

Bid Title: Electrification at Bhasanchar of Noakhali District**Amendment to the Bidding Documents**

Sl No	Sources	Clause in the bid document	Amendment
BID VOLUME_1			
1)	<u>Time Extension</u> ITB 23.1 Notice, etc.	The deadline for bid submission is: Date: 30 October, 2025.	Amendment: The deadline for bid submission is: Date: 30 November, 2025.
2)	<u>CIP-named place</u> ITB 17.5 Page 42_Vol_1	Place of destination: CIP (<u>Any port of Bangladesh</u>) <u>Final destination (Project Site): Bhasanchar, Noakhali, Bangladesh</u> Note: Income Tax (IT) is a direct tax and it is the responsibility of the Bidder. Advance Income Tax (AIT) will be deducted if required by Bangladesh Income Tax law and deposited with the NBR of Bangladesh. AIT shall not be added to the bid price or neither reimbursed. The bid price shall include AIT/IT.	Amendment: Place of destination: CIP (Bhasanchar, Noakhali, Bangladesh) Bidders could use any port of Bangladesh. Note: Income Tax (IT) is a direct tax and it is the responsibility of the Bidder. Advance Income Tax (AIT) will be deducted if required by Bangladesh Income Tax law and deposited with the NBR of Bangladesh. AIT shall not be added to the bid price or neither reimbursed. The bid price shall include AIT/IT.
3)	<u>4.2 (a) Specific Experience of PV system</u> Page 57_Vol_1	Participation asThe similarity of the contracts shall be based on the following: Design, supply, installation, testing & commissioning of 5MWp or higher Off Grid/Grid Tied Solar PV Power Plant and BESS of minimum 10MWh <u>LFP</u> Storage Capacity.	Amendment: 4.2(a)(i) Participation asThe similarity of the contracts shall be based on the following: Design, supply, installation, testing & commissioning of 5MWp or higher Off Grid/Grid Tied Solar PV Power Plant and BESS capacity of minimum 10MWh. Note: (i) In case of Single Entity, the requirement (Solar PV and BESS) could be meet in one contract or two separate contracts.

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			<p>In case of a Joint Venture (JV), the requirement (Solar PV and BESS) could be meet by either one member of JV in one contract or two separate contracts or two members of JV in two separate contracts, so that the JV as a whole has the experience of both solar PV and BESS.</p> <p>(ii) To meet total value, the total value of two contracts meeting the requirement of Solar PV and BESS could be added.</p>
4)	<p><u>4.2 (a) Specific Experience of PV system</u> Vol_1_page-56</p> <p><u>4.2 (a) Specific Experience of PV system</u> Vol_1_page-57</p>	<p>(i) Participation as contractor, joint venture member, management contractor, or subcontractor, One contract of value US\$13.5 million.....cont.</p> <p>(ii) For the contracts in 4.2 (a) above and/or any other contracts one (1) experience of completion of 1MWp Solar plant or 0.5 MWh ESS at marine/off-grid condition.</p>	<p>Amendment:</p> <p>i) Participation as contractor, joint venture member, management contractor, or subcontractor, One contract of value at least US\$13.5 million.....cont.</p> <p>ii) For the contracts in 4.2 (a) above and/or any other contracts one (1) experience of completion of minimum 1MWp Solar plant or minimum 0.5 MWh ESS at marine/off-grid condition.</p>
5)	<p><u>Value Addition Technology</u> Page 64 of Vol_1</p> <p><u>BESS</u> Page 64 of Vol_1</p>	<ul style="list-style-type: none"> • Solar PV Module Technical Evaluation Grading (N.B: Where, C=33%, B=66%, A=100%) Rated Power (Standard Testing Conditions) B: 701 – 750Wp A: Above 750 Wp • Round trip efficiency (AC-AC) 	<ul style="list-style-type: none"> • <u>Value Addition Technology and Plant Warranty offered by the Bidders</u> For Solar PV Module Technical Evaluation Grading (N.B: Where, C=33%, B=66%, A=100%) Rated Power (Standard Testing Conditions) B: <u>701 – 720Wp</u> A: <u>Above 720 Wp</u> • Round trip efficiency (Standalone)

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<p><u>Scoring</u> <u>Methodology</u> <u>Score (of the</u> <u>total score for</u> <u>the</u> <u>factor/subfactor as applicable</u> Page 65 of Vol 1</p>	<ul style="list-style-type: none">• E – 0%D – 0 to 50%C – 51 to 75%B – 76 to 90%A – 91 to 100%	<ul style="list-style-type: none">• E – 0%D – above 0 to 50%C – above 51 to 75%B – above 76 to 90%A – above 91 to 100%
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6)	<p>Schedule No. 1. <u>Plant and Equipment Supplied from Abroad</u></p>	<table border="1"> <tr> <td>5</td> <td>Battery Energy Storage System (BESS)- 16 MWh (@ 11 KV output) Maximum modular unit-2 MWh</td> <td>1 lot</td> </tr> </table>	5	Battery Energy Storage System (BESS)- 16 MWh (@ 11 KV output) Maximum modular unit-2 MWh	1 lot	<p>Amendment:</p> <table border="1"> <tr> <td>5</td> <td>The Battery Energy Storage System (BESS) has a total installed minimum capacity of 16 MWh, consisting of modular units up to 3 MWh each, with a minimum standalone round-trip efficiency of 90%, and a guaranteed minimum output of 14 MWh at 11 kV</td> <td>1 lot</td> </tr> </table>	5	The Battery Energy Storage System (BESS) has a total installed minimum capacity of 16 MWh, consisting of modular units up to 3 MWh each, with a minimum standalone round-trip efficiency of 90%, and a guaranteed minimum output of 14 MWh at 11 kV	1 lot					
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<p>Schedule No. 2. <u>Plant and Equipment Supplied from Within the Employer's Country</u></p> <p>Page 129-135 of Vol_1</p>	<table border="1"> <tr> <td>10</td> <td>Power Transformer LV /11 kV, 3400 kVA & accessories</td> <td>5 Nos</td> </tr> <tr> <td>14</td> <td>MV (11kV) Switchgear panel comprising 3-Phase bus bars 1250A, (VCB 630A 11 Nos. & 1250A 2 Nos. at least), 25 kA for 3 sec. 1-Phase CT of ratio 200-400/5-5A & 400-800/5-5A respectively. Three poles over current & single pole EF Relays for IDMT protection, Ammeter, Voltmeter, kWh meters, KVAR & MW meters and all other accessories as required.</td> <td>1 lot</td> </tr> </table>	10	Power Transformer LV /11 kV, 3400 kVA & accessories	5 Nos	14	MV (11kV) Switchgear panel comprising 3-Phase bus bars 1250A, (VCB 630A 11 Nos. & 1250A 2 Nos. at least), 25 kA for 3 sec. 1-Phase CT of ratio 200-400/5-5A & 400-800/5-5A respectively. Three poles over current & single pole EF Relays for IDMT protection, Ammeter, Voltmeter, kWh meters, KVAR & MW meters and all other accessories as required.	1 lot	<table border="1"> <tr> <td>10</td> <td>Power Transformer (LV /11 kV) Cumulative capacity for PV side: Min 10200 kVA (<u>Minimum 2 Nos transformer for PV side</u>), Cumulative capacity for BESS side: Min 6800 kVA & accessories (<u>Minimum 2 Nos transformer for BESS side</u>)</td> <td>1 lot</td> </tr> <tr> <td>14</td> <td>MV (11kV) Switchgear panel comprising 3-Phase bus bars 1250A, (VCB 630A-<u>as required</u> & 1250A 2 Nos. at least), minimum 20 kA for 3 sec. 1-Phase CT of ratio 200-400/5-5A & 400-800/5-5A respectively. Three poles over current & single pole EF Relays for IDMT protection, Ammeter, Voltmeter, kWh meters, KVAR & MW meters and all other accessories as required.</td> <td>1 lot</td> </tr> </table>	10	Power Transformer (LV /11 kV) Cumulative capacity for PV side: Min 10200 kVA (<u>Minimum 2 Nos transformer for PV side</u>), Cumulative capacity for BESS side: Min 6800 kVA & accessories (<u>Minimum 2 Nos transformer for BESS side</u>)	1 lot	14	MV (11kV) Switchgear panel comprising 3-Phase bus bars 1250A, (VCB 630A- <u>as required</u> & 1250A 2 Nos. at least), minimum 20 kA for 3 sec. 1-Phase CT of ratio 200-400/5-5A & 400-800/5-5A respectively. Three poles over current & single pole EF Relays for IDMT protection, Ammeter, Voltmeter, kWh meters, KVAR & MW meters and all other accessories as required.	1 lot
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BID VOLUME 2 & 3

<p>7)</p>	<p><u>2.Specification</u> <u>2.2 OFF GRID</u> <u>PV-BESS-DG</u> <u>POWER plant</u> <u>design concept</u> Page-10 of Vol_2</p>	<ul style="list-style-type: none"> • 3x3400 KVA LV/11 kV transformers will collect the energy produced by the solar array. These transformers will be interconnected through an 11-kV underground network. • 2x3400 KVA of 11/LV kV transformers connected with battery inverter will collect the energy from 11 kV bus to charge the battery and vice versa. The transformers will be interconnected through 11 kV underground network. 	<p>Amendment: Only for solar PV transformer-</p> <ul style="list-style-type: none"> • Minimum <u>2 nos</u> LV/11 kV Transformers of cumulative capacity 10.2 MVA will collect the energy produced by the solar array. These transformers will be interconnected through an 11-kV underground network. • Minimum <u>2 nos</u> 11/LV kV transformers having minimum cumulative capacity 6.8 MVA connected with battery inverter will collect the energy from 11 kV bus to charge the battery and vice versa. The transformers will be interconnected through 11 kV underground network.
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<p>8)</p>	<p><u>BESS Capacity & GTP</u> 1. Vol_2-Page 11 2. Vol_2-Page 11 3. Vol_3_Page 8 4. Vol_3_page 3</p>	<p>1. Minimum 16 MWh on the MV side (11 kV) of the step-up transformer (Capacity of Each Unit: Maximum 2MWh)</p> <p>2. Round Trip Efficiency: 90%</p> <p>3. GTP of BESS</p> <table border="1" data-bbox="622 435 1126 863"> <tr> <td>Rated Unit Capacity</td> <td>2 MWh</td> </tr> <tr> <td>Cell capacity</td> <td>Maximum 300 Ah</td> </tr> <tr> <td>Certifications of Standards`</td> <td>IEC 62133 (cell), IEC 62619 (ESS). UL 1642 (cell), UL 9540 (ESS), IEEE 1547 2018 (inverter), UL 1741 (inverter)</td> </tr> </table> <p><u>GTP of BESS at OAC period:</u></p> <p>4. Available Energy capacity [16MWh] discharged/charged (on high tension side of 11 kV step up transformer)</p>	Rated Unit Capacity	2 MWh	Cell capacity	Maximum 300 Ah	Certifications of Standards`	IEC 62133 (cell), IEC 62619 (ESS). UL 1642 (cell), UL 9540 (ESS), IEEE 1547 2018 (inverter), UL 1741 (inverter)	<p>Amendment:</p> <p>1. Battery Energy Storage System (BESS) minimum cumulative capacity- <u>16 MWh (Maximum modular unit-3 MWh)</u> Guaranteed Energy output from BESS @ 11 kV side f transformer-<u>Minimum 14 MWh.</u></p> <p>2. Round Trip Efficiency: Minimum 90% (<u>Standalone BESS</u>)</p> <p>3. GTP of BESS</p> <table border="1" data-bbox="1272 515 1944 874"> <tr> <td>Rated Unit Capacity</td> <td>Maximum 3 MWh</td> </tr> <tr> <td>Cell capacity</td> <td>Maximum 350 Ah</td> </tr> <tr> <td>Certifications of Standards</td> <td>“IEC 62133 (cell), IEC 62619 (ESS). UL 1642 (cell), UL 9540 (ESS), IEEE 1547 2018 (inverter), UL 1741 (inverter)” or <u>equivalent IEC / EN standards for above all.</u></td> </tr> </table> <p>Note: It is recommended that transportation of BESS container shall be planned such that no single load exceeds 30 tons, in compliance with the permissible load limits of roads, bridges, and culverts along the route to the site.</p> <p>4. Available minimum Energy capacity [<u>14MWh</u>] discharged/charged (on high tension side of 11 kV step up transformer)</p>	Rated Unit Capacity	Maximum 3 MWh	Cell capacity	Maximum 350 Ah	Certifications of Standards	“IEC 62133 (cell), IEC 62619 (ESS). UL 1642 (cell), UL 9540 (ESS), IEEE 1547 2018 (inverter), UL 1741 (inverter)” or <u>equivalent IEC / EN standards for above all.</u>
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<p>9)</p>	<p><u>Solar Panel Tilt angle</u> (i) Page 10 of Vol_2 (ii) Page 34 of Vol_2 (iii) Page 96 of Vol_2</p>	<p>(i) The PV module mounting frames and structures will be built with fixed tilt angle set in 23° and South orientation. Pre-mounted structures to ensure efficient installation can be considered.</p> <p>(ii) The PV module mounting frames and structures will be built with fixed tilt angle set in 23° and South orientation</p>	<p>Amendment:</p> <p>(i) The PV module mounting frames and structures will be built with fixed tilt angle set in <u>15°</u> and South orientation. Pre-mounted structures to ensure efficient installation can be considered.</p> <p>(ii) The PV module mounting frames and structures will be built with fixed tilt angle set in <u>15°</u> and South orientation</p>												

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10)	<p><u>Mounting Structures Foundations</u> Page 17 of Vol_2</p>		<p>Amendment: This following provision has been <u>added</u> after 2.5.6 Mounting Structures-</p> <p>PHC Pile</p> <p>Modules structures foundation should be PHC Pile (reference value 300 mm Diameter) of reference value minimum 9 m, made with pre-stressed high tensile steel wires/strands reinforcement, Concrete strength of reference value 80 MPa as per design based on site soil condition. Design Must be approved by the Engineer. The tolerances and variations within acceptable limits for all properties listed below shall also be considered acceptable.</p> <table border="1" data-bbox="1290 754 2045 1348"> <thead> <tr> <th>SN</th> <th>Properties</th> <th>Reference Value</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Pipe Pile Type</td> <td>PHC</td> </tr> <tr> <td>2.</td> <td>Prestress steel</td> <td>As per JIS G 3636 or equivalent standard</td> </tr> <tr> <td>3.</td> <td>Effective prestress</td> <td>≥ 5 N/mm²</td> </tr> <tr> <td>4.</td> <td>Outside diameter, Minimum</td> <td>300 mm</td> </tr> <tr> <td>5.</td> <td>Wall Thickness, Minimum</td> <td>60 mm</td> </tr> <tr> <td>6.</td> <td>Concrete Strength, Minimum</td> <td>C80</td> </tr> <tr> <td>7.</td> <td>Pre-stressed reinforcement,</td> <td>To be mentioned</td> </tr> <tr> <td>8.</td> <td>Specification of spiral reinforcement</td> <td>To be mentioned</td> </tr> <tr> <td>9.</td> <td>Design value of limit bending moment, Minimum</td> <td>60 kN.m</td> </tr> <tr> <td>10</td> <td>Structural axial load, Minimum</td> <td>52 ton</td> </tr> <tr> <td>11</td> <td>Design value of pile shear bearing capacity, Minimum</td> <td>100 kN</td> </tr> </tbody> </table>	SN	Properties	Reference Value	1.	Pipe Pile Type	PHC	2.	Prestress steel	As per JIS G 3636 or equivalent standard	3.	Effective prestress	≥ 5 N/mm ²	4.	Outside diameter, Minimum	300 mm	5.	Wall Thickness, Minimum	60 mm	6.	Concrete Strength, Minimum	C80	7.	Pre-stressed reinforcement,	To be mentioned	8.	Specification of spiral reinforcement	To be mentioned	9.	Design value of limit bending moment, Minimum	60 kN.m	10	Structural axial load, Minimum	52 ton	11	Design value of pile shear bearing capacity, Minimum	100 kN
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			12	Design value of pile tensile bearing capacity, Minimum	420 kN																								
			13	Design value of pile compressive bearing capacity, Minimum	1120 kN																								
11)	<u>Transformer type</u> Page 50 of Vol_2 Page 55 of Vol_2	<ul style="list-style-type: none"> Transformers of 11kV±2.5%±5%/LV, Dyn11,50 Hz. Resin encapsulated Transformers of 11kV±2.5%±5%/LV, Dyn11,50 Hz. Resin encapsulated 	Amendment (for both Pv and BESS side): Transformers of 11kV±2.5%±5%/LV, <u>Vector group to be proposed by bidder (HT side must have neutral), 50 Hz. oil type</u>																										
12)	<u>GTP of Power Transformer</u> Page 9 of Vol_3	<table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Description</th> <th>Purchaser's Requirement</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>Method of Cooling</td> <td>ONAN</td> </tr> <tr> <td>9</td> <td>kVA Rating</td> <td>Minimum 3400 kVA</td> </tr> <tr> <td>14</td> <td>Vector group</td> <td>DYn11</td> </tr> </tbody> </table>	Sl. No.	Description	Purchaser's Requirement	8	Method of Cooling	ONAN	9	kVA Rating	Minimum 3400 kVA	14	Vector group	DYn11	Amendment: <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Description</th> <th>Purchaser's Requirement</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>Method of Cooling</td> <td>ONAN/<u>ONAF</u></td> </tr> <tr> <td>9</td> <td>kVA Rating</td> <td><u>To be mentioned & ONAN</u></td> </tr> <tr> <td>14</td> <td>Vector group</td> <td><u>To be mentioned (HT side must have neutral or equipped with grounding transformer)</u></td> </tr> </tbody> </table>			Sl. No.	Description	Purchaser's Requirement	8	Method of Cooling	ONAN/ <u>ONAF</u>	9	kVA Rating	<u>To be mentioned & ONAN</u>	14	Vector group	<u>To be mentioned (HT side must have neutral or equipped with grounding transformer)</u>
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13)	<u>Inverter rated capacity</u> Page-36 <u>PCS rated capacity</u> Page-40	Inverter The rated power/name plate capacity of the inverters shall be the AC output of the inverter is at 50°C. PCS The rated power/name plate capacity of the inverters shall be the AC output of the inverter is at 50°C.	Amendment: Inverter The rated power/name plate capacity of the inverters shall be the AC output of the inverter at <u>40°C.</u> PCS The rated power/name plate capacity of the battery inverters shall be the AC output of the battery inverters at <u>40°C.</u>																										
14)	<u>Degree of Protection of Inverter</u>	<ul style="list-style-type: none"> The inverters shall have minimum protection to IP 66 (Outdoor) / IP 21(indoor) and Protection Class II. 	Amendment: <ul style="list-style-type: none"> The inverters shall have minimum protection to IP 66 (Outdoor) and Protection Class II. 																										

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	Page 36 of vol_2 Page 38 of vol_2	<ul style="list-style-type: none"> Inverters with outdoor duty installation shall have a minimum degree of protection of IP66. Another degree of protection shall be approved by the Employer. 	<ul style="list-style-type: none"> Inverters with outdoor duty installation shall have a minimum degree of protection of IP66 or equivalent. <p>Below part has been <u>omitted</u>- "Another degree of protection shall be approved by the Employer".</p>						
15)	<p><u>Degree of Protection of PCS</u> Page 41 of vol_2 GTP (PCS) Page 8 of Vol_3</p>	<p>The inverters shall have minimum protection to IP 66 (Outdoor) / IP 21 (indoor) and Protection Class II.</p> <table border="1"> <tr> <td>Degree of Protection</td> <td>IP 66(Outdoor)/IP 54(indoor)</td> </tr> </table>	Degree of Protection	IP 66(Outdoor)/IP 54(indoor)	<p>Amendment: The inverters shall have minimum protection to IP 65 / IP 54 (Outdoor container type) / IP 21 (Indoor) and Protection Class II.</p> <table border="1"> <tr> <td>Degree of Protection</td> <td>Minimum IP 65 / IP 54 (Outdoor container type) / IP 21 (Indoor)</td> </tr> </table>	Degree of Protection	Minimum IP 65 / IP 54 (Outdoor container type) / IP 21 (Indoor)		
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16)	<p><u>Battery Energy Storage</u> Page 46 of Vol_2</p>	<p>BESS shall have Integrated modular high-efficiency redundant liquid-cooling system, with the temperature difference in the container limited to 5°C. Protection level: IP 55 (otudoor)</p>	<p>Amendment: BESS shall have Integrated modular high-efficiency redundant <u>liquid-cooling/air Cooing system</u>, with the temperature difference in the container limited to 5°C. Protection level: Minimum IP 54 (outdoor)</p>						
17)	<p><u>2.5.12 Fire Fighting and Detection System</u> Page 20 of Vol_2</p>	<p>The solar PV plant shall be equipped with suitable fire protection and fighting systems as per the Bangladesh National Building Codes (BNBC) standard, the National Fire Protection Association (NFPA) fire safety standard and local fire authority requirements.</p>	<p>Amendment: The solar PV plant (Control building, Sub-station, BESS station and Emergency diesel Generator station) shall be equipped with-</p> <table border="1"> <tr> <td>Supply of Fire Extinguisher equipment</td> <td rowspan="3"><u>Each 2 nos (minimum)</u></td> </tr> <tr> <td><u>a) CO2</u></td> </tr> <tr> <td><u>b) Foam type</u></td> </tr> <tr> <td><u>c) Dry chemical type</u></td> <td></td> </tr> </table>	Supply of Fire Extinguisher equipment	<u>Each 2 nos (minimum)</u>	<u>a) CO2</u>	<u>b) Foam type</u>	<u>c) Dry chemical type</u>	
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18)	<u>2.11.7 LV/MV SWITCHGEAR</u> Page 60 of Vol_2	Low Voltage (LV) and Medium Voltage (MV) switchgear shall be designed to be highly efficient and provide a reliable system operation in accordance with the internationally proven standard system and existing climatic conditions of Bangladesh.	Amendment: Low Voltage (LV) and Medium Voltage (MV) switchgear shall be designed to be highly efficient and provide a reliable system operation in accordance with the internationally proven standard system and existing climatic conditions of Bangladesh. <u>The offered Low Voltage (LV) and Medium Voltage (MV) switchgear panels shall be of type-tested design, fully conforming to the latest relevant IEC standards and shall have been successfully tested at an independent, accredited High Voltage Test Laboratory (HTL)</u>
19)	<u>2.11.10 DC, UPS & Auxiliary Power Supply</u> Page 90 of Vol_2	Battery For the DC system, the Bidder shall supply Valve-Regulated Lead Acid (VRLA) batteries type batteries designed according to Standard EUROBAT 15 with a life expectancy of 15 years or more.	Battery For the DC system, the Bidder shall supply Valve-Regulated Lead Acid (VRLA) batteries type batteries designed according to Standard EUROBAT 15 with a life expectancy of <u>5 years</u> or more.
20)	<u>Drainage ditches</u> Page 187 of Vol_2	If the solution is an open channel, it must be of concrete, with through manufacturing or precast solution.	Amendment: If the solution is an open channel, it must be of concrete (<u>RCC</u>), with through manufacturing or precast solution.
21)	<u>Switch yard civil works</u> Page 185 of Vol_2	Switch yard civil works Switchyard civil works shall be performed by the Contractor as per the requirements of the electrical installation of power plant and/or 11 kV substation. However, it shall be ensured that switchyard equipment's (such as transformer, HT Panels, if required, etc.) are placed on a raised platform of minimum 9.5 m PWD .	Amendment: Switch yard civil works Switchyard civil works shall be performed by the Contractor as per the requirements of the electrical installation of power plant and/or 11 kV substation. However, it shall be ensured that switchyard equipment's (such as transformer, HT Panels, if required, etc.) are placed on a raised platform of minimum <u>1.5 meter from FGL</u> .
22)	<u>Earth Works</u> Page 183 of Vol_2	6. Earth Filling Earth filling up to the existing nearby road of the project site of Bhasanchar.	Amendment: <u>Below part has been omitted-</u> "6. Earth Filling Earth filling up to the existing nearby road of the project site of Bhasanchar."

23)	<u>EMS Open Source Code</u> Page 49 of Vol_2	o) Open source code for all software shall be utilized wherever this option is available. Open source code shall be provided as a deliverable, including documentation.	Amendment: <u>Below part has been omitted-</u> o) Open source code for all software shall be utilized wherever this option is available. Open source code shall be provided as a deliverable, including documentation.
24)	<u>Guaranteed Technical Particulars (GTP) for Diesel Generator</u> page-42 - 43	3. Canopy: Sound proof Canopy. Sound Level: 67db@ 7 meter 4. Design Lifetime: Minimum 20 years 6. Warranty: Minimum 3 years 14. Number of Cylinders: 6 Nos 21. Fuel consumption: Maximum 32.0 ltr/hr at 75% Load and 42.0 ltr/hr at 100% Load 22. Fuel Tank Capacity Minimum 350 Liter. Alternator: 8 Rated Capacity at Site condition, KVA Minimum 200 KVA 9 Rated output at 0.85pf Minimum 170kW 10 Rated Voltage, V 415 V 18. Speed of Governing system: Mechanical	Amendment: 3. Canopy: <u>Sound Level to be mentioned</u> 4. Design Lifetime: <u>Minimum 12 years</u> 6. Warranty: <u>Minimum 2 years</u> 14. Number of Cylinders: <u>To be mentioned</u> 21. Fuel consumption: <u>Maximum 220.0 ltr/hr at 100% Load</u> 22 Fuel Tank Capacity: <u>To be mentioned (considering at least 15 days 8 hours operation).</u> 23 Lube Oil Tank Capacity: <u>To be mentioned</u> Alternator: 8 Rated Capacity at Site condition: <u>Minimum 1250 KVA</u> 9 Rated output at 0.85pf Minimum <u>1062.5 kW</u> 10 Rated Voltage: <u>To be mentioned (3 phase)</u> 18. Speed of Governing system: <u>To be mentioned</u>
25)	<u>2.5.5 Roads and Pathways</u> page-16	The main approach will be on the either north side or south side (will decide later) of the project boundary and the width of the road's foundation shall be 13m.	Amendment: The main approach will be on the either north side or south side (will decide later) of the project boundary and the width of the road shall be <u>4 m.</u>
26)	<u>2.11.20 CIVIL WORKS</u> page-180 & 192	Page 180: d.Reinforced steel bar– round bar- deformed bar (i)All Bar will be Grade 60 deformed bar Page-192: (ii) The steel used in reinforcement concrete structures, must preferably be A500C (weld ability), according to local standards. With a characteristic	Amendment: Page-180: (i) Minimum requirement of all Bar will be <u>Grade 60</u> deformed bar. Page-192: (ii) The steel used in reinforcement concrete structures, could preferably be A500C (weld ability), according to local

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		tensile strength 500 MPa, and design value of strength 435 MPa.	standards. With a characteristic tensile strength 500 MPa, and minimum design value of strength 415 MPa .
27)	Steel Structures Page 188 of Vol_2	Steel Structures Codes & Standards: Bangladeshi Code for Civil Load 2012	Amendment: Steel Structures Codes & Standards: Bangladeshi Code for Civil Load BNBC 2020 .
28)	Part 2: Section VII: Employer's Requirements 2.11.20 CIVIL WORKS Page 180 & Page 192 of Vol_2	e. Concrete structures and foundations (i) Lean concrete 12 MPa (ii) Structural concrete 28 MPa (The quality of the concrete used is: a. Concrete used in regularization layer: B 7.5, the property of compression strength more than 9.8 MPa. This kind of concrete cannot be used with reinforcement steel bars. b. Concrete used in reinforcement structures: B 20 F75 W4. The main properties of this type are: compression strength more than 26 MPa, and Water permeability class 4. The value of compression strength corresponding to each class is provided in 95% of tests. The value of average strength of concrete sample (MPa) is calculated from concrete strength class ($R=B/0.7635$). This value is average compressive strength of a cube sample testing. Water permeability class. It shows a maximum water pressure (kg/cm ²) at which water does not penetrate through a concrete cylinder (height 150 mm). For example water permeability class W4 means that a 150 mm concrete cylinder stays water impermeable under the water pressure of 4 kg/cm ² (0.4 MPa).	Amendment: e. Concrete-Mixed designed (i) Minimum requirement of Lean concrete 12 MPa (ii) Minimum requirement of structural concrete 25 MPa The quality of the concrete used is: a. Concrete used in regularization layer: The property of compression strength minimum 12MPa . This kind of concrete cannot be used with reinforcement steel bars. b. Concrete used in reinforcement structures: The main properties of this type are: 28 days compression strength (cylinder strength) minimum 25 MPa , The water-cement ratio for reinforced concrete should not exceed 0.45. Below part has been omitted - <i>"The value of compression strength corresponding to each class is provided in 95% of tests. The value of average strength of concrete sample (MPa) is calculated from concrete strength class ($R=B/0.7635$). This value is average compressive strength of a cube sample testing.</i> <i>Water permeability class. It shows a maximum water pressure (kg/cm²) at which water does not penetrate through a concrete cylinder (height 150 mm). For example water permeability class W4 means that a 150 mm concrete cylinder stays water impermeable under the water pressure of 4 kg/cm² (0.4 MPa).</i>

		Before execution of slabs or strip foundations, it's necessary to extend a regularization layer with pour concrete (type B7.5 according local standards), with a medium 100 mm thickness.	<i>Before execution of slabs or strip foundations, it's necessary to extend a regularization layer with pour concrete (type B7.5 according local standards), with a medium 100 mm thickness"</i>
29)	Steel Structures Page-187 & 191	Steel Structures. Minimum cover of 45 mm over reinforced steel in foundation in contact with ground.	Amendment: Minimum clear cover of 75 mm over reinforced steel in foundation in contact with ground.
30)	Section VII: Employer's Requirements 2.5.1 Site Preparation page-15 of Vol 2	P15: Compaction of earth work shall be minimum 98% MDD	Amendment: Compaction of earth work shall be minimum 95% MDD.
31)	2.11.20 CIVIL WORKS Control building Page-201-202	ii. Control Building The control building shall include separate rooms for: a. Main Electrical equipment b. Operation and Maintenance Works c. Storage of spare parts d. Security room. e. Toilet / washroom area (one each for male and female) The design of the switchgear room must be in accordance with applicable national and international standards. This includes a minimum distance of the equipment to each of the interior walls of the room, as well as fire proof walls. Based on the selected switchgear and the pressure relief execution, pressure relief provisions have to	Amendment: This "ii. Control building" part has been <i>omitted.</i>





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	<p>be provided, in accordance with the switchgear manufacturer, national and international standards.</p> <p>The switchgear relief pressure shall be limited to 1,600 Pa. However, it has to be proven that the building, walls, ceiling, floor and others are designed for the maximum occurring pressure.</p> <p>The auxiliary transformer can be erected on a separate transformer platform or pole mounted (auxiliary transformer) outside the control building.</p> <p>If the transformer is integrated into the control building, sufficient fire protection, pressure reliefs have to be implemented.</p> <p>Flooring for the Switchgear and the transformer shall be double floor type with ≥ 10 kN, minimum class 5, according to DIN EN 12825.</p> <p>The switchgear room and the control building must comply with standard DIN EN 61936.</p> <p>The water proof underground septic tanks for sanitary wastewater shall be provided. The tanks will be provided with aeration system to treat, and dispose of wastewater within the septic tank. The Contractor shall ensure that the discharged treated domestic wastewater is compliant with the current standard adopted by Department of Environment following national rules and/or regulations.</p> <p>The Contractor shall construct a car park in front of the building for a minimum of 10 cars.</p> <p>Concept drawings for all buildings shall be provided with the bidding documents confirming room sizes, main architectural and structure materials.</p>	
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		<p>1. Separation of Installation The arrangements of electrical components installation of Low Voltage and Medium Voltage have to be physically separated with sufficient space for maintenance purpose.</p> <p>2. Solar power field construction The solar field consists of solar blocks, containerized inverters and transformers. Containerized inverters and transformers shall be mounted on solid reinforced strip foundations made of concrete based on sulfate-resistant Portland cement. 100 mm concrete bed (B7.5 concrete) shall be laid under strip foundations.</p> <p>The containers for inverters and transformers can be either prefabricated enclosures or pre-cast concrete buildings.</p>	
32)	<p>Buildings Page 199-200 of VoL_2</p>	<p>g. Security Guard Room: There will a security guard room at the main gate on the access road and the main entrance to the office areas. There will be few watch towers at the remote boundary of the power plant site.</p>	<p>Amendment: g. Security Guard Room: There will be a security guard room at the main gate on the access road and the main entrance to the office areas. There will be few watch towers (at least 5) at the remote boundary of the power plant site.</p>
33)	<p>2.11.20 CIVIL WORKS page-199</p>	<ul style="list-style-type: none"> • Control Rooms: Two separate rooms: one for 11 kV Generation Switchgear and one for 11 kV Distribution Switchgear, with adequate space, ventilation, and air conditioning for reliable operation. 	<p>Amendment:</p> <ul style="list-style-type: none"> • Control Rooms: Two separate rows: one for Generation Voltage Switchgear and one for 11 kV Distribution Switchgear, with adequate space, ventilation, and air conditioning for reliable operation. <u>There will be separate room for DC system.</u>

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<p>34)</p>	<p><u>GTP of Power Transformer: Power Frequency withstand voltage & KVA rating</u> Page-9 of Vol_3</p>	<table border="1"> <tr> <td>Power frequency withstand voltage, kV</td> <td></td> </tr> </table>	Power frequency withstand voltage, kV		<p>Amendment:</p> <table border="1"> <tr> <td>Power frequency withstand voltage, kV</td> <td><u>28 kV</u></td> </tr> </table>	Power frequency withstand voltage, kV	<u>28 kV</u>								
Power frequency withstand voltage, kV															
Power frequency withstand voltage, kV	<u>28 kV</u>														
<p>35)</p>	<p><u>(GTP) of Switchgear, Control & Protection Panel: Circuit breaker rating</u> Page 25-26 of Vol_3</p>	<p>A. Vacuum Circuit Breaker of 630A B. Vacuum Circuit Breaker of 1250A</p>	<p>Amendment: For both VCB rating- A. Vacuum Circuit Breaker of 630A B. Vacuum Circuit Breaker of 1250A</p> <table border="1"> <tr> <td>Rated Nominal Voltage</td> <td>11 kV</td> </tr> <tr> <td>Maximum Rated Voltage</td> <td>12 kV</td> </tr> <tr> <td>Insulation</td> <td>Vacuum</td> </tr> <tr> <td>Basic Insulation Level</td> <td>75 kV peak (1.2/50 μs)</td> </tr> <tr> <td>Power Frequency Withstand Voltage</td> <td><u>28 kV (For 1 Minute @ 50 Hz)</u></td> </tr> </table> <p>AVR Relay: Transformer incomer PCM panel shall be equipped with AVR relay and control switch for RTCC operation along with necessary indication system (Tap position, oil temperature, winding temperature etc.).</p> <table border="1"> <tr> <td></td> <td><u>Not required</u></td> </tr> </table>	Rated Nominal Voltage	11 kV	Maximum Rated Voltage	12 kV	Insulation	Vacuum	Basic Insulation Level	75 kV peak (1.2/50 μs)	Power Frequency Withstand Voltage	<u>28 kV (For 1 Minute @ 50 Hz)</u>		<u>Not required</u>
Rated Nominal Voltage	11 kV														
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Basic Insulation Level	75 kV peak (1.2/50 μs)														
Power Frequency Withstand Voltage	<u>28 kV (For 1 Minute @ 50 Hz)</u>														
	<u>Not required</u>														
<p>36)</p>	<p><u>PV Module Cleaning</u> Page 25 of Vol_2</p>	<p>PV Module Cleaning</p> <p>Employers shall follow the PV Module manufacturer's instructions and recommendations for routine cleaning.</p> <p>The cleaning method and process shall be detailed in the O&M manual.</p>	<p>Even with the availability of the O&M manual, the procedures and requirements specified must follow as a minimum mandatory standard-</p> <p>Amendment:</p> <ul style="list-style-type: none"> • Water Reservoir: Minimum One (1) tank of capacity at least 20m³ capacity, located near the plant maintenance yard drain. • Pumps: 												

(Handwritten marks: a large 'B', 'F', 'FR', and '20k')

			<ul style="list-style-type: none"> 1. Submersible Pumps: 2 Nos., each 10–15 m³/h at required head for raw water intake/refill. 2. Booster Pumps: 2 Nos., each ≥25 m³/h at 4–6 bar discharge pressure or as required, with VFD control, suction strainer & isolation valves • Filtration & Treatment: <ul style="list-style-type: none"> 1. Coarse screen, silt trap, and fine filter (5–10 μm). 2. Treated water quality: pH 6.5–8.5, Hardness ≤150 ppm, Turbidity ≤5 NTU, TDS ≤500 mg/L or as required. • Distribution Network: <ul style="list-style-type: none"> 1. HDPE/UPVC pipeline with isolation and pressure-regulating valves. 2. Flow meters and pressure gauges at key points. 3. Cleaning by trolleys or hoses with adjustable nozzles ensuring 3–6 bar or as required pressure at module surface. • Runoff & Reuse: Sumps and drains to collect wash water, silt trap and settling pit for recycling-if possible. • Performance: Materials to be corrosion- and UV-resistant; design life ≥ 25 years. • Documentation: Submit as-built drawings, hydraulic design, O&M manual, test reports, and provide training to O&M personnel.
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<p>37)</p>	<p><u>Rainwater Drainage Section 2.10.6, Rainwater Drainage</u> Page 26 of Vol_2</p>	<p>The number of pumps is considered of 300mm rainfall by day."</p>	<p>Amendment: Design conditions for drainage system shall be as follows- Rainfall intensity- <u>100 mm/hr</u> Run-off coefficient- 0.6 Manning's roughness coefficient for concrete lined channel- 0.013 All drains or channels shall be concrete lined. Concrete sumps, silt traps, screens and drain covers shall be incorporated in the design where it is appropriate.</p>
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