in a neat and orderly condition throughout the construction period. The Engineer shall have the right to determine what is waste material or rubbish and the manner and place of disposal. On or before the completion of the Work the Contractor shall, without charge therefore, carefully clean out all pits, pipes, chambers or conduits, and shall tear down and remove all temporary structures built by him, and shall remove all rubbish of every kind from the tracts or grounds which he has occupied and shall leave them in first class condition.

In the event that the Contractor fail to comply with the cleanliness requirement or to perform the clean up work assigned to him by the B-R Powergen Ltd. the B-R Powergen Ltd. will reserve the right to hire another contractor to perform the necessary cleaning work and the Contractor shall reimburse the B-R Powergen Ltd. for the cost of all such clean up work.

#### 50.0 WARRANTY

The Contractor warrants that each item of materials, equipment and the work furnished under this Contract will be as specified and will be free from all defects in design, workmanship, materials & equipment etc. The warranties contained in these Contract Documents are the warranties made by Contractor with respect to the design, material, equipment and the work. If within the warranty period set forth below, any part of the material, equipment, any defects in design or the Work fails to meet the warranty, the B-R Powergen Ltd. will notify the Contractor and the

Contractor shall promptly correct any defects, including non-conformance with the specifications, by adjustment, repair or replacement of any and all defective parts or materials.

**Unless otherwise specified, the warranty period hereunder shall begin on the date of Taking-over by the B-R Powergen Ltd. or date of Completion Certificate issuance (whichever occurs first) and shall end after twenty-four (24) months. During the warranty period, if any equipment/material is damaged and replaced by the Contractor, fresh warranty period for twenty four (24) months shall be counted for the replaced equipment/material.**

During the warranty period of 24 months, duration of unscheduled outages due to Contractor's fault shall be worked out, which shall be added to 24 months warranty period i.e. warranty period shall be extended accordingly by such unscheduled outages.

**During the warranty period of 24 months, the Contractor shall supply/replace all necessary equipment/spare parts, materials/consumables with considering 80% plant factor at his own cost.**

The Contractor shall pay all costs for correction of defects, including shop and field labour and supervision transportation parts, supplies and special tools.

The Contractor will be given an opportunity to confirm the existence of the defect but he shall not delay the correction while making such determination. This section states the limit of the Contractor's liability for defects for which it is responsible.

When it is necessary to dismantle Piping, ducts, machinery, equipment or other work furnished or performed by the Contractor in order to obtain access to the Work, the cost of all such dismantling and re-assembly will be paid by the Contractor.

The Contractor shall extend the provisions of this warrant to cover all repaired and replacement parts furnished under the warranty provision for a period of twenty four (24) months from the date of installation thereof.

If within twenty (20) days after the B-R Powergen Ltd. gives the Contractor notice of a defect, the Contractor neglects to make or undertake with due diligence to make the necessary corrections, the B-R Powergen Ltd. is hereby authorised to make the corrections by himself or order the Work to be done by a third party, and the cost of the corrections shall be paid by the Contractor.

The B-R Powergen Ltd. will be permitted to make repairs or replacements of equipment without affecting the warranty or without prior notice to the Contractor so long as the repairs or replacements involve the correct installation of spare parts. The B-R Powergen Ltd. shall also be permitted to adjust or test equipment as outlined in instruction manuals provided by the Contractor or as directed by the Contractor's Representative. During major repairs or replacement respective manufacturer's representative shall be present.

In the event of an emergency where in the judgement of the B-R Powergen Ltd. the delay resulting from giving formal notice would cause serious loss or damage which could be prevented by immediate action, defects may be corrected by the B-R Powergen Ltd. or a third party chosen by the B-R Powergen Ltd. without giving prior notice to the Contractor and the cost of the corrections shall be paid by the Contractor. In the event such action is taken by the B-R Powergen Ltd., the Contractor will be notified promptly and shall assist wherever possible in making the necessary corrections.

The Contractor shall provide Two (02) competent engineers from manufacturer of main equipment, one (1) Engineer for Electrical Maintenance and Control Systems & one (1) Engineer Mechanical Maintenance during 24 months warranty period for smooth maintenance and operation of the Plant. Bio-data (CV) of above Engineers have to be submitted by the Tenderer for approval from B-R Powergen before Initial Commercial Operation (ICO).

During warranty period the above mentioned Engineers jointly with B-R Powergen's Engineers/Staff shall have to perform the operation & maintenance of the plant which will ensure the operation and maintenance of the plant after the warranty period by B-R Powergen personnel exclusively. For this purpose, quarterly progress report of B-R Powergen Personnel shall have to be submitted to the authority by the above mentioned Engineers showing the progress of B-R Powergen Personnel for safe & reliable operation and maintenance of the plant independently.

#### 50.01 **Penalty During Warranty Period :**

During warranty period, tripping/ unscheduled shutdown of the plant/units due to contractor's/ machine's (installed by contractor) fault shall be allowed for maximum 24 times/year. After each tripping/unscheduled shutdown, Plant/unit outage time of maximum 06 hours will be allowed. If Nos. of tripping/unscheduled shutdown is more than 24 times/ year, amount of penalty will be 0.005% of contract price for every additional tripping/ unscheduled shutdown. In addition, if outage of the unit after each tripping/ unscheduled shutdown continues for more than 06 hours (tripping/ shutdown time to synchronising time) additional penalty will be (0.005/ Total unit no.) % of contract price for every additional outage hours. At the end of every month, unit operation/ shutdown report will be prepared by the Project Director/ Manager of the Power station and penalty will be imposed on the contractor on monthly basis. This penalty will be in addition to the Liquidated Damages [as per Clause GC 45.0] on account of failure to achieve guaranteed net power output, heat rate, transformer loss and failure to complete the specified supply and/ or work within the period of time stipulated in the Contract.

In the case of individual trips/ unscheduled shutdown of the units of the plant, the penalty shall be proportional to the reduction of power from the offered net output.

Load restriction (partial load operation due to contractor's or machine fault) will also be considered as unscheduled shutdown and these period will be calculated and penalised proportional to the reduction of energy (MWhr) from the offered net energy (MWhr) for these period.

#### 51.0 **CLAIMS FOR LABOUR AND MATERIALS**

The Contractor shall indemnify and save harmless the B-R Powergen Ltd. from all claims for labour and materials furnished under this Contract.

#### 52.0 **MAINTAINING COMMERCIAL OPERATION**

The Contractor shall prosecute the Work in such a manner that the minimum disturbance to maintaining commercial operation of the existing power system and appurtenances will result. Any outage of power shall be requested in writing to the B-R Powergen Ltd. at least five (5) days in advance and shall be scheduled during weekends, nights, or other periods of low demand. Any operations that may endanger the integrity of the power system shall first be cleared with the B-R Powergen Ltd..

#### 53.0 **CUTTING INTO EXISTING WORK**

Cutting into existing work that will affect commercial operation or integrity of the power system shall be conducted in accordance with Clause 52.0, "MAINTAINING COMMERCIAL OPERATION". Cutting into transmission / Auxiliary system and communication system, or other work not involving the above shall be performed in such a manner that the performance of the existing system will not be adversely affected, except for temporary personnel inconvenience. After putting in the new work, the existing work shall be returned to satisfactory and safe condition, equivalent or better, than it was found.

#### 54.0 **MAJOR ECONOMIC DISLOCATION** : Deleted

**55.0 PAYMENT OF DUTIES, TAXES, VAT, FEES AND OTHER TAXES:**

**55.01 CUSTOMS AND IMPORT DUTIES, LEVIES AND ALL OTHER CHARGES FOR PERMANENT MATERIAL OF THE PROJECT.**

The Contractor shall obtain all import permits or licenses required for any part of the work within the terms stated in the program or if not so stated, in reasonable time having regard to the time for delivery of the work and the time for completion. The B-R Powergen Ltd. as a direct importer shall pay all Bangladesh customs and import duties and all other levies arising from the importation of all permanent material and equipment (on CIF value) as well as spares/consumables, The B-R Powergen Ltd. shall provide its extreme effort to pay such levies in a timely manner to avoid any extra cost thereon. The contractor shall submit to the owner 5 (five) copies of non-negotiable shipping document ahead of shipment for arranging payment of such taxes and clearing the materials in time.

The B-R Powergen Ltd. shall not bear any expenditure on account of import of cement, if any, by the Contractor.

Normally, equipment and materials that will be incorporated in the permanent works shall be transported by vessel. If the Contractor decides to air freight any items, the excess customs duty to be levied by customs authorities and excess freight on account of air freight shall be borne by the Contractor.

**55.02 For Contractor's equipment, materials and services**

**a) For Contractor's equipment, materials imported on re-exportable basis**

The Contractor shall be entirely responsible for all Bangladesh Custom and Import duties, VAT, taxes and all other levies imposed under applicable law of Bangladesh for Importation of Contractor's Construction equipment, tools and materials required for implementation of the contract in Bangladesh which shall be imported on the condition to be exported after completion of the work, if the same are not exempted from such taxes, VAT & levies. The B-R Powergen Ltd. shall assist to the contractor to obtain exemption from NBR [National Board of Revenue] for import of the contractor's equipment and materials on the basis of re-export.

**b) Bangladesh Income tax and VAT for income earned in Bangladesh**

The Contractor shall be entirely liable to pay all Income Tax, VAT and all other taxes of similar nature earned in Bangladesh arising out of this contract for both Foreign & Local currency portion (i.e. except CIF value of permanent materials) of the Contract Price at the prevailing rule of the Government at the date of tender submission which shall be deducted at source during payment of bills for onward deposition of the same into Government Treasury. In case of any change, it will be purchaser's responsibility.

**c) Foreign country Taxes and Permits**

The Contractor shall pay all sales, income and other taxes and duties, tariffs and imports that can be lawfully assessed against the contractor by the Government or any lawful authority of any country other than the people's Republic of Bangladesh which has jurisdiction over the contractor in connection with this contract and shall pay for all licenses permits and inspection required for the work including the cost or securing all export licenses and permits for materials, equipment, supplies and personnel exported from that country to Bangladesh.

**55.03 CONTRACTOR'S RESPONSIBILITY TO GET ACQUAINTED WITH BANGLADESH LAWS, IMPORT POLICY, ETC.**

The Contractor shall get himself acquainted with the relevant Bangladesh Laws as well as the Import Policy of the Government of People's Republic of Bangladesh remaining in force regarding import of banned items, if any, during the execution of the Contract. In case of import of any banned items and/or contraband item, the consequential effect shall rest with the Contractor. Similarly the Contractor shall be responsible for any non-conformance of Bangladesh Laws either by his own employees or any of the employees of his Subcontractors during execution of the Contract.

**56.0 CONTRACTOR'S BREAK DOWN ESTIMATE**

The Contractor shall prepare and submit to the Engineer for approval a breakdown estimate for and covering each lump sum price of installation work stated in the Contract. The breakdown estimate, showing the value of each kind of work, shall be submitted to and approved by the Engineer before any partial payment estimate is prepared. Such items as Security premium, temporary facilities, and plant may be listed separately in the breakdown estimate, provided that their costs can be substantiated.

The sum of the items listed in any breakdown estimate shall equal the Contract Lump Sum Price or Prices listed as separate items. Overhead and profit shall not be listed as separate items.

An unbalanced breakdown estimate, providing for overpayment of the Contractor on items of the Work which would be performed first under the lump sum item or the Contract, will not be accepted and shall be revised and resubmitted until acceptable to the Engineer.

**57.0 DEFENSE OF SUITS**

In case any action at law or suit in equity is brought against the B-R Powergen Ltd. or the Engineer or any officer or agent of either of them, for or on account of the failure, omission, or neglect of the Contractor to do and perform any of the covenants, acts, matters, or things by this Contract undertaken to be done or performed, or for the injury or damage caused by the negligence or alleged negligence of the Contractor or his Subcontractors or his or their agents, or in connection with any claim or claims based on the lawful demands of Subcontractors, workmen, material, men, or supplies of machinery and parts thereof, equipment, power tools and supplies incurred in the fulfillment of this

Contract, the Contractor shall indemnify and save harmless the B-R Powergen Ltd. and the Engineer and their officers and agents, of and from all losses, damages, costs, expenses, judgments, or decrees whatever arising out of such action or suit that may be brought as aforesaid. The Contractor shall be permitted to participate on the defense of any suit.

#### 58.0 GOVERNMENTAL AUTHORISATION

The B-R Powergen Ltd. will assist the Contractor for obtaining any required authorisation and export licenses for exporting tools, equipment, test equipment, unused materials, and the like, all of which are and remain the property of the Contractor, from Bangladesh at the conclusion of the work. The B-R Powergen Ltd. shall have the first option to purchase for fair value any of the Contractor's plant, equipment, tools, materials, and supplies which are imported for use in the performance thereof and subsequently offered for sale in Bangladesh, but the Contractor is relieved of any responsibility to recognise the option and may sell to anyone at the best price obtainable in the event that B-R Powergen Ltd. does not exercise the option within thirty (30) days of B-R Powergen Ltd.'s receipt from the Contractor of written notice of the intent to sell, provided, however, that the Contractor will observe usual Government Regulation with regard to sale of such imported goods in Bangladesh.

#### 59.0 LOSSES FROM NATURAL CAUSES

All loss or damage arising out of the nature of the Work, or from the action of the elements, or overflows, or from ground water, or from any unusual obstruction or difficulty, or any other natural or existing circumstances foreseeable, which may be encountered in the prosecution of the Work, shall be sustained and borne by the Contractor at his own cost and expense.

#### 60.0 INSURANCE

The Contractor shall arrange the following insurance except "Workmen's compensation Insurance for the Contractor's expatriate personnel" from M/S Bangladesh Sadharan Bima Corporation and Policies to be taken in foreign currency and local currency wherever necessary and the payment of premium shall be made by the Contractor.

##### 60.01 MARINE INSURANCE

Insurance of equipment/Spare parts/materials/ Vehicles and other goods covering all risks including war, strike, riots, civil commotion from the port of shipment to the port of discharge transit after discharge to the Site, and from the port of shipment to the port of discharge anywhere in Bangladesh.

The Contractor shall promptly furnish one set of shipping documents, a copy of Bill of lading, invoice, packing list etc, of each consignment direct to the DGM (F&A) B-R Powergen Ltd., Dhaka well in time of the shipment of goods indicating the contract number and name of the insurer. If they fail to comply with this instruction they will be held responsible to compensate the losses if any arising out of the non-compliance of this conditions.



#### 60.02 ERECTION INSURANCE

"Builder's risk Insurance" and "Erection Insurance" and or "Structural Insurance" including third party liabilities wherever considered necessary by the Contractor and approved by the B-R Powergen Ltd..

#### 60.03 TRANSPORT LIABILITY INSURANCE

Comprehensive water crafts if necessary automobile insurance on motor vehicles to be used by the Contractor during the working period in Bangladesh.

#### 60.04 WORKMEN'S COMPENSATION INSURANCE

The Contractor shall procure and maintain Workman's Compensation Insurance for all expatriate personnel employed by the Contractor for services in Bangladesh and shall provide for such employees other insurance benefits such as it customarily provides for overseas assignments Of its other employees.

#### 60.05 REPLACEMENT AND REPAIR UNDER INSURANCE

The Contractor shall follow customary insurance claim procedures in seeking to effect recovery under the applicable insurance coverage, of the costs of repair or replacement of any materials lost or damaged in shipment or handling, replacement shipments for materials being replaced or materials that has been returned to the country of origin for repair shall be shipped at no charge to the B-R Powergen Ltd.. However, any costs for custom duties, taxes, import licenses under an insurances claim will be borne by the Contractor. The contractor shall in no way withheld the project works/ supplies / services for finalisation of the insurance claimed, if any.

### **61.0 CONTRACT PRICE AND TERMS OF PAYMENT**

The total Contract Price is.....Local currency portion..... Foreign currency portion:

Notwithstanding anything contained in the Contract to the contrary, the Contract Price shall be paid by the Owner to the contractor through B-R Powergen Ltd. in the following manner:

#### **61.1 DEFERRED PAYMENT (UNDER SUPPLIER'S CREDIT)**

1.1 The total Contract Price, i.e, 100% of the foreign currency and local currency portion amounting to.....shall be paid by the Owner within a period of..... years ("Credit Period") on deferred payment terms through B-R Powergen Ltd. subject to full utilization of credit as follows:

- The grace period will be ----- years commencing from the Date of signing of the Contract, during which no interest shall be calculated and paid.
- The repayment period will be ----- years including grace period commencing from the first day of the year from the date of signing of the Contract subject to full utilization of the credit.

- The repayment of the principal shall be made half-yearly by -----equal installments in accordance with the Deferred Payment Schedule.
  - During the repayment period, interest shall accrue on the principal at the fixed rate of ----- per annual and shall be paid half-yearly by -----installments in accordance with the Deferred Payment Schedule.
- 2.2.2 Within 90 (ninety) days from the date of signing of the Contract, the Owner shall open Letter of Credit in favor of the Contractor, from any scheduled commercial bank, in the form and content according to corresponding contractual terms and conditions of the Contract, to cover the full amount of the deferred payment and interest thereof.

## **61.2 TERMS OF PAYMENT UNDER ECA/BUYER'S CREDIT**

All payments either foreign and local currency will be made to the contractor for the ECA/Buyer's credit in the following manner:

1. Foreign currency component
  - a. CIF cost of supply of materials and equipment.
  - b. Services viz, charges for the design, erection, testing, commissioning, plant engineering, civil engineering, staff training, supervision of operation and maintenance for twenty four (24) months warranty period and first inspection (s) of the unit.

2. Local Currency [Bangladesh Taka] component

This will include the total amount to be paid to the Contractor in unconvertible Bangladesh Taka for insurance, local transportation, all services, works, etc.

3. Payment of foreign currency

The payment of the foreign currency cost and Contract Price will be made as under:

The foreign exchange component of the Contract Price will be paid out of an irrevocable and unconditional Letter of Credit to be established in favour of the Contractor.

All Bank charges for opening, amendment, prolongation and payment out of the L/C within the territory of Bangladesh shall be paid by the B-R Powergen Ltd. and outside the territory of Bangladesh shall be paid by the Contractor. But in case the amendment of the L/C is required due to the cause of the Contractor, the amendment charge shall be paid by the Contractor.

- a. 60% of the CIF cost of the Supply of permanent materials shall be paid out of the irrevocable Letter of Credit upon presentation of invoice along with complete shipping documents *as per clause GC 62*. Payment advice shall be issued to the Bank by the concerned office of the B-R Powergen Ltd. upon receipt of the negotiable shipping documents.

- b. 25% of the CIF cost of the supply of permanent materials shall be paid on issuance of receiving cum damage report against submission of invoices duly certified by the Engineer and approved by the Project Director.
  - c. 5% of CIF cost of the supply of permanent materials shall be paid only after successful, performance and reliability runs of one hundred sixty eight (168) hours and after issue of Taking over/Provisional Acceptance certificate as specified against submission of invoices duly certified by the Engineer and approved by the Project Director.
  - d. 10% of CIF cost for the supply of permanent materials shall be payable after completion of 2(two) years warranty period and first inspection (s) and removal of all defects, pointed out by the B-R Powergen Ltd. Against submission of invoices duly certified by the Engineer and approved by the Project Director.
- 4. Amount Payable in foreign currency for the installation/services defined under sub clause 2 (b) herein will be paid against monthly invoice after certified by the Engineer countersigned by the Project Director out of the established Letter of Credit in the following manner:
  - (i) 85% against monthly invoice, (ii) 15% after issuance of Provisional Acceptance/Taking over certificate & (iii) 10% after warranty period and issuance final acceptance certificate.
- 5. Payment of Local Currency [Bangladesh Taka]:
  - a. 85% of the total Local Currency [Bangladesh Taka component] of the Contract Price shall be paid against monthly invoices for the actual progress for the respective month accompanied by the statement of the Works duly certified by the Engineer and approved by the Project Director within forty five (45) days of the date of approval of the invoice by the Project Director.
  - b. 5% of the total Local Currency [Bangladesh Taka Component] of the Contract Price shall be paid after ISSUANCE OF PAC and the rest 10% after completion of warranty period and removal of all the defects pointed out by the B-R Powergen Ltd.
- 6. Any individual claim for payment submitted by the Contractor is to be for a minimum sum of 0.5% of the Contract Price.
- 7. No extra payments in respect of overtime, additional materials or special conditions of hardship shall be claimed by the Contractor unless such payments have been previously authorised in writing by the B-R Powergen Ltd. .
- 8. If at any time any payment would fall to be due for a work or portion of a work and if there shall be any defect in portion of such works in respect of which such payment is proposed, B-R Powergen Ltd. may retain the whole or any portion of such payment. Any sum retained by the B-R Powergen Ltd. pursuant to the provision of this sub Clause shall be paid to the Contractor after the said defect is removed.

## **62.0 DOCUMENTATION FOR PAYMENT**

Claims for payment must be supported by the following documentation as specified hereinafter, Requests for reimbursement for the cost of equipment materials, freight, transportation and insurance shall be supported by the following documents (each copy to be certified by the Contractor or the Contractor's representative to be a true copy of the document of which it is a copy) :

60% of the CIF cost of supply of materials and equipment shall be deemed drawn upon presentation of i) invoice in 3(three) originals, ii) packing list in 3(three) originals, iii) insurance certificate in 1(one) originals, iv) Bill of lading/ Airway Bill in 1(one) original and 3(three) copies marked Freight prepaid, v) Warranty certificate in 1(one) original, vi) manufacturer's factory test certificate in 1(one original, vii) quality and quantity certificate of the materials & equipment shipped in 1(one) original, viii) factory test witnessing certificate in 1(one) original and ix) certificate of origin of equipment & Material as per Contract Agreement issued by the manufacturer of the materials shipped in 1(one) original. Requests for progress payments cost shall be supported by the following documents:

- i. One copy or Photocopy of the Contractor's invoice which shall identify the Contract and which shall show the total foreign currency value of the Contract, the total foreign currency amounts previously received and/or claimed as mobilisation fund or progress payments cost ; the foreign currency amount being invoiced for payment; separate total values as of the date of this invoice of equipment and materials delivered (including shipping and related costs) and services performed; and separate total values since the date of the previous notice.
- ii. One counterpart of a Work Progress Certificate signed by the Contractor and Jointly countersigned by the Engineer, Consultant and the Project Director.
- iii. The Contractor shall submit all Work Progress Certificates to both the Engineer and the B-R Powergen Ltd. simultaneously by registered airmail. The Engineer, Consultant and the Project Director will either countersign or reject a Work Progress Certificate within a maximum period of thirty (30) days from the date of receipt of such Certificate by him. If the Engineer, Consultant and the Project Director or either shall fail either to countersign or to reject a Work progress Certificate within the said thirty (30) days period, the Contractor shall notify the B-R Powergen Ltd. by cable of the delay in the approval from the Site; and the B-R Powergen Ltd. will either countersign the Work Progress Certificate in question or assign his reasons for not doing so within a maximum period of sixty (60) days from the date of receipt of the Contractor's said cable notice to him.
- iv. The Contractor shall furnish to the B-R Powergen Ltd., Project Director and the Engineer or either whenever called upon to do so any additional information or documents that may be required in connection with verification of progress claims and or any other payments made.

## **63.0 REPORTING, CLEARING AND SHIPPING DOCUMENTS**

The contractor shall be taken prior written permission from the Project Director/ B-R Powergen Ltd./Engineer before shipment of any equipment & materials for the project. The Contractor shall provide all official forms and documental information as shall be needed to satisfy the requirements of Bangladesh Customs and B-R Powergen Ltd..

### 63.01 REPORTING DOCUMENTS

The Contractor shall forward to the Project Director, Sreepur 150 MW±10% Power Plant B-R Powergen Ltd., ....., Bangladesh, the following documents :

- |    |  |          |
|----|--|----------|
| a. | Bill of Lading   | 1 Copy   |
| b. | Shipping Specification   | 2 Copies |
| c. | Quality Certificate  | 2 Copies |
| d. | Packing Lists (One copy shall be placed inside the case, the other in a special packet in case No.1) | 2 Copies |
| e. | Insurance Certificate  | 2 Copies |

### 63.02 CLEARING DOCUMENTS

The Contractor shall forward to the B-R Powergen Ltd. through their bankers not later than seven (7) days from the date of sailing for the purpose of clearing the cargo at the Point of destination the following documents

- |    |                                   |          |
|----|-----------------------------------|----------|
| a. | Negotiable copy of Bill of Lading | 1 Copy   |
| b. | Invoice with itemised prices      | 3 Copies |
| c. | Shipping Specification            | 3 Copies |
| d. | Copy of the Charter Party         | 1 Copy   |

(If chartering has been permitted by prior arrangement with the B-R Powergen Ltd.)

### 63.03 SHIPPING DOCUMENTS

Simultaneously with the dispatch of the negotiable documents as listed in clause 63.02 above the Contractor shall also send by Air Mail eleven (11) sets of non-negotiable shipping documents for each shipment according to the following distribution list. Each set will comprise the following documents :

- |    |                        |        |
|----|------------------------|--------|
| 1. | Bill of Lading         | 1 Copy |
| 2. | Invoice                | 1 Copy |
| 3. | Shipping Specification | 1 Copy |

The invoices and shipping specifications shall bear the Insurance cover note number.

- |    |   |          |
|----|---|----------|
| 1. | Project Director.<br>Sreepur 150 MW±10 Power Plant<br>B-R Powergen Ltd. at Sreepur, Gazipur, Bangladesh | 2 Copies |
| 2. | Engineer  | 1 Copy   |

After shipment equipment and materials the Contractor shall cable to, or notify by registered air mail, the B-R Powergen Ltd. at the addresses under 1 and 2 above not later than three (3) days after the sailing date of the vessel the following information:

1. The name of the vessel.
2. The sailing date of vessel.
3. Port of destination.
4. Description of the cargo (grouped).
5. Number of cases and/or weight of cargo.

6. Number of cases weighing above 20 tons and their individual weights.

7. Number of Bills of Lading.

8. Expected date of arrival at the port of destination.

The Contractor shall so arrange that the master of the vessel will inform Project Director, Sreepur 150 MW±10% Power Plant (HFO fired Engine Generating Sets) Project, Sreepur, Gazipur, Bangladesh by cable of the date and time of arrival of the vessel at the port of destination seventy-two (72) hours in advance. No goods shall be shipped without prior consent of Project Director.

#### 64.0 BOOKS AND RECORDS

The Contractor shall maintain books and records covering all transactions under this Contract. These books and records shall be available for inspection and audit by the B-R Powergen Ltd. for a period of three (3) years after termination as provided under the Contract.

#### 65.0 PACKAGING

All equipment and materials shall be suitably coated wrapped, or covered and boxed or crated for export shipment and to prevent damage during handling and storage at the Site. Cardboard containers shall be enclosed in a solid wooden container.

Equipment and process materials shall be packed and semi-kocked down, to the extent possible, to facilitate handling and storage and to protect bearings and other machine surfaces from oxidation. Each container, box, crate or bundle shall be reinforced with steel strapping in such a manner that breaking of one strap will not cause complete failure of the packaging. The packing shall be of best standard to withstand rough handling and to provide suitable protection from tropical weather while in transit and while awaiting erection at the Site.

Equipment and materials in wooden cases or crates shall be properly cushioned to withstand the abuse of handling, transportation and storage. Packing shall include preservatives suitable to tropical conditions. All machine surfaces and bearings shall be coated with oxidation preventative compounds. All parts subject to damage when in contact with water shall be coated with suitable grease and wrapped in heavy asphalt or tar impregnated paper.

Crates and packing material used for shipping will become the property of the B-R Powergen Ltd., but the Contractor will be allowed to use the same for the Work as needed, but the remaining material shall be turned over to the B-R Powergen Ltd. upon completion of the Project.

Packaging or shipping units shall be designed within the limitations of the unloading facilities of the receiving ports and the ship which will be used. Ships with special heavy capacity unloading rigging may be required for large units of equipment. It shall be the Contractor's responsibility to investigate these limitations and to provide suitable packaging and shipping to permit unloading at the Port.

Each package or shipping unit shall be clearly marked or stenciled on at least two (2) sides as follows :

B-R POWERGEN LTD.  
SREEPUR 150 MW±10 % (HFO BASED) POWER PLANT  
SREEPUR, GAZIPUR, BANGLADESH

---

(Name of Contractor)

In addition, each package or shipping unit shall have the symbol painted in red on at least two sides of the package, covering one fourth of the area of the side.

Each part of the equipment which is to be shipped as a separate piece or smaller parts packed within the same case shall be legibly marked to show the unit of which it is a part and matchmarked to show its relative position in the unit, to facilitate assembly in the field. Unit marks and matchmarks shall be made with steel stamps and with paint.

Each case shall contain a packing list showing the detailed contents of the package. When any technical documents are Supplied together with the shipment of materials no single package shall contain more than one set of such documents. Shipping papers shall clearly indicate in which packages the technical documents are contained.

The case number shall be written in the form of a fraction, the numerator of which is the serial number of the case and the denominator the total number of case in which a complete unit of equipment is packed.

Wherever necessary besides usual inscriptions the cases shall bear special indication such as "Top", "Do not turn over", "Care", "Keep dry", etc., as well as indication of the centre of gravity (with red vertical lines) and places for attaching slings (with chain marks).

Cases which cannot be marked as above shall have metal tags with the necessary markings on them. The metal tags shall be securely attached to the packages with strong steel binding wire.

Each piece, skid, case or package shipped separately shall be labelled or tagged properly.

66.0     COMPLETION

All works under the scope of this Contract shall be completed on or before the expiration of Five hundred and forty (450) calendar days counted from the Contract effective date.

67.0     PROVISIONAL ACCEPTANCE CERTIFICATE (PAC)

The work shall not be considered as complete until a PAC has been issued for the work, signed and dated by the Acceptance Committee constituted by the B-R Powergen Ltd. and the Engineer and delivered to the Contractor with a copy to the B-R Powergen Ltd. The PAC will be issued (by the B-R Powergen Ltd.) only after a final inspection and performance test of the power plant has been carried out by a team of representatives of the Contractor, the Engineer and the members of the acceptance committee of the B-R Powergen Ltd. and the work

has been judged complete and in compliance with the Contract Documents. The test shall be performed as specified in the applicable Technical Requirements. Necessary testing equipment will be supplied by the Contractor. The final inspection and the performance test of the unit and the subsequent issuance of the PAC shall not be construed as a release to the Contractor from any contractual liability or responsibility, such release being subject only to the provisions of the release of liability clause, Clause GC-68. The B-R Powergen Ltd. may take over completed portions of the work, prior to completion of the Contract, by written notice to the Contractor.

The Provisional Acceptance Certificate shall not be unreasonably withheld nor shall the B-R Powergen Ltd. delay the issuing of the PAC on account of minor omissions or defects, which do not affect the commercial operation without any serious risk to the plant, provided always that the Contractor undertakes to make good such omission and defects within a reasonable time. From the date of final inspection and test of completed works, at least three (3) weeks time should be taken for observation to the outcome of the work, after which Provisional Acceptance Certificate should be issued for the work, signed and dated by the B-R Powergen Ltd. and the Engineer and delivered to the Contractor, provided that no omissions or defects are found which may affect the commercial operation of the plant.

It is noted that after successful performance test of the plant Acceptance Committee certify the date of ICO of the plant. Formal PAC shall be issued from the effective ICO date of the plant as per contractual obligation.

#### 68.0 RELEASE OF LIABILITY

The acceptance by the Contractor of the last payment shall operate as, and shall be, a release to the B-R Powergen Ltd. and every officer, agent and employee thereof, from all claims and liability hereunder for anything done or furnished for, or relating to the Work or for any act or neglect of the B-R Powergen Ltd. or Of any person relating to or affecting the work.

The last Payment by the B-R Powergen Ltd. to the Contractor shall constitute final acceptance of all work performed under this Contract and shall be release of the Contractor and his surety, from all contractual. Liabilities and responsibilities to the B-R Powergen Ltd. except those liabilities and responsibilities assumed under the Clause 50.0 "WARRANTY" of these General Conditions, or arising out of hidden defects.

In the event a suit were to be instituted in Bangladesh against the B-R Powergen Ltd. and the Contractor as Joint defendants, neither shall be released from his respective liabilities under this Contract.

#### 69.0 SUCCESSFUL PERFORMANCE

This Contract shall be deemed successfully performed, that is completely performed, at the expiration of the specified warranty period, notwithstanding the provision whereby the B-R Powergen Ltd. may extend the warranty period, at its option, for consideration to be paid to the Contractor as determined by negotiation.



## 70.0 TRAINING

### (1) Foreign Training

The total person-months for training will be limited to 15(fifteen) Person-Months on Engine Generating unit (HFO fired) at manufacturer's factory in the following manner:

(a) Operation & Maintenance Training: 15 Engineers from B-R Powergen Ltd. for 15 person months.

All living expenses, transport expenses of the trainees to and from Bangladesh to the country of Manufacturer's factory and during the period of training including incidental expenses or medical expenses or Medical Insurance from time to time will be covered by the Contractor. The Contractor must indicate in technical offer the practical arrangements he is offering for ensuring the training, as well as the methodology used.

The Contractor will provide all maintenance and operation manual, drawings relating to all the equipment to each trainee on the first day of his arrival at the Contractor's Works.

### (2) Job Site Training

The PoweGen Ltd. shall make available, free of cost, to the Contractor the suitable number of staff member for the purpose of on-the-job training at site during installation, testing, commissioning and initial operation of the plant for one (1) month. During warranty period, it shall be the responsibility of the Contractor to train them adequately and properly in a planned manner so that these member of the B-R Powergen Ltd.'s staff could take over the responsibility of operation and maintenance of the plant and equipment independently at the time of handing over of such plant and equipment as well as before issuing of FAC.

### (3) Operation & Maintenance During Warranty Period

The Contractor shall provide One (1) Competent Engineer who will supervise the operation of the plant and be in overall charge of the Plant, one (1) Engineer for Electrical Maintenance & one (1) Engineer Mechanical Maintenance during 24 months warranty period for smooth maintenance and operation of the Plant.

During warranty period the above mentioned Engineers jointly with B-R Powergen's Engineers/Staff shall have to perform the operation & maintenance of the plant which will ensure the operation and maintenance of the plant after the warranty period by B-R Powergen Ltd. personnel exclusively. For this purpose, quarterly progress report of B-R Powergen Ltd. Personnel shall have to be submitted to the authority by the above mentioned Engineers showing the progress of B-R Powergen Ltd. Personnel for safe & reliable operation and maintenance of the plant independently.

## 71.0 MODIFICATIONS

The contractor shall not alter any of the Work, except as directed in writing by the B-R Powergen Ltd. through the Engineer, but the Engineer will assist the B-R Powergen Ltd. subject to the provisions hereinafter contained from time to time during the execution of the Contract by notice in writing to direct the Contractor to

alter, amends, omit, add to, or otherwise vary any of the works, and the Contractor shall carry out such variation, and be bound by the same conditions, so far as applicable, as though the said variations were stated in the Specifications. In any case in which the Contractor has received any such direction from the B-R Powergen Ltd. through the Engineer which either then or later will, in the opinion of the Contractor, involve an increase or decrease in the Contract Price, the Contractor shall as soon as reasonably possible, advise the Engineer in writing to that effect.

The difference in cost to the B-R Powergen Ltd., if any, occasioned by any such variations, shall be added to or deducted from the Contract Price as the case may require. The amount of such difference shall be ascertained and determined in accordance with the rates specified in Schedule of Prices, so far as the same may be applicable, and where are not contained in the said Schedule or are not applicable, such amount shall be agreed between B-R Powergen Ltd. and the Contractor.

Should the B-R Powergen Ltd./Engineer make any such variations in any part of the Work such reasonable notice in writing will be given to the Contractor as we will enable him to make his arrangements accordingly, and in case where plant is already manufactured or in course of manufacture, or any matter done or drawings or patterns made that require to be altered, a reasonable sum in respect thereof will be allowed by the B-R Powergen Ltd.. If in the opinion of the Contractor any such variation is likely to prevent or prejudice the Contractor from or in fulfilling any of his obligations under the Contract, he shall notify the B-R Powergen Ltd. through the Engineer thereof in writing, and the Engineer will decide forthwith in accordance with the B-R Powergen Ltd.'s instruction whether or not the same shall be carried out. If the B-R Powergen Ltd. confirms his instructions in writing, the said obligations shall be modified to such an extent as may be justified. Until the B-R Powergen Ltd. so confirms their instructions these shall be deemed not to have been given.

## 72.0 FINAL ACCEPTANCE CERTIFICATE (FAC)

The work shall not be considered as completed until a Final Acceptance Certificate (FAC) shall have been jointly signed by the Engineer and the B-R Powergen Ltd. and delivered to the Contractor stating that all work has been finally completed to their satisfaction. The Final Acceptance Certificate (FAC) will be given by the B-R Powergen Ltd. latest twenty eight (28) days after the expiration of the guarantee period or if different guarantee periods shall become applicable to different parts of the work, after the expiration of the latest of such periods and as soon as any and all work to be made good is completed to the satisfaction of the Engineer and the B-R Powergen Ltd..

## **Chapter III**

# **Special Conditions**

## 1.0 CONTRACTOR'S DRAWINGS

### 1.1 SHOP DRAWINGS

Engineering data (both soft and hard copy) covering the manufacture of all equipment and fabricated materials specified hereunder shall be submitted to the B-R Powergen Ltd./Engineer for approval. These data shall include drawings and descriptive material in sufficient detail to show the type, size, arrangement, operation of component, materials, devices, the external connections, anchorage's, supports required and any dimensions necessary for installation and co-ordination with related equipment. No work shall be performed until the drawings and data have been approved.

### 1.2 WORKING DRAWINGS

The Contract drawings (both soft and hard copy) shall show the arrangement, layout, existing equipment, method of control and the design of the, completion of power plant addition as specified herein.

(1) The title of the drawing, the signature of the Contractor's responsible engineer, the date prepared shall appear in the bottom right hand corner of the drawing. The size of drawings shall be as follows:

AO 841 mm x 1,188 mm

AI 594 mm x 840 mm

A2 420 mm x 594 mm

A3 297 mm x 420 mm

A4 210 mm x 297 mm

(2) The Contractor shall submit for approval checked arrangement and detailed drawings of all parts, schematic and wiring diagrams and description of equipment to demonstrate that the equipment to be furnished will conform to the requirements and intent of the Specifications.

The arrangement drawings shall show overall dimensions, clearance heights for the equipment, weight, description and location of all accessories.

Schematic diagrams shall indicate the operation and function of all electrical equipment, accompanied, where necessary, with explanatory notes.

(3) The Contractor shall submit installation drawings for approval including embedded Piping, piping details, support for pipings, conduits and fittings, cable laying, cable rack fixing and other detailed drawings for installation work.

(4) The following types of drawings shall be submitted for approval immediately on completion of design:

- a. The drawings showing the arrangement of necessary devices specified in the Technical Requirements
  - b. Sequence and internal connection diagram
  - c. Drawings of installation equipment and measuring instruments to be supplied by the Contractor
- (5) The Contractor shall, in addition to the documents specified in the Contract, furnish without delay the documents, drawing and other information, which though not specified in the Contract, may be required by the B-R Powergen Ltd. or the Engineer from time to time during the period of execution of the Contract.
- (6) Unless otherwise specially provided, any and all expense required to submit the documents, drawing and other information in compliance with the Contract shall be borne by the Contractor.
- (7) Prior to fabrication of the equipment, the Contractor shall submit approval drawings to the Engineer for approval. Should the Engineer direct modifications to be made in order to satisfy the requirements of the Specifications, the Contractor shall submit modified approval drawings. Alterations in the Contract Price shall not be made by reason of the modifications in the approval drawings. In the event the Contractor proceeds with fabrication without approval of drawings, he shall make the necessary changes at his own expense. Approval of drawings shall in no way relieve the Contractor of his obligation to satisfy the requirements of the Specifications or the responsibility of making corrections in his drawings.
- All approved drawings shall have a column provided for inscription of modifications in the contents. Drawings shall clearly indicate modified parts by arrows or other means.
- (8) After approval, the drawings shall be kept up to date reflecting any changes made, and upon completion. **"As built"** drawings (both soft and hard copy) shall be delivered to the B-R Powergen Ltd.. The B-R Powergen Ltd.'s approval shall be obtained for all Contractor's drawings including any changes made.

### 1.3 FOUNDATION DESIGN

The Contractor shall be responsible for the proper design of the equipment foundations to withstand the dynamic load and static load of load of engine and generators etc. Location and arrangement of steel reinforcement, concrete keyways and detailed drawings showing additional concrete required shall be prepared by the Contractor.

### 2.0 PHOTOGRAPHS

**Deleted**

### 3.0 CO-OPERATION WITH B-R POWERGEN LTD.

The continuity of commercial power service by the B-R Powergen Ltd. is of prime importance. Complete co-operation between the Contractor and the operating departments of the B-R Powergen Ltd. must be maintained. All works which may affect the operation of the existing system shall be scheduled to suit the B-R Powergen Ltd.'s convenience, taking into consideration the power system facilities and requirements at all time during construction.

In the event that it is necessary to either interrupt the power supply limit the amount of power available or to impose abnormal operating conditions on the power system, such procedure must be approved by the B-R Powergen Ltd. and a complete understanding and agreement must be reached by all parties concerned well in advance. The time scheduled for such understanding shall be definite as to date, time of day and length of time required.

The Contractor shall not be entitled to any additional payment for any costs arising from the necessity to perform the Work which, by its effect on the B-R Powergen Ltd.'s existing operating systems, requires that it be performed at times other than regular working hours.

### 4.0 CONSTRUCTION PLANT AND TEMPORARY FACILITIES

Unless otherwise specified, the Contractor shall furnish at his own expense all construction equipment, temporary structures and enclosure, utilities and other temporary facilities and all tools, materials and supplies which are required for prosecution of the Work but which will not be incorporated in the permanent Work.

All such temporary structures and facilities furnished by the Contractor shall remain the property of the Contractor and shall be maintained throughout the Construction Work.

When the Work is completed all such temporary structures and facilities shall be removed from the Site and the area shall be restored to its original condition.

All equipment and facilities shall be safe and in first class condition and shall be of the proper type and size to adequately perform the Work. Such equipment and facilities shall be regularly and systematically maintained throughout the Work to ensure proper and efficient operation. Equipment and facilities which are inadequate or improperly maintained shall promptly be modified, repaired, or removed from the Site and replaced.

#### 4.1 TEMPORARY STRUCTURES

Temporary structures if required, for Offices, quarters, storage and other use for the Contractor or his Subcontractors shall be constructed by the Contractor only in locations assigned by the Project Director. The construction of such structures shall be subject to the B-R Powergen Ltd.'s approval.

The Contractor shall erect temporary walls, fences to isolate the construction area to keep dust and dirt from the remainder of the Plant and prevent unauthorised access to operating sections and to keep plant personnel and visitors away from the construction area if any.

Temporary structures shall be property of B-R Powergen Ltd. after completion of project, if not removed by the Contractor in due time, without any obligation to BPDB.

#### 4.2 CONSTRUCTION ELECTRIC POWER

Contractor shall bear all cost of Electricity consumption for construction use at Site according to prevailing tariff rate including government duty.

The energy will be available at a single supply point on the Site and it will be 230/400 V, 50 Hz (including domestic power required by personnel at the Site) or 11 KV. All equipment/ arrangements shall be of the Contractor at his cost.

The Contractor shall connect to the supply terminals or load bus designated and shall provide all wiring, transforming and protecting devices, switches, starters, and other electrical systems and equipment required to adopt and distribute power for his use.

#### 4.3 TEMPORARY LIGHTING

The Contractor shall provide his own temporary lighting facilities at the Site.

#### 4.4 WATER

The Contractor shall provide his own arrangement of construction water and process water.

The Contractor shall provide purified water for drinking and sanitary use of his personnel. The Contractor shall be solely responsible for the quality of the water he furnishes. Likewise the Contractor shall be responsible for furnishing a sanitary system for dispensing drinking water.

#### 4.5 SANITARY FACILITIES

The Contractor shall furnish and maintain sanitary facilities for the use of all personnel engaged in the Work under this Contract. These facilities shall be subject to the approval of the B-R Powergen Ltd..

The Contractor's workmen shall not be permitted to use sanitary facilities in the existing plant.

#### 5.0 SCHEDULE OF IMPORTED TOOLS, TESTING EQUIPMENT AND PERSONNEL

If requested by the B-R Powergen Ltd. the Contractor shall submit a complete itemised schedule of the construction and maintenance tools, and testing equipment that he intends to send to the construction Site in Bangladesh. The schedule shall include quantities, capacities, type and model designations, and other descriptive information for the B-R Powergen Ltd. to evaluate the capability of the Contractor's field construction forces.

In addition, the Contractor shall submit to the B-R Powergen Ltd. a schedule of all personnel which he intends to import into Bangladesh for the Work covered by this Contract. This Schedule shall include any non-Bangladesh personnel presently employed in Bangladesh who will be assigned to the Work. The schedule shall include the name and present address of each person, his intended assignment and responsibility in connection with the Work and a concise resume of his experience in the type of work to which he will be assigned.

## 6.0 CUSTOMS CLEARANCE

The Contractor shall be responsible for Bangladesh customs clearance of all materials, supplies, equipment, tools and other articles shipped into Bangladesh by the Contractor for the accomplishment of this Work, including the food and the personal effect of the Contractor's personnel. This customs clearance will take place at the Bangladesh port (Chittagong/Mongla) or at the International Airport at Dhaka. The B-R Powergen Ltd. will, however, pay import and export duties (custom duties, sale tax, etc.), excise duty, import permit fees and all other taxes leviable in Bangladesh on only the equipment and materials that will be incorporated in the Permanent Works (as distinct from the Contractor's equipment, tools, spares, consumables, etc.). The B-R Powergen Ltd. will help the Contractor to obtain necessary import permits and licenses required for customs clearance.

All payment for clearance charge, storage charge, etc. (excluding charge, fees, etc. claimed by Clearing Agents, if any) which are imposed by the relevant agencies of the Government of Bangladesh, relating to the clearance of equipment and materials that will be incorporated in the Permanent Works shall be made by the B-R Powergen Ltd. subject to the Condition that if the Contractor makes delay in submitting necessary shipping documents to the B-R Powergen Ltd., the demurrage charges by the Port Authority will be borne by the Contractor ( chapter II, clause 55.0 )

Tools and equipment for use during construction but which are to remain the property of the Contractor and which are to be exported by the Contractor from Bangladesh at the completion of the Work shall be carefully documented and specially listed to facilitate both import and export. The Contractor shall determine prior to shipment the customs regulations applicable to this special case as well as normal import rules and regulations applicable.

The Contractor shall also be responsible for inland transport by barge/ truck/train to the Site.

## 7.0 RECEIVING, TRANSPORTING, HANDLING AND STORAGE

The Contractor shall receive, transport, handle, store and install all materials and equipment furnished under these specifications, or otherwise involved in the performance of this Contract. It shall be the responsibility of the Contractor to determine the availability and capacity of transportation and unloading facilities and to make whatever arrangements are required to secure to the necessary facilities.

The B-R Powergen Ltd. will not be responsible for furnishing any equipment or providing any services.

The Contractor shall be responsible for the prompt unloading of all equipment or materials. The Contractor shall pay any demurrage incurred due to delay in unloading and for any other reasons except the case that the B-R Powergen Ltd. has not arranged timely discharge of the payment of custom duties.

Storage space will be allocated on the Plant Site by the B-R Powergen Ltd. before unloading any materials or equipment, the Contractor shall prepare and submit to the Project Director a drawing showing the proposed utilisation of the storage



space allocated to him. The storage space shall be utilised in accordance with the drawing as approved by the B-R Powergen Ltd.. This drawing shall be kept current and shall show the location and description of each stored item for which Contractor is responsible. Revised copies of these drawings shall be submitted to the Project Director as they are made. The Contractor shall examine the Site and the means of transportation from the storage space.

The Contractor shall handle materials and equipment carefully to prevent damage or loss. The use of bare rope slings for handling will not be permitted unless specifically approved by the Engineer. Special handling devices shall be used when necessary to avoid damage.

#### 7.1 PLATFORMS

Open platforms shall be constructed by the Contractor at least 50 cm above grade and shall have adequate flooring and base structure to support the stored materials and equipment.

#### 7.2 INDOOR STORAGE

Indoor storage shall be constructed by the Contractor by suitable means for keeping materials and equipment from contact with the ground.

#### 7.3 SHORING

Shoring shall be provided by the Contractor to safely support materials and equipment not less than 30 cm above the ground.

#### 7.4 WEATHERPROOF COVERINGS

Weatherproof coverings for outdoor storage shall be provided by the Contractor and shall utilise a waterproof flame resistant type of sheeting. The sheeting shall be carefully placed and tied down to prevent moisture from entering the laps and to prevent wind damage to the coverings.

#### 8.0 EQUIPMENT PERFORMANCE

The Contractor shall be responsible for the correct design and operation of each individual item of equipment in his supply. In addition, he shall be responsible for the correct performance and operation of his equipment when functioning with equipment supplied by other contractors. The Contractor shall carry out such design work and tests on systems within his supply as may be necessary for establishing and demonstrating their combined performance and good working to the satisfaction of the Engineer.

#### 9.0 IDENTIFICATION OF CONTRACTOR'S EMPLOYEES ,VEHICLES AND BUILDINGS

The Contractor shall provide each of 'his employees and his Subcontractor's employees with a suitable numbered badge bearing the name or initials of the Contractor. Each employee shall wear his badge upon his person while at work on the Site in such a manner that it will be plainly visible as a means of identification.

All vehicles and large equipment furnished and used by the Contractor or his Subcontractors on the Work shall be clearly marked with the Contractor's or Subcontractor's business name. The Contractor's offices, stores, depots and other facilities shall also be clearly identified.

#### 10.0 EXPATRIATE PERSONNEL

The Contractor shall submit to the B-R Powergen Ltd. through the Engineer data on all personnel he intends to bring into Bangladesh for the performance of the Work. This data shall include the name and present address of each person, his intended assignment and responsibility in connection with the Work and a concise resume of his experience in the type of work to which he will be assigned. This data shall be submitted to the Engineer at least thirty (30) days prior to their expected arrival in Bangladesh.

Any expense associated with illness of the Contractor's personnel, including replacement thereof, shall be to the Contractor's account.

Costs of passports, visas, travel documents, inoculations and other incidental expenses incurred by the Contractor's non-Bangladesh employees and their dependants occasioned by travel to and from Bangladesh shall be borne by the Contractor.

The B-R Powergen Ltd. will not furnish living quarters for the Contractor's personnel and families.

The Contractor and the expatriate personnel of the Contractor shall respect all Bangladesh laws, rules and regulations and shall not interfere with Bangladesh political or religious affairs either directly or indirectly and shall comply with such other rules and regulations.

#### 11.0 SAFETY

The Contractor shall comply with all ordinances and regulations including, but not limited to, National, State, Municipal laws and Department of Labour, Transmigration and Co-operation Regulations that are in force in the locality of the Works and shall comply with any instructions that may be from time to time issued by the B-R Powergen Ltd./Engineer.

#### 12.0 PROTECTION OF OPERATING PLANT

The Contractor's attention is drawn to the fact that during the course of the construction period, existing Kabirpur 132 KV Grid Sub-Station and related transmission/auxiliary system are under operation.

The Contractor shall not interrupt or interfere with these services.

The Contractor shall ensure that none of his personnel enter any section of the B-R Powergen Ltd.'s plant, which is in operation, without permission of the B-R Powergen Ltd..

No work shall be carried out on existing equipment by the Contractor unless a permit has been issued to the Contractor by the B-R Powergen Ltd./ Engineer.

The Contractor shall obtain from the B-R Powergen Ltd. an authorised person's signature before the Work is commenced and shall return the permit to the B-R Powergen Ltd. on completion of the Work. The Contractor shall state on the permit that the Work has been completed and obtain an authorised person's signature for acceptance.

In respect of work related to existing plant or substations or transmission/auxiliary system which are required to be carried out during a shutdown period, the Contractor shall inform at least three(3) months before. All such works shall be completed within the decided period.

Any shutdown periods of operational plant will be scheduled by the B-R Powergen Ltd./Engineer in such a manner as to cause minimum interference with the operations and may be scheduled outside normal hours.

#### 13.0 COORDINATION OF WORK

The Contractor shall be required to attend design discussion meetings at the B-R Powergen Ltd.'s offices in Dhaka or Project Director's office in Sreepur to attend progress, liaison and co-ordination meetings at intervals as required by the B-R Powergen Ltd. and/or the Engineer for design progress and other contractors at the Site. Such co-ordination meetings at the Site shall be held at least once in every month.

#### 14.0 LANGUAGE

The ruling language of the Contract shall be English and all correspondence, technical schedules, drawings and other documents of whatever nature required by the Engineer or the B-R Powergen Ltd. under the provisions of the Contract shall be provided in the English language.

#### 15.0 QUALITY ASSURANCE

The Contractor shall operate and demonstrate a Quality Assurance Programme to ensure that the Contract is completed in accordance with the Contract Schedule and to the standards specified. Work procedures shall be fully documented and shall be available to satisfy the B-R Powergen Ltd./ the Engineer of the Contract execution in civil, architectural, mechanical and electrical engineering:

- (a) Design
- (b) Procurement, manufacture and packaging
- (c) Construction, commissioning and final testing

The Contractor shall within thirty (30) days after signing the Contract present to the B-R Powergen Ltd. for approval two(2) copies of comprehensive procedures as to the organization and type of documentation adopted to exercise a meaningful quality assurance programme. These shall include:

- (c) The submission of inspection and test plans for factory manufactured plant.
- (d) The submission of a plan for obtaining the Engineers approval of important stages of the Site construction work, e.g. material receipt and storage, construction, erection, testing and setting to the Work.

#### 16.0 CONTRACT PLANNING AND CONTROL

The Contractor shall have an experienced and qualified Contract Manager available and assigned full time during the execution of the Contract. The Contract Manager shall act for and represent the Contractor in all Contract matters.

Thirty(30) days before starting the Work at the Site, the Contractor shall submit the detail site management organization for approval by the B-R Powergen Ltd./Engineer. Such proposals shall show clearly the Contractor's key personnel, classification

and qualification with the detailed information and curriculum vitae for above key personnel.

The Site Manager and senior key personnel who will be responsible for working closely with the Project Director's/Engineer's staff to achieve efficient execution of the Contract shall be competent to conduct meetings and communications in the English language.

The management organization shall include a planning and programming service covering the Work, and shall operate the latest techniques in communication and analysis. The Contractor shall nominate a planning engineer to co-ordinate all planning activities. The Contractor Shall accept active participation by the Engineer in the programming and progressing of all phases of the Contract and shall provide full facilities and access to all sources of detailed programming and progressing information, including Subcontractors, for monitoring purposes.

#### 17.0 RELEASE OF INFORMATION

The Contractor shall not communicate or use in advertising, publicity, or sales release, photographs or other reproductions of the Work under this Contract, or descriptions of the size, dimensions, quantity, quality, or other information concerning the Work unless prior written permission has been obtained from the B-R Powergen Ltd./Engineer.

#### 18.0 SAFETY AND ACCIDENT PREVENTION

It shall be the Contractor's responsibility to maintain throughout the construction period, a safety and accident prevention program satisfactory to the B-R Powergen Ltd. and which meets the requirements of applicable governmental codes and of all other authority having jurisdiction over this Work.

#### 19.0 FIRE PROTECTION

Only construction procedures which minimise fire hazard to the extent practicable shall be used. Combustible debris and waste materials shall be collected and burned or removed from the Site each day, good housekeeping shall be practised by the Contractor throughout the construction period. Unless specified herein or a particular application, untreated canvas, paper, plastic and other flammable flexible materials shall not be used on the Site for any purpose. If such materials are on equipment or materials which arrive at the Site they shall be removed and replaced with an approved covering before storing or moving into the construction area.

Likewise corrugated paper and fiberboard cartons shall not be permitted in the construction area for the storage or handling of materials and if such cartons do arrive in the construction area they shall be immediately unpacked and removed from the Site.

Approved flexible materials shall be waterproof and flame resistant.

The Contractor shall provide adequate fire protection equipment in each warehouse office and other temporary structure and in each work area which he is occupying. Access to fire hydrants and other sources of fire water shall be identified and kept open at all times. Suitable fire extinguishers shall be provided in enclosed area and in areas which are not accessible to fire water or which may be exposed to fire that cannot be safely extinguished with water. Each fire extinguisher shall be of a type suitable for extinguishing fires which might occur in the area in which it is located. In areas where more than one type of fire might occur the type of fire extinguisher required in each case shall be provided. Each extinguisher shall be placed in a convenient, clearly identified location which will most likely be accessible in the event of fire. Formwork, scaffolding, planking and similar materials which are combustible but which are essential to execution of the Work shall be treated for fire resistance or otherwise protected against combustion resulting from welding sparks cutting flames and similar fire sources.

The above recommendations shall not be construed to establish minimum fire protection requirements. The Contractor alone shall be responsible for providing adequate fire protection.

## 20.0 LINES AND GRADES

All work done under this Contract shall be done to the lines, grades, and elevations shown on the plans. The Contractor shall furnish competent men and suitable equipment as required for the proper laying out of the Work, for making measurements and for establishing temporary or permanent marks in connection with the Work.

The Engineer may, at his sole discretion, check the reference marks, lines, grades and measurements so established. The Contractor shall furnish competent men from his force and such tools, stakes and other materials as the Engineer may require in making the check. The Contractor shall keep the Engineer informed a reasonable time in advance, of the times and places at which he wishes to do work so that any checking deemed necessary may be made with the minimum of inconvenience to the Engineer and of delay to the Contractor.

Any work done without being properly located and established by base lines, offset stakes bench marks or other basic reference points may be ordered removed and replaced at the Contractor's cost and expense. The Contractor shall carefully preserve all monuments, bench marks and reference points.

In case of his destruction thereof, the Contractor will be charged with the expenses of replacement and shall be responsible for any mistake or loss of time that may be caused. Permanent monuments or bench marks which must be removed or disturbed shall be protected until they can be properly referenced for relocation. The Contractor shall furnish materials and assistance for the proper replacement of such monuments or bench marks.

## 21.0 SECURITY

The Contractor shall be solely responsible for the security of all equipment and materials incorporated or to be incorporated in the Work by him and all equipment,

materials, tools, supplies, structures, facilities and others properly used in the prosecution of the Work but not incorporated therein while in his care and custody. The Contractor shall conform also to any specific security requirements of the B-R Powergen Ltd. but such compliance shall not relieve the Contractor from the total responsibility for security.

## 22.0 HOUSING & TRANSPORT

The Contractor shall arrange by themselves suitable family housing units together with furnishing and utilities in the close proximity of the Site for accommodation of all imported personnel. If the services of any imported personnel of the Contractor or its Subcontractors are required for a period of more than six (6) months the Contractor may authorise the employees' wife and children accompany him or to subsequently join him. In any such case the Contractor shall make available suitable family accommodations at the proximity of the Site.

If the Contractor decides in consultation with the B-R Powergen Ltd. that the health or safety of any imported personnel is or might be Jeopardised by political or health hazards in Bangladesh, the Contractor may, after forty eight (48) hours notice, order its employees and the employees of its Subcontractors and suppliers to return to their headquarters or other safe location, in which case the Work will be deemed to be suspended for the duration as may be jointly decided, Provisions of Clause 34.0 of GC "SUSPENSION OF THE WORK" of Chapter II will apply in case of suspension of work.

The Contractor shall provide to the extent agreed transport vehicles for use during construction period by the expatriate as well as local personnel.

## 23.0 PROTECTION OF WORK

The Contractor shall be solely responsible for the protection of his Work until its Final Acceptance by the B-R Powergen Ltd.. The date of commercial production, or the date of issuance of the Completion Certificate which ever is earlier shall, except as portions may earlier be placed in service, be deemed the date of Final Acceptance.

The Contractor shall have no claim against the B-R Powergen Ltd. because of any damage or loss to the Contractor's Work, except damage or loss resulting directly from the actions of the B-R Powergen Ltd. or the employees thereof, and shall be responsible for the complete restoration of damaged work to its original conditions complying with the specifications and drawings.

## 24.0 PROPRIETARY NAMES

Whenever a material or article is specified or described on the plants by using the name of a proprietary product or by using the name of a particular manufacturer or vendor, the specific item mentioned shall be understood as establishing the type, function and quantity desired. Unless otherwise specified, other manufacturers products which in the opinion of the B-R Powergen Ltd., are equivalent of those specified will be accepted. Such items shall be submitted for approval by the procedure set forth in the General Conditions.

## 25.0 START UP AND INITIAL OPERATION

The Contractor shall render all services and do all Work required to place each item of equipment installed by him, including all auxiliaries, piping, and wiring, and the plant in operating condition to the satisfaction of the Engineer and the B-R Powergen Ltd.. Individual systems and items of equipment shall be completed in a sequence that will permit systematic start-up and trial operation of each such component before it is incorporated in the plant start-up and initial operation.

After erection, all equipment having moving parts, or subjected to pressures or voltages, shall be given trial operation. Rotating equipment shall be checked for proper direction of rotation, shaft alignment and balance. Equipment subject to pressures shall be carefully examined for leakage. A representative of the B-R Powergen Ltd. shall be present at start-up of all the equipment and all procedures shall have his approval, in addition to that of the Engineer.

The B-R Powergen Ltd. will furnish operating personnel during start-up and initial operation provided that they are adequately trained by the contractor. The Contractor shall provide all other workmen required, in the opinion of the Engineer, to make adjustments and correct deficiencies during the initial equipment and plant start-up testing and initial operation will be in progress continuously over extended periods of time. The workmen required of the Contractor shall be on the Site at all times during these periods. All costs for the Contractor's personnel in connection with the start-up and initial operation of equipment and plant are included as a part of the lump sum price under the Contract.

The Contractor shall provide all temporary instrumentation and gauging devices, including connections, required during start-up and trial operation of equipment and systems which he has installed.

All rotating machinery shafts shall be in as nearly perfect alignment as practicable. Rotating machinery shall be free from excessive vibration, overheating bearings, and other conditions, which would tend to shorten the life of the machinery. Bearings, shafts, and other moving parts shall be checked for proper alignment, cleaned and lubricated before the equipment is initially started. Full compliance with each equipment manufacturer's specifications and instructions shall be observed.

## 26.0 ACCEPTANCE TESTING

The issuance of the Completion Certificate [PAC] as specified in Chapter II "GENERAL CONDITIONS", Clause 67 "PAC", shall be contingent upon the successful and favourable completion of all inspections and testing required to verify the performance, installation, and acceptability of the Work. The Contractor's Representative and key technical, supervisory and skilled personnel, with necessary tools and equipment, shall remain at the Site until the Completions Certificate is issued, and shall make all adjustments and modifications required to comply with the performance and acceptance requirements. Acceptance Tests shall be conducted at the Site by the Contractor to prove the performance of each plant according to the guarantees as specified in the Tender Form under the attendance of the B-R Powergen Ltd./Engineer.

The Contractor shall furnish the characteristics data of the plants according to the performance given in the Tender Form, to be supplemented by the Contractor as necessary.

Before commencement of Acceptance Tests, the Contractor shall ensure that each generating unit shall have operated successfully without any interruption for seven (7) days (168 hrs.)

#### 27.0 SUPERVISION DURING WARRANTY PERIOD

The Contractor shall provide three competent engineers from the engine manufacturer during warranty period for smooth maintenance and operation.

The engineers shall stay in nearest town or at Site from the date of beginning of the warranty period until the date of completion of the warranty period. Expenses for the above shall be borne by the Contractor.

#### 28.0 DISPOSAL OF REPLACED EQUIPMENT AND MATERIAL

Equipment and materials replaced by the Contractor will be inspected by the Engineer or the B-R Powergen Ltd.. If found in usable, or repairable condition, the Contractor shall place them in storage at the point designated. All other equipment and material will be classed as debris, and disposed off.

#### 29.0 OPERATING AND MAINTENANCE INSTRUCTIONS

Twelve (12) printed copies and 3 digitized copies of complete operating and maintenance instructions in English, (including inventories of spare parts and tools and parts lists with ordering instructions), bound in book form, shall be furnished by the Contractor for each piece of equipment. Operating instructions explaining preventive maintenance procedures, methods of checking the system for normal safe operation, and procedure for safely starting and stopping the system shall be prepared in typed form, complete with wiring, flow, and control diagram. These manuals/instructions have to be provided prior to the issuance of PAC.

Soon after start up of the plant, qualified personnel shall be provided by the Contractor to instruct selected representatives of the B-R Powergen Ltd. in the operation and maintenance of the equipment. At least three(3) weeks notice to carry out such instructions shall be given to the Engineer and the B-R Powergen Ltd. by the Contractor, together with an agenda and procedure, for approval of the Engineer.

#### 30.0 GUARANTEE ON PERFORMANCE

The Contractor must guarantee the performance of each plant and equipment as specified in GUARANTEE SCHEDULE-A, Vol. 2 of 2.

##### 30.1 Net output

If the plant fails to achieve such net power output at site conditions as guaranteed by the Contractor in GUARANTEE SCHEDULE-A, he shall pay to the B-R Powergen Ltd. a liquidated damage in US Dollar:

An amount at the rate of one (1) percent of the Contract Price for each one(1) percent or a part thereof decrease in net output.



### 30.2 Heat rate

If the net heat rate for the plant exceeds the guaranteed value [GUARANTEE SCHEDULE-A] by the Contractor by more than One (1) percent, he shall pay to the B-R Powergen Ltd. a liquidated damage an amount US \$ 6,000,000 for each one (1) percent or a part thereof increase in the heat rate above the tolerance of one(1) percent on the guaranteed value. The increase in heat rate is to be calculated by the following formula: -

Hg : Guaranteed heat rate

Hg(100) : Guaranteed heat rate at 100% base rating

Hg(W) : Calculated weighted average guaranteed heat rate,

$$Hg(W) = Hg_{100\%}$$

Ha(100) : Actual measured heat rate at 100% base load

Ha(W) : Calculated weighted average actual heat rate,

$$Ha(W) = Ha_{100\%}$$

The increased heat rate is calculated as follows:

$$h (\%) = \frac{Ha(W)}{Hg(W)}$$

### 30.3 Transformer loss

If the losses in respect to each step-up transformers calculated by the result of the shop tests exceed the guaranteed value with the tolerance, the Contractor shall pay to the B-R POWERGEN LTD. a liquidated damage an amount conducted by the following formula in Bangladesh Taka.

$$X = a(Na - 1.01 \times Ng) + b(La - 1.01 \times Lg)$$

Where: x : Liquidated damage in Bangladesh Taka

a : TK. 57,000 /kW

Na : No load loss to be tested at shop

Ng : No load loss to be guaranteed

b : TK. 25,650 /kW

La : Load loss to be tested at shop

Lg : Load loss to be guaranteed

In the application of the calculation formula above, if the results become a minus (-) the B-R Powergen Ltd. shall not be liable to pay the Contractor such value.

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