

S.No	Section	Page	Title	As per RFP	Request for Clarification	GOGC Response
1	SECTION 4. TERMS OF REFERENCE 3. DESIGN CRITERIA	16 18	Fuel Gas Supply pressure	The gas temperature in the territory of Gardabani varies from 0 °C to +30 °C and the gas pressure ranges from 9 bar (a) to 18.5 bar (a). The Plant will use natural gas as fuel. The natural gas shall be supplied from Gas Main line at regulated pressure of 12.0 bar (a) to 54.0 bar (a) from the gas pipeline. Detailed gas analysis shall be performed by the Contractor.	There is discrepancy in Fuel Gas pressure on page 16 and 18 of RFP. Page 16 says Fuel Gas pressure of 9 bar a to 18.5 bara. Whereas page 18 says 12 bara to 54 bara. Kindly clarify 1. whether Fuel Gas Compressor is required for the plant? 2. Whether Fuel Gas compressor Auxiliary power consumption is required to consider in Auxiliary power consumer? 3. If Fuel Gas pressure is 54 bara, whether Pressure Reducing station is required to consider in Contractor scope to reduce fuel pressure of 54 bar to say 28-31 bara of Gas Turbine inlet pressure?	Existing natural gas pipeline pressure varies between 9 to 18.5 bar, although in the future it may become possible to provide gas pressure from 12 to 54 bar, so project design and equipment has to be planned accordingly. 1)Compressor is necessary and it is included in ToR 2)Yes 3) Yes RMS construction should be done by contractor according to ToR
2	2.2 ESTIMATED PERFORMANCE	17	Auxiliary Power	Performance of Combined Cycle Gross Power [kW] 276 100 Auxiliary Consumption not more than [kW] 4 100	Auxiliary power consumption of 4100 kW is on very lower side. GTPP#2 RFP indicated 7000 kW with 234944 kW Gross power output. With interpolated data of (276100/234944), Auxiliary power consumption will be around 8.3 MW.	Values indicated in ToR are taken from GE's technical specifications. If Auxiliary consumption will increase, the net power output will decrease accordingly.
3	2.2 ESTIMATED PERFORMANCE	17	Gross Efficiency	Performance of Combined Cycle Gross Power [kW] 276 100 Auxiliary Consumption not more than [kW] 4 100 Net Power [kW] 272 000 - Plant Net Output of 272,000 kW @ ISO Conditions. - Plant Net Efficiency is 57.4% @ ISO Conditions	As GE is defined GT OEM by Employer in RFP. As per GT OEM, with 2+2+1 configuration at ISO conditions, it is not possible to achieve estimated performance data (Gross, Auxiliary power, Net Power and Net Plant Efficiency) per RFP requirement. Employer is kindly requested to share revised Estimated performance data for the plant (minimum Gross, Auxiliary power, Net Power and Net Plant Efficiency).	Values indicated in ToR are taken from GE's technical specifications. 2.2 Clause name is 'ESTIMATED PERFORMANCE' and the plant under ISO Condition should achieve stated values.
4	2.2 ESTIMATED PERFORMANCE	17	GTG Power Output	Performance of GT Gross Electrical Output at Generator Terminal of GTs [kW] 175 200	As per GE 6F.03, GT output at Iso condition is maximum of 87300 kW whereas RFQ document requirement is 87600 kW. As Gas Turbine for the project is defined per RFP document, it is difficult to achieve GT output of 175200 kW.	Values indicated in ToR are taken from GE's technical specifications. 2.2 Clause name is 'ESTIMATED PERFORMANCE' and the plant under ISO Condition should achieve stated values.
5	2.2 ESTIMATED PERFORMANCE	17	STG Power output	Performance of ST Gross Electrical Output at Generator terminal of ST [kW] 100 900	As Gas Turbine OEMs output is lower than the RFP requirement, it will be difficult to achieve 100900 kW from STG as lower exhaust energy is available from Gas Turbine.	Values indicated in ToR are taken from GE's technical specifications. 2.2 Clause name is 'ESTIMATED PERFORMANCE' and the plant under ISO Condition should achieve stated values.
6	3. DESIGN CRITERIA	21	Equipment Vendor Generator	STEAM TURBINE GENERAL ELECTRIC SIEMENS ANSALDO ENERGIA GENERAL ELECTRIC	Kindly include Doosan as Steam Turbine Vendor in the equipment list.	N/A
7	3. DESIGN CRITERIA	23	General Description of the Plant	The designed plant shall have the capability to operate on both full condensing modes. The plant shall have Main Condenser cooled by the Cooling water from the Cooling Tower. In the full condensing mode, the Steam Turbine exhaust steam directed to the Main Condenser shall be cooled by the cooling water circulating between the Main Condenser & the Cooling Tower. The steam condensed in the Main Condenser shall then forwarded to the HRSG by the Condensate Extraction Pump.	Kindly clarify conditions of the plant to operate on both full condensing modes. What is duration (in hours) for condensing mode in case of STG trips and plant under operation with condensing mode (the Steam Turbine exhaust steam directed to the Main Condenser shall be cooled by the cooling water circulating between the Main Condenser & the Cooling Tower.)	The condenser must be capable to condensate 100% of steam at the time of ST trip or load reduction time. It must hold the process of condensation till the time of ST recovery to normal operation; And time should be determined by EPC Contractor according to appropriate standards
8	3. DESIGN CRITERIA	26	Gas Supply system	Plant should have ability to operate without compressor station at maximum of 54 bar and all sufficient infrastructure (heater and etc..) shall be installed	Kindly note as per RFP, ESD Valve shall be installed by contractor at outlet of GPRMS and shall be integrated in DCS system. Contractor will receive Fuel gas parameters(Fuel Gas Pressure and Temperature) required for Gas Turbine will be arranged through Employer GPRMS incase of Fuel Gas compressor is not required when Fuel gas line pressure is 54 bar a. As Employer is installing GPRMS, pressure and temperature will be matched by GPRMS as required by Gas Turbine through GPRMS and Boiler section in GPRMS and referring the gas supply system package, it is supposed to be own reduction and own heating system	In future outlet gas pressure From GPRMS could be up to 54 bar and pressure can vary. Thus the EPC Contractor shall ensure the installation of all necessary equipment on site of the power plant. EPC Contractor should envisage receive of gas bypassing the compressor and received gas should be filtered, heated, regulated, measured and etc.. All measures should be done to achieve gas quality appropriate for turbine consumption
9	Raw Water	20	Raw water requirement	The raw water shall be collected from the settling ponds (shall be constructed by contractor	Raw water settling pond storage capacity. How many hours required? please confirm. Or else contractor shall I consider 24 hrs storage capacity with the full load operation	Design of Settling pond(s) should be based on plants (unify/consolidated) engineering calculations, water channel analysis, capacity of plant RW usage, volume of water treatment and chemical dosing units and etc. RW Consumption rate and storage capacities is part of EPC contractors scope, which should be based on standards, safe operation and International best practice.
10	General		Chemical	Chemical storage clarification	Chemical storage tank contractor shall I consider 15 days storage capacity or 30 days storage capacity please confirm.	Design and volumes of storage tanks should be considered by the EPC contractor based on standards, safe operation and International best practice.
11	General		Natural Gas	Natural gas terminal point	Please confirm Natural gas terminal point or else provide the tentative distance	Pipeline distance from GPRMS to Plant boundary could be no more than 150
12	General		Filtered Water Storage Tank Capacity	Filtered Water Storage Tank Capacity	Storage tank capacity shall I consider 24 hrs storage capacity of STG operation. Please confirm.	Storage tank capacity shall be considered by the EPC contractor based on standards, safe operation and International best practice.
13	General		Air compressor	Air compressor Configuration	Compressor configuration shall I consider 2x100% .please confirm	3x100% shall be considered
14	3. DESIGN CRITERIA	25	Cathodic Protection System	A cathodic protection system (impressed current cathodic protection ICCP) shall be installed for corrosion protection of underground metal pipes. For the protection of other underground structures and equipment, sacrificial galvanic anodes of magnesium, zinc, aluminum or ICCP system shall be installed.	Kindly provide the range of pipe size for cathodic protection. As per the good engineering practice for gas piping we are consider cathodic protection and design the pipe 25 years also. Rest of the UG pipe we are design the pipe 25 year including the corrosion allowance. Please confirm	All underground pipes and structures shall be protected as described in ToR
15	3. DESIGN CRITERIA	25	Fire Station Depot	Contractor is obliged to inform and agree with Emergency Management Service of Georgia fire system, including fire station (Depoot).	Kindly brief about fire station depot. For our understanding its common for garbani-1,2 & 3.	Fire Depot shall be suitable for 2 vehicles
16	TOR-Annex-II	55	Main Warehouse	A lifting crane with lifting capacity of at least 10 tons must be installed in the internal space of the structure to ensure relocation of freight within the storage room (so-called overhead crane).	Please clarify, what kind of type crane it should be, double girder, single girder or monorail crane is acceptable? This cranes also should be selected from the companies which has been informed in Major Equipment list or can be purchased from another company?	It is EPC Contractors scope to design building and choose safe crane appropriate for building structure. Moving of freight within the storage space should be ensured. Manufacturer of cranes shall be from Major Equipment list.
17	TOR-Annex-II	56	Chemical Warehouse	A lifting crane with lifting capacity of at least 5 tons must be installed in the internal space of the structure to ensure relocation of freight within the storage room (so-called overhead crane).	Please clarify, what kind of type crane it should be, double girder, single girder or monorail crane is acceptable? This cranes also should be selected from the companies which has been informed in Major Equipment list or can be purchased from another company?	It is EPC Contractors scope to design building and choose safe crane appropriate for building structure. Moving of freight within the storage space should be ensured. Manufacturer of cranes shall be from Major Equipment list.
18	TOR-Annex-II	57	Shelter Warehouse	A lifting crane with lifting capacity of at least 3 tons must be installed in the internal space of the structure to ensure relocation of freight within the storage room (so-called overhead crane).	Please clarify, what kind of type crane it should be, double girder, single girder or monorail crane is acceptable? This cranes also should be selected from the companies which has been informed in Major Equipment list or can be purchased from another company?	It is EPC Contractors scope to design building and choose safe crane appropriate for building structure. Moving of freight within the storage space should be ensured. Manufacturer of cranes shall be from Major Equipment list.
19	TOR-Annex-II	58	Workshop	A lifting crane with lifting capacity of at least 10 tons must be installed in the internal space of the structure to ensure relocation of freight within the workshop (so-called overhead crane).	Please clarify, what kind of type crane it should be, double girder, single girder or monorail crane is acceptable? This cranes also should be selected from the companies which has been informed in Major Equipment list or can be purchased from another company?	It is EPC Contractors scope to design building and choose safe crane appropriate for building structure. Moving of freight within the storage space should be ensured. Manufacturer of cranes shall be from Major Equipment list.
20	General	36	INSTRUMENTATION & CONTROL SYSTEM	Mimic panel	Please clarify, modern solution with one large screen (70" size) shall be provided to observe of overview of the power plant, moreover the mimic panel is old fashion and no need anymore for new projects. Therefore conventional type mimic panel is not required.	Mimic Panels are excluded from scope(see updated ToR). Large screen displays 3 Pcs of 55" and 1 piece of 70" should be envisaged, which shall show all the important data from all the units

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21	3. DESIGN CRITERIA	26	Gas Supply system	The Plant will use natural gas as fuel. The natural gas shall be supplied from Gas Main line at regulated pressure of 12.0 bar (a) to 54.0 bar (a) from the gas pipeline. Detailed gas analysis shall be performed by the Contractor.	Kindly clarify whether Fuel Gas pipeline up to Fuel Gas Compressor inlet to be designed for 12 bar(a)/18.5 bar (a) or 54 bar(a)	Gas inlet system should be designed for gas pressure up to 54 bar
22	SECTION 4. TERMS OF REFERENCE	16	2.1 PROJECT DESCRIPTION	Black Start Generators Emergency Diesel Generator	As Black start generators are envisaged, same may function for the role of emergency diesel generator as well. Request to kindly confirm if separate Emergency Diesel generator is required.	Separate Diesel generator is required
23	SECTION 4. TERMS OF REFERENCE	21	The Plant Major Equipment	Generators- GENERAL ELECTRIC	It is highly improbable that Turbine and it's Generator will be from different manufacturers. As Steam turbine is having multiple option of manufacturers i.e. General Electric, Siemens, Ansaldo, Kindly confirm ST manufacturer may supply their own generator.	The generator of Steam Turbine acceptable from same VENDOR's as Steam Turbine. See updated ToR
24	SECTION 4. TERMS OF REFERENCE	21	The Plant Major Equipment	STEP UP TRANSFORMERS, HV AUXILIARY TRANSFORMER, LV AUXILIARY TRANSFORMER- ABB, HYUNDAI, SIEMENS	Request to kindly add "BEST" under manufacturer list.	N/A
25	SECTION 4. TERMS OF REFERENCE	21	The Plant Major Equipment	ISOLATED PHASE BUS- SIMELECTRO, GENERAL ELECTRIC, ALFA STANDARD	Request to kindly add "C&S" and "POWERGEAR" under manufacturer list.	N/A
26	SECTION 4. TERMS OF REFERENCE	27	4. SPLIT OF OBLIGATIONS	Training- Shall be conducted by Vendor Representative	We understand no overseas/ factory training to be considered. Only site training by vendor representative is required. Kindly confirm.	Both are acceptable; Training should be done by manufacturers certified and qualified personnel
27	SECTION 4. TERMS OF REFERENCE	28	4. SPLIT OF OBLIGATIONS	Construction Power- Responsible- Contractor	Request to kindly inform Terminal point location and Voltage level for the construction power. Also, Request to kindly inform tariff cost per unit of electricity(kWh).	The terminal point location and other requested information depend on the supplier, so this issue should be determined by the contractor.
28	SECTION 4. TERMS OF REFERENCE	29	4. SPLIT OF OBLIGATIONS	Electrical Power for Start-up and Commissioning- Responsible- Contractor	Request to kindly consider cost of Electrical Power for Start-up & Commissioning by Employer. If not acceptable, request to kindly inform tariff cost per unit of electricity(kWh).	Cost of Electricity for Start-up & Commissioning is EPC contractor's obligation, actual price of electricity depends on supplier, so this issue should be clarified by EPC contractor.
29	SECTION 4. TERMS OF REFERENCE	29	4. SPLIT OF OBLIGATIONS	Performance testing- Fuel, Raw Water, Electricity- Responsible- Contractor	Request to kindly consider cost of Electrical Power for Start-up & Commissioning by Employer. If not acceptable, request to kindly inform tariff cost per unit of electricity(kWh).	Cost of Electricity for Start-up & Commissioning is EPC contractor's obligation, actual price of electricity will depend on supplier, so this matter should be clarified by EPC contractor.
30	SECTION 4. TERMS OF REFERENCE	30	4. SPLIT OF OBLIGATIONS	Reliability Run testing- Fuel, Raw Water, Electricity- Responsible- Contractor	Request to kindly consider cost of Electrical Power for Start-up & Commissioning by Employer. If not acceptable, request to kindly inform tariff cost per unit of electricity(kWh).	Cost of Electricity for Start-up & Commissioning is EPC contractor's obligation, actual price of electricity will depend on supplier, so this matter should be clarified by EPC contractor.
31	SECTION 4. TERMS OF REFERENCE	31	4. SPLIT OF OBLIGATIONS	Electrical Control Building- Remarks -The electrical equipment (UPS, batteries, panels, dry transformers), control room, and office for tech & shift staff will be located inside the building. The Electrical Control building shall be 3 story and additionally underground cable facility.	Request to kindly inform if 3 Storey Electrical control building is acceptable. Ground Floor- Cable Cellar Floor, 1st Floor- Electrical floor(Panels, Dry type trfs, UPS Batteries etc.) 2nd Floor- Control room. DCS Panels and Workstations. Office for tech and Shift Staff etc.	Control building shall be 3 story (above Ground) and additionally underground cable facility.
32	SECTION 4. TERMS OF REFERENCE	31	4. SPLIT OF OBLIGATIONS	STEAM TURBINE PACKAGE Generator circuit breaker- Responsible- Contractor	Request to kindly inform if non-provision of GCB for ST Generator is acceptable. ST Generator can be synchronized on 500kV CB directly.	GCB - Generator Circuit Braker is necessary for ST and shall be installed on both side of generator.
33	SECTION 4. TERMS OF REFERENCE	32	4. SPLIT OF OBLIGATIONS	ELECTRICAL MONITORING SYSTEM	Request to kindly define "Electrical monitoring system". Is it the requirement of Mimic panels? If so, Kindly inform the coverage (i.e. 500kV, Generator voltage level, 6.3kV, 380V whether only incomers, bus-couplers and tie breaker etc.) We recommend all monitoring to be done at DCS large Screen.	Should be consider in SCADA all together, 500 KV Switchyard, 6.3 KV Switch bord for Incommers, Tie breaker, SAT breakers & 380 Volts Switch board operation incomers, Ties breakers, MV motors and etc. also it shall be operated from DCS.
34	SECTION 4. TERMS OF REFERENCE	32	4. SPLIT OF OBLIGATIONS	Natural Gas Compressor Station with Canopy- Gas compressor electrical engines should be equipped with soft starter unit	Please re-confirm requirement of soft starter for Gas compressor motors. We recommend DOL starting of FGC motors.	Soft start is needed to balance power (drop off/on) within auxiliary network, EPC contractor should calculate and identify appropriate soft start device to balance compressor electrical engine power factor parameter to avoid disturbance in system.
35	TOR-Annex-1	49	SPLIT OF OBLIGATIONS	The Applicant to select a site and build the relevant plant of the required capacity (276.1 MW Gross) and a 500/11-kV substation, with all the necessary equipment and devices; Responsible- Contractor	Kindly Clarify 500/11-kV Substation. Our understanding is scope of contractor is limited to 500kV Single bus substation within the plant and OHL connecting to 500kV GSE Switchyard. Kindly clarify 11kV or 11-kW reference in the document.	Should be 11 kV see updated ToR
36	General	-	-	-	Request to kindly provide following data: a) Required Fault/ Short Circuit level of 500kV Switchyard-25kA/ 31.5kA/40kA/50kA? b) Existine Fault/ Short Circuit level of 6.3kV Switchgear of GTPPH2-25kA/ 31.5kA/40kA?	1. 500 KV, 50 KA 2. 6.3 KV 25 KA.
37	Fire Station (depot)	25&32	SPLIT OF OBLIGATIONS	Contractor is obliged to inform and agree with Emergency Management Service of Georgia fire system, including fire station (Depot).Design shall be prepared according to N8119 Resolution; Construction of depot is optional and will be decided by Employer	Request to kindly define the type fire station (depot) structure and the number of fire trucks according to N8119 Resolution.	Fire Depot shall be suitable for 2 vehicles
38	General	-	-	-	Please kindly provide below prices; Unit Price of Channel Water Unit Price of Potable Water Unit Price of Electricity	For Clarification of Channel Water, Potable Water and Electricity prices please contact providers directly
39	Laboratory (Incl. Tools and Equipments)	57		Dimensions not more than 15 x 155 m (to be defined more precisely during the design);	Please kindly clarify dimension of Laboratory if there is typo mistake.	Yes there was typo mistake, dimensions should be 15'15; The laboratory shall be modular in design, enabling easy change of arrangement wherever applicable. See updated ToR
40	PERFORMANCE TESTING	29	Operators	-	Please kindly confirm "Contractor will only provide advisor, Operators will be provided by the Employer "	For plant testing operators shall be provided by Contractor and employer will provide them to monitor and learn the system
41	SCOPE OF SUPPLY - BALANCE OF PLANT "MECHANICAL"	36	Gas Regulatory Station (RMS)	Inside Plant. Shall have ability to work without regulation	Please kindly clarify the note.	RMS shall have bypass
42	MECHANICAL BOP		REDUNDACY	REDUNDACY FOR MECHANICAL BOP	Kindly inform the following system redundancy as % configuration or number of hours for tank capacities Intake pump near Canal Raw water pump Conventional Clarifier RCC Clarifier Transfer Pump Filtrate water storage tank CW make up pump Filter water feed pump DMF filter Ultra filter UF storage tank RO feed Pump RO Skid De gasifier Tower De gasifier storage tank DM feed Pump EDI DM water tank capacity DM transfer pump HRSG Initial Fill pump DM regeneration pump Cooling tower type FRP structure or concrete Potable water storage tank Potable water pneumatic tank	System redundancy percentage should be calculated by EPC contractor using appropriate standards. (indicated in TOR)

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					Service water pump Waste water transfer pump CW Pump ACW pump Air Compressors Type and Configuration Filtering Skid Air Dryer Type and Configuration Air Receiver Tanks CCW pump Plate heat exchanger CT blow down pump Bulk storage tank capacity 15 days storage or 30 storage	
43	MECHANICAL		REDUNDACY	REDUNDACY FOR MECHANICAL	Kindly inform the following system redundancy as % configuration Fuel Gas Compressor BFP CEP Feed Control Station	
44	O&M Manuals				Please kindly confirm that O&M manuals can only submit in English	Shall be translated to Georgian language and submitted accordingly
45	Date Extension				Please consider and approve extension in the deadline for submitting the bidding proposals.	N/A