

Dominica Geothermal Development Company Limited

CONCERNING BIDDING DOCUMENTS

FOR

DESIGN, SUPPLY, AND INSTALLATION

PROCUREMENT OF

- (i) New 2.2kV/11kV/33kV/69kV Substations and**
- (ii) New 11kV/33kV/69kV OHL and UGC**
Transmission Lines
(Geothermal Power Plant to Fond Cole)

REFERENCE: DM-DGDC-384816-CW-RFB

[Response to Bidders' Questions](#)

Response No. 9

February 26, 2024

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
101	PART I, Section III – Evaluation and Qualification Criteria (Without prequalification)	<u>1.5. Subcontractors/Manufacturers /UGC/ M1</u> (iii) Manufacturer’s proposed factories shall have at least ten (10) years of manufacturing experience of XLPE HV power cable. Bidder shall furnish the above supply record illustrating the supply of at least fifteen (50) km of each XLPE power cable for 11 kV, 33 kV and 69 kV rating & voltage level, outside the manufacturer’s own country within last ten (10) years. It seems there is a typographical error in the numeric value of the quantity. We understand that the supply record for each XLPE Power cable is required at least fifteen (15) KM. Please confirm our understanding. Further, we presume that for 69 kV rating & voltage level, the supply record of 66kV and above voltage grade cable shall be considered. Please confirm.	The required supply record for each XLPE Power cable is at least fifty (50) KM. We confirm that cable rating 66 kV and above is acceptable.	None	Addendum No. 7 Item 1
102	PART I, Section III – Evaluation and Qualification Criteria (Without prequalification)	<u>1.5. Subcontractors/Manufacturers/SUBSTATION/ SUBCONTRACTOR/ SC1</u> Subcontractor for executing the field works (for Civil Works): Minimum criteria. “The proposed Subcontractor for executing the field works shall have experience of civil construction during last ten (10) years as substation civil works contractor of at least three (3) contracts 72 kV GIS or higher rating substations including control buildings and outdoor	All bidders and their affiliates shall meet the eligibility criteria under ITB 4	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
		switchyard (equipment foundations, transformers foundations, etc.)” We have carried out detailed site visit of this project and were unable to find any Civil subcontractor meeting the above criteria. We therefore request you to accept Indian civil subcontractors meeting the mentioned criteria.			
103	PART I, Section III – Evaluation and Qualification Criteria (Without prequalification)	<u>1.5. Subcontractors/Manufacturers/SUBSTATION/SUBCONTRACTOR/SC2</u> Subcontractor for executing the field works (for Electrical works): The proposed Subcontractor for executing the field works shall have experience of electrical construction, during last ten (10) years as substation erection works contractor, of at least three (3) contracts including 72 kV GIS or higher rating substations with the installation of new power transformers 69kV or higher rated voltage. We have carried out detailed site visit of this project and were unable to find any Electrical subcontractor meeting the above criteria. We therefore request you to accept Indian Electrical subcontractors meeting the mentioned criteria.	All bidders and their affiliates shall meet the eligibility criteria under ITB 4	None	None
104	PART I, Section III – Evaluation and Qualification Criteria (Without	<u>1.5. Subcontractors/Manufacturers/OHL/69KV3SP/STEEL POLE</u> vi. The tower manufacturer shall have designed, manufactured and supplied guyed monopole towers for	Manufacturer of Self-supporting monopoles will be considered.	None	Addendum No 7, Item No. 2

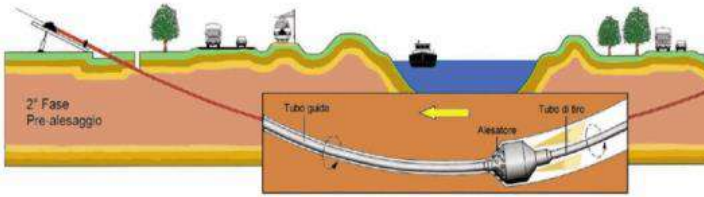
No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
	prequalification)	at least five (5) projects of 66V voltage level or above, within the last ten (10) years. <i>We request to you please consider both self-standing Or guyed monopole towers, Please confirm.</i>			
105	PART I, Section III – Evaluation and Qualification Criteria (Without prequalification)	<u>1.5. Subcontractors/Manufacturers/OHL/69KVSC0301/LIDAR</u> The LIDAR Contractor shall have 5 years’ experience, in the provision of aerial LIDAR surveys, for the last five (5) years only of not less than 50 km, outside of its country. As the availability of such experienced contractors in and around Dominica is scarcity, please allow us to use the DGPS and Total Station Survey Methodology (OR) within country of origin or outside of its country.	Due to the fast-tracked nature of the scope, we do not accept DGPS and total station survey. We specifically require Lidar survey.	None	None
106	PART I, Section III – Evaluation and Qualification Criteria (Without prequalification)	<u>3. Evaluation of financial part/ para 3</u> It is mentioned as the “ <i>Bidder shall take into account the requirement for early partial completion of 33 kV Component during 18 months from the effective date of contract</i> ”, as the site condition is difficult, about 200 meter level difference and harsh weather conditions, we request complete scope to be considered as 30 months completion period.	The complete scope cannot be considered for a 30-month completion.	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum
107	PART II SECTION A GENERAL REQUIREMENTS SUBS FOR OHL AND UGC _ Final DGDC/ 4.6.6	<u>4.6.6 FACTORY ACCEPTANCE TESTS (FAT)</u> “All the expenses related to mentioned FAT, including Employer’s and Consultant’s participation (three employer’s representatives and one Consultant) for each test separately bears the Contractor” whereas as per price schedule, “Three (03) representatives of the Employer will take part in FATs ...” Please confirm whether FAT will be attended by total 3 persons or 4 persons.	The FAT shall be attended by three employer’s representatives plus one Consultant. Number of FAT participants is amended in substations price schedule to be in total 4 persons instead of 3 persons.	FOND COLE SUB Price Schedule_24 -02- 2024	Addendum No 7, Item No. 11
108	SUBSTATIONS PRICE SCHEDULES / PADU SUBSTATION / SL. NO. 1.2	<u>1.2 Auxiliary transformer 33/0.4 kV, 160kVA ONAN</u> As per SLD for PADU substation- Auxiliary transformer rating is 33/0.4kV 100kVA whereas as per price schedule, it is mentioned ‘Auxiliary transformer 33/0.4 kV, 160kVA ONAN, complete with accessories, etc. (as per technical specifications)’ Please confirm the correct rating of auxiliary transformer.	For PADU substation- Auxiliary transformer rating is 33/0.4kV 100kVA. The value of 160kVA was a typo mistake in price schedule N°1 for Padu SS.	PADU SUB Price Schedule_24 -02- 2024	Addendum No 7, Item No. 5
109	PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC 16 Oct 23 & SUBSTATIONS PRICE / 69KV9CO/	<u>CONDUCTORS, S/W, OPGW</u> * CONDUCTORS, S/W, OPGW * OPGW SUSPENSION ASSEMBLIES We could not find the Technical particulars OR Data sheet of OPGW and OPGW ASSEMBLIES. Kindly provide the details.	The OPGW shall match the catenary characteristics of the Shield wire. The appropriate OPGW, shall be based on the bidder’s selection of his OPGW. Please refer to “OHL Annex 3: Conductors” updated rev of Jan 18 th 2024.	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
	CONDUCTORS, S/W, OPGW				
110	PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC 16 Oct 23./ Detailed Technical Requirements For Transmission Lines	<u>5.5.5 WIND LOADS</u> In the document “PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC 16 Oct 23.docx” in case of OHL in clause no. 5.5 the wind speed to be considered for design of pole is mentioned as 80 m/sec. We considered 80m/sec as 3 sec gust maximum wind speed and accordingly calculate the pressure on monopole. Please confirm as there was other wind speed also mentioned in the table.	Please refer to: Response to Bidder's Questions Response No. 8 February 14, 2024, Item 95	None	None
111	PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC 16 Oct 23 ./ 17 Installation of Insulators, Conductors	<u>17.6 STRINGING</u> Conductors and earth-wires shall be pulled out and strung by the use of the Controlled-Tension Method. Conductors shall as a principle never be allowed to touch ground. Tension and brake station for controlled tension, are mentioned for stringing, as per the terrain condition we understand that there is limited place to install the TSE machine. Hence, we request you to allow manual stringing method and Winch machine stringing method.	Manual stringing method is acceptable subject to Owner’s approval of the method statement. See Addendum No. 7	None	Addendum No. 7, Item #4

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
	and Earth-Wires				
112	PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC 16 Oct 23 ./ 14.9 SOIL INVESTIGATIONS	<u>14.9 SOIL INVESTIGATIONS</u> c) Standard Penetration Tests (SPT) or CPT for at least every 10 km of the alignment. However, the line length of OHL is less than the specified route , please advise the number of locations where we need to SPT , please also advise the number of locations where we need to DCPT.	DCPT tests shall be carried out at each structure location.	None	Addendum No 7, Item No. 3
113	PART I, Section IV – Bidding Forms / MAF	<u>Manufacturer's Authorization</u> We hereby extend our full guarantee and warranty in accordance with Clause 27 of the General Conditions, with respect to the goods offered by the above firm. We are request to you, delete this clause 27, GCC. Most of manufacture not agreed.	The modification of the Manufacturer's Authorization Form is not acceptable.	None	None
114	UGC PRICE SCHEDULES / UGC Schedule 1 / 69KVCA01	<u>69KV Cable</u> 69 KV single core aluminum cable 240mm ² In order to enhance the overall reliability of the 69KV underground cable line, it is recommended to laying a spare cable. By having readily available spare cables, any unforeseen incidents or faults in the system can be promptly addressed and resolved. This proactive	The proposal is not acceptable to the Owner	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
		approach will minimize downtime and ensure a smoother operation of the entire network.			
115	General	<u>UGC PRICE SCHEDULES / UGC Schedule 1 / 69KVCA01/69KV Cable</u> 69 KV single core aluminum cable 240mm² We would like to suggest using a three-core cable instead of a single-core 69KV cable for your project. This recommendation is based on the benefits it offers, such as reducing installation time and project expense.	The proposal is not acceptable to the Owner	None	None
116	General	<u>Cement Grade</u> Kindly provide us the grade of cement for OHL steel pole concreting.	The determination of the grade of cement for OHTL is typically based on several factors including the specific design requirements of the project, environmental conditions, load-bearing capacity. The Soil investigations, test results are also considered in determining the appropriate grade of cement to ensure the structural integrity and longevity of the project.	None	None
117	General	<u>Horizontal Directional Drilling (HDD)</u> Horizontal Directional Drilling (HDD) is a construction technique whereby a tunnel is drilled under a waterway or other designated area, and a pipeline or ??	Please refer to the response number 7, point 85 for the answer: For the 33 kV Underground Cable (UGC), the Contractor can propose Horizontal Directional Drilling (HDD) technology to cross certain obstacles. However, the Contractor is required to submit a verification note to ensure the electrical transit's security when using HDD technology, including verification of the traction	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
		 Please consider HDD Method in cable laying process and same add in BOQ items. Where it is possible in road crossing, asphalt road inside of city will plan for HDD work.	forces during the cable stringing phase. If this technology is used, it will be under the bidder's cost responsibility, and the client will not consider it as a variation order in all cases.		
118	GENERAL Climatic Conditions	We request you to kindly provide us the following parameters which will impact the civil structural design: 1.1 Basic wind pressure 1.2 Basic wind speed 1.3 Rainfall 1.4 Thunderstorm days per year (Isokeraunic level) 1.5 Additional Points if any	This information is already included in the technical specifications. Please refer to the section 1.3.3 of the General specifications to find the considered climatic and geological conditions for this project.	None	None
119	PART 2 - EMPLOYER'S REQUIREMENTS Clause- 3.3.4.2, 5.2, 6.1	Please confirm short circuit rating for 72.5kV GIS. Part-2_Cl-6.1: mentions short circuit rating of 31.5 kA (rms) for 1 sec. Part-2_Cl-3.3.4.2: mentions short circuit rating of 25kA for 3 Sec. Part-2_Cl-5.2: mentions short circuit rating of 25kA for 3 Sec.	Short circuit rating for 72.5kV GIS is 25kA for 3 Sec.	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTATIONS	Addendum No 7, Item No. 7

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum
				(SUB)_ 26-02- 2024	
120	PART 2 - EMPLOYER'S REQUIREMENTS Clause- 3.1.4.2, 3.2.4.2, 3.3.4.2 and Annex A2-17_GTP	Please confirm exact busbar rating for 33 kV Metal Clad Switchgear. Part-2_Annex A2-17_GTP: Mentions 2000A, 25kA for 3 sec Part-2_CL-3.1.4.2 : Mentions for Trafalgar SS - 1600A (25kA for 3 sec), Part-2_CL-3.2.4.2: Mentions for Padu SS -1600A (25kA for 3 sec), Part-2_CL-3.3.4.2: Mentions for Fond Cole SS -1600A (25kA for 3 sec)	Busbar rating for 33 kV Metal Clad Switchgear is 1600A (25kA for 3 sec)	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTATIONS (SUB)_ 26-02-2024	Addendum No 7, Item No. 6
121	PART 2 - EMPLOYER'S REQUIREMENTS 69kV HV Power Cable cross section	As per technical specifications and GTP, short circuit rating for 69kV HV cables is 25kA for 1sec. However, 69kV 1Cx240sqmm Aluminum Cable does not meet this criteria. Minimum cross section requirement is 300sqmm to meet 25kA for 1sec. Please confirm for consideration of 69kV cable cross section of 1Cx300sqmm instead of 240sqmm.	The amended short circuit-value for 69kV UGC is 22.7kA/1sec. Please refer to Questions Clarifications Response N°8 and Addendum N°6 item#1. During design phase, the selected contractor should provide necessary calculation notes to validate the indicated 69kV cross section cable taking into account all parameters (current carrying capacity, laying conditions, short circuit,...)	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
122	PART 2 - EMPLOYER'S REQUIREMENTS 33kV MV Power Cable cross section	As per technical specifications and GTP, short circuit rating for 33kV MV cables is 25kA for 1sec. However, 33kV 1Cx50sqmm Copper Cable does not meet this criteria. Minimum cross section requirement is 185sqmm to meet 25kA for 1sec. Please confirm for consideration of 33kV cable cross section of 1Cx185sqmm instead of 50sqmm.	The cross section of 33kV cables for linking 33kV MV switchgear to 4MVA, 3.5MVA and 100kVA transformers will be 120sqmm instead of 50sqmm to have 17kA/1sec as short circuit rating. During design phase, the selected contractor should provide necessary calculation notes to validate all indicated 33kV cross sections cables taking into account all parameters (current carrying capacity, laying conditions, short circuit,...)	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTATIONS (SUB)_26-02-2024	Addendum No 7, Item No. 8
123	PART 2 - EMPLOYER'S REQUIREMENTS 11kV MV Power Cable cross section	As per technical specifications and GTP, short circuit rating for 33kV MV cables is 25kA for 1sec. However, 11kV 1Cx95sqmm & 1Cx25sqmm Copper Cable does not meet this criteria. Minimum cross section requirement is 185sqmm to meet 25kA for 1sec. Please confirm for consideration of 11kV cable cross section of 1Cx185sqmm instead of 95sqmm & 25sqmm.	The cross section of 11kV cables for linking 11kV MV switchgear to 3.5MVA, 160kVA and earthing transformers will be 120sqmm instead of 95sqmm and 25sqmm to have 17kA/1sec as short circuit rating. During design phase, the selected contractor should provide necessary calculation notes to validate all indicated 11kV cross sections cables taking into account all parameters (current carrying capacity, laying conditions, short circuit,...)	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTATIONS (SUB)_26-02-2024	Addendum No 7, Item No. 9

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
124	PART 2 - EMPLOYER'S REQUIREMENTS 11kV MV Power Cable size	Kindly confirm size of 11kV MV cable between new 11kV AIS Switchgear and existing 11kV Switchgear.	Cross section for 11kV cable between new 11kV metal clad switchgear and existing 11kV switchgear will be copper 2Cx400mm² per phase. During design phase, the selected contractor should provide necessary calculation notes to validate all indicated 11kV cross sections cables taking into account all parameters (current carrying capacity, laying conditions, short circuit,...)	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTATIONS (SUB)_26-02-2024	Addendum No 7, Item No. 9
125	ITB Cl.46.2 & Cl. 47.1, GCC- Cl. 13.2 & Cl. 13.3 Contract Number	As per ITB Cl. 46.2- The successful Bidder shall sign, date and return to the Employer, the Contract Agreement within twenty-eight (28) days of its receipt As per ITB Cl. 47.1& GCC Cl.13.3- Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder shall furnish the Performance Security..... As per GCC Cl. 13.2- The Advance Security shall be submitted within 28 days from the date of receipt of Notification of Award Since all the activities are on same timelines kindly confirm that the Contract reference no. required to be mentioned in the PBG & ABG shall be provided in the Notification of Award Letter	The contract reference number will be provided in the Notification of Award Letter.	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
126	Time for Commencement and Completion	Bidder understands that Works shall commence from Effective Date as per Article 3.1 of the Contract Agreement which states- " The Effective Date from which the Time for Completion of the Facilities shall be counted..." and not as per PCC Cl. 8.1 which states- "The Contractor shall commence work on the Facilities within thirty (30) days from the Effective Date for determining Time for Completion as specified in the Contract Agreement" Kindly Confirm.	There is no contradiction between these articles of the contract. Article 3.1 specifies the conditions of effectiveness to be met. The effective date of the contract will be the date when these conditions are met. PCC 8.1 specifies the commencing and duration of the contract from the effective date: Commencing within 30 days after the effective date, the whole completion in 30 months from the effective date.	None	None
127	Liquidated Damages	The Bidder Understands that the LD will be applied on delay in Time for Completion i.e. after 30 months. Kindly Confirm	Please see, PCC 26. The LD is applicable to delays of partial completion requirements.	None	None
128	Form of Performance Guarantee	In reference to Sl. No. 80 under Response No. 7, Bidder wishes to state the following - 'An Insurance Bond is an instrument issued by an Insurance Company, with terms as required by the beneficiary. This instrument when compared with Bank Guarantee, is easier and faster to issue and hence to submit for the Contractor' In view of the above, requesting the Employer to let us know if an Insurance Bond can be submitted to meet the obligations of Performance Security.	See answer provided in Response No. 7, Item No. 80. There has been no change.	None	None
129	Payment Mode	The Sec X- Contract Agreement, Article 2.2 states "The Employer may instruct its bank to issue an irrevocable confirmed documentary credit made available to the Contractor in a bank in the country of the Contractor..." whereas The Specific Procurement Notice point 1 states "the Borrower shall process the payments using the Direct	See Response No. 8, Item No. 100 of February 14, 2024, Item	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum
		Payment disbursement method..." Kindly confirm the mode of payment.			
130	Timelines for Payment of Advance	The Bidder wishes to understand the timelines for payment of Advance upon submission of the Advance Security. Kindly Confirm	45 days is time for payment processing against any approved invoices submitted by the Contractor.	None	None
131	Schedule 1, Schedule 2 & Schedule 4 Sec X, Contract Agreement, Appendix 1	Bidder notes that there is payment of 5% on pro-rata basis upon issue of the Completion Certificate and 5% on pro-rata basis upon issue of the Operational Acceptance Certificate under Schedule 1, Schedule 2 and Schedule 4. In view of this, bidder wishes to understand if Guarantees/Insurance Bond of equivalent amounts can be submitted during the submission of 1st invoice under the respective Schedules (i.e. after invoice of Advance Payment), such that 100% of the amount is released upon invoice submission instead of existing 80% of the amount on pro rata basis. Kindly Confirm	The amount of the Advance payment Guarantee is an amount equal to the advance payment calculated in accordance with the Appendix to the Contract Agreement titled Terms and Procedures of Payment, and in the same currency or currencies (GCC 13.2.1). The amount of Performance security shall be 10% of the Contract Price (PCC13.3.1) and it shall be submitted at the time of the contract signing.	None	None
132	Sec X, Contract Agreement, Appendix 1- Terms and procedures of Payment	Payment Procedures not provided in the Appendix. Kindly Provide.	The payment procedures are provided in Appendix 1. Terms and Procedures of Payment (page 362), the file: RFB – PART I and III.	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
133	Employer's authorization of the Contractor's application	Kindly confirm the duration of Employer's authorization (in days) post submission by the Contractor.	Please refer to GCC 20.3.2	None	None
134	9.1.2 Service Conditions Climate Data	Kindly provide the data for peak rainfall intensity of the substation area for drainage calculation.	Please refer to the <i>section 1.3.3</i> of the General technical specifications, where all climatic and geological conditions that must be considered in this project are provided	None	None
135	Number and Area of Building	Kindly provide the number and area of following building a) Dwelling House	A Guard room must be provided at the level of the main entrance of each site with minimal dimensions of 1.50 x 1.50 m ² <i>Please refer to the technical specifications (Section 14 – UGC, Section 31.19 – Substations)</i>	None	None
136	Grades of materials of structural steel	Kindly provide the following grade of materials : a) Grade of structural steel b) Grade of Nuts & Bolts	a) Please refer to PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC 16 Oct. 23. Section 11.3.13.2 Steel Properties. "Standard designs will assume the use of S355J0 plate". b) Please refer to PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC 16 Oct 23. Section 11.10.3 BOLTS, NUTS AND WASHERS : ' Material for anchor bolts shall conform to 800 Mpa tensile strength, Grade 8.8.'	None	Addendum No. 7 Item No. 10

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum																								
137	Welding	Kindly provide the welding thickness as per requirements.	Please refer to AWS D1.1/D1.1M 2010 Structural Welding Code Table D11. Table. Minimum fillet weld sizes <table> <tr> <th colspan="2">Base metal thickness (T) a</th> <th colspan="2">Minimum size of fillet weld b</th> </tr> <tr> <th>in</th> <th>mm</th> <th>in</th> <th>mm</th> </tr> <tr> <td>T < 1/4</td> <td>T < 6</td> <td>1/8 c</td> <td>3 c</td> </tr> <tr> <td>1/4 < T < 1/2</td> <td>6 < T < 12</td> <td>3/16</td> <td>5</td> </tr> <tr> <td>1/2 < T < 3/4</td> <td>12 < T < 20</td> <td>1/4</td> <td>6</td> </tr> <tr> <td>3/4 < T</td> <td>20 < T</td> <td>5/16</td> <td>8</td> </tr> </table> Where: T = Base materials Thickness Notes a. For non low-hydrogen processes without preheat calculated in conformance with 4.8.4, T equals thickness of thicker part joined; single pass welds shall be used. For non low-hydrogen processes using procedures established to prevent cracking in conformance with 4.8.4 and for low-hydrogen processes, T equals thickness of thinner part joined; single pass requirement shall not apply. b. Except that the weld size need not exceed the thickness of the thinner part joined. c. Minimum size for cyclically loaded structure shall be 3/16in [5mm].	Base metal thickness (T) a		Minimum size of fillet weld b		in	mm	in	mm	T < 1/4	T < 6	1/8 c	3 c	1/4 < T < 1/2	6 < T < 12	3/16	5	1/2 < T < 3/4	12 < T < 20	1/4	6	3/4 < T	20 < T	5/16	8	None	None
Base metal thickness (T) a		Minimum size of fillet weld b																											
in	mm	in	mm																										
T < 1/4	T < 6	1/8 c	3 c																										
1/4 < T < 1/2	6 < T < 12	3/16	5																										
1/2 < T < 3/4	12 < T < 20	1/4	6																										
3/4 < T	20 < T	5/16	8																										
138	Galvanized Work	Kindly provide the galvanizing thickness for steel structures, nuts and bolts.	Please refer to PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC 16 Oct 23. Section 4.17.4	None	None																								

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum															
			<table><thead><tr><th></th><th>Average of Specimens tested mm (g/m³)</th><th>Any Individual Specimen tested mm (g/m³)</th></tr></thead><tbody><tr><td>a) Rolled steel exposed to the atmosphere only</td><td>1<5 mm 87 (610) 1>5 mm 95 (685)</td><td>79 (550) 87 (610)</td></tr><tr><td>b) Rolled steel underground surface</td><td>215 (1550)</td><td>190 (1370)</td></tr><tr><td>c) Cast iron and malleable iron</td><td>87 (610)</td><td>70 (500)</td></tr><tr><td>d) Bolts, nuts and washers</td><td>45 (305)</td><td>45 (305)</td></tr></tbody></table>		Average of Specimens tested mm (g/m³)	Any Individual Specimen tested mm (g/m³)	a) Rolled steel exposed to the atmosphere only	1<5 mm 87 (610) 1>5 mm 95 (685)	79 (550) 87 (610)	b) Rolled steel underground surface	215 (1550)	190 (1370)	c) Cast iron and malleable iron	87 (610)	70 (500)	d) Bolts, nuts and washers	45 (305)	45 (305)		
	Average of Specimens tested mm (g/m³)	Any Individual Specimen tested mm (g/m³)																		
a) Rolled steel exposed to the atmosphere only	1<5 mm 87 (610) 1>5 mm 95 (685)	79 (550) 87 (610)																		
b) Rolled steel underground surface	215 (1550)	190 (1370)																		
c) Cast iron and malleable iron	87 (610)	70 (500)																		
d) Bolts, nuts and washers	45 (305)	45 (305)																		
139	Redevelopm ent/ Demolition/ Modificatio n Works	Kindly provide the description for redevelopment/ demolition/ modification works if there is any.	The client requires the inclusion of the topographical survey plan reflecting the actual site conditions, the concept design of the substations, and in the specifications, it is specified that specific works to be carried out by DOMLEC must be completed before commencing any construction, as for example the shifting of the 11 kV poles.	None	None															
140	31.19 Site installation Staff Housing	Kindly provide the following for staff housing : a) Types of buildings b) Minimum thickness of grade slab c) Internal & external thickness of masonry walls d) Plastering thickness e) Type of water tank (underground/ overhead) f) Water tank requirement and capacity g) Septic tank requirement and capacity h) Filling material requirement below grade slab i) DPC requirement j) Flooring type for different rooms k) Walkway description around building l) Type of waterproofing requirement m) window & Door description	a) Types of buildings: Buildings constructed with reinforced concrete and blockwork. b) Minimum thickness of grade slab: 20 cm c) Internal & external thickness of masonry walls: According the technical specifications, the exterior walls will consist of 2 walls layer having a minimum thickness of 15 cm each and 5 cm in between to ensure thermal insulation. Internal walls should be made of hollow blocks both sides plastered and painted, 20 cm thick minimum d) Plastering thickness: 2 cm e) Type of water tank (underground/ overhead) : Overhead f) Water tank requirement and capacity : 1000 L g) Septic tank requirement and capacity : Must comply with regulations with a capacity up to 15 people.	PART II SECTIO N B PARTIC ULAR REQUI REME NTS SUBST ATION S (SUB)_ 26-02- 2024	Addendum No. 7 Items No. 12, No. 13, No. 14, No. 15, No. 16, No. 17, No. 18															

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum
			h) Filling material requirement below grade slab: According specification, Backfilling is carried out with maximum thickness layers of 15 cm, which will be compacted and tested in accordance with specifications. The required compaction is 98% OPM. j) Flooring type for different rooms: As specified in the technical specifications, screed and epoxy flooring for the MV cell room, raised flooring for the technical room, and tiling for the remaining rooms. k) Walkway description around building: A width of approximately 1 meter covered with non-slip tiling, positioned 17 cm above ground level. l) Type of waterproofing requirement: use of DPC for building walls m) window & Door description: According technical specifications, the windows will be metal frames with painted double glazing, reflecting solar radiation, or glass bricks, fire-rated doors 2h minimum for all rooms, Equipped with an anti-panic bar, double-layer waterproofing on the rooftop, with SBS+ protection.		
141	3.1.4.1 Civil works design Control Room Building	Kindly provide the following for Control Room Building : a) Types of buildings b) Minimum thickness of grade slab c) Internal & external thickness of masonry walls d) Plastering thickness e) Type of water tank (underground/ overhead) f) Water tank requirement and capacity g) Septic tank requirement and capacity h) Filling material requirement below grade slab i) DPC requirement	a) Types of buildings: Buildings constructed with reinforced concrete and blockwork. b) Minimum thickness of grade slab: 20 cm c) Internal & external thickness of masonry walls: 20 cm d) Plastering thickness : 2 cm e) Type of water tank (underground/ overhead) : Overhead f) Water tank requirement and capacity : 1000 L g) Septic tank requirement and capacity : Must comply with regulations with a capacity up to 15 people.	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTATIONS	Addendum No. 7 Items No. 12, No. 13, No. 14, No. 15, No. 16, No. 17, No. 18

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum
		j) Walkway description around building k) Type of waterproofing requirement	h) Filling material requirement below grade slab: Ensure sufficient backfilling, tested in the laboratory, and compacted to 95% of Proctor density. j) Flooring type for different rooms: Screed and epoxy flooring for the MV cell room, raised flooring for the technical room, and tiling for the remaining rooms. k) Walkway description around building: A width of approximately 1 meter covered with non-slip tiling, positioned 17 cm above ground level. l) Type of waterproofing requirement: use of DPC for building walls m) window & Door description: According technical specifications, the windows will be metal frames with painted double glazing, reflecting solar radiation, or glass bricks, fire-rated doors 2h minimum for all rooms, Equipped with an anti-panic bar, double-layer waterproofing on the rooftop, with SDS+ protection.	(SUB)_ 26-02-2024	
142	3.1.4.1 Civil works design Cable Trenches for Control Room	Kindly provide the details for cable cellar or internal trench requirement in the control room building.	Within the context of this EPC project, it falls upon the contractor to furnish these details for approval of the Engineer/Client.	None	None
143	Other Loads	Kindly provide the details for Loads, other loads and load combinations.	The technical specifications outline the minimum requirements for the project execution. However, within the context of this EPC project, it falls upon the contractor to make his own	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
			detailed studies (including the loads details and combinations), for approval of the Engineer/Client.		
144	Safety factors	Kindly provide the design safety factors to be adopted for the design of the substation.	The safety factor will adhere to the standard specified in the contractor's study. So, he may select any of the standards listed in the technical specifications and apply the corresponding safety factors accordingly.	None	None
145	Site Surfacing	Kindly provide the gravel spreading thickness as per requirements.	As per the technical specifications, " Surface management & access roads", <i>"A layer of gravels with a minimum thickness of 12 cm must cover the switchyard of this substation"</i>	None	None
146	Concrete, Reinforced Concrete and Mortar Details	Kindly provide the description for the following : a) Concrete compressive cube strength b) Cement content in concrete c) Blinding concrete compressive cube strength d) Type of cement e) Grade of concrete	The technical specifications outline the minimum requirements regarding the minimal concrete resistance which is C25 MPA. However, within the context of this EPC project, it falls upon the contractor to make his own detailed studies, investigations, and calculations, for approval of the Engineer/Client, to finally determine all these recommended info	None	None
147	Anchor Bolts & Grouts Details	Kindly provide the details for the following : a) Bolts grade b) Minimum steel section d) Grouts (Shrinkage or non-shrink) c) Anchor bolts grade	within the context of this EPC project, it falls upon the contractor to make and submit his own detailed studies, and calculations, for approval of the Engineer/Client, to finally determine all these recommended info	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum
148	3.1.4.1 Civil works design (Drainage system) Drainage	Kindly specify the type of drainage system to be adopted for inside the substation and peripheral drain respectively. Please confirm if drainage to be provided on one side of the road or both sides.	Road drainage will be oriented from one side with a suitable slope. Roof drainage should be integrated with manholes, featuring an overflow positioned 20 cm above the roof slab. <i>(Manholes are to be strategically placed at each drain change of direction)</i> Furthermore, in accordance with technical specifications, a drainage system must be installed all around each substation and linked to the nearest existing rainwater drainage system to mitigate any potential risks.	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTATIONS (SUB)_ 26-02-2024	Addendum No. 7 Items No. 19, No. 20
149	3.1.4.1 Civil works design (Drainage system) Drainage	Kindly provide the Number of thunderstorm days.	All climatic and geological info are mention in the general requirements-section 1.3.3 The contractor must conduct his own investigations to determine any other necessary factor.	None	None
150	3.1.3 Scope of construction works (Civil construction works) Cable trench and pipe	Kindly provide the details for Trench type ; Cover (precast or CIP) ; Trench - Road Crossings type	within the context of this EPC project, it falls upon the contractor to make and submit his own detailed studies, calculations, and drawings for approval of the Engineer/Client.	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum
151	31.18 Requirements for outdoor area (2. Access Road:) Permanent Roads	Kindly provide the details for the following : a) Access roads within the substation b) External access roads c) Requirement of culvert in access road	within the context of this EPC project, it falls upon the contractor to make and submit his own detailed studies, calculations, and drawings for approval of the Engineer/Client.	None	None
152	3.1.4.1 Civil works design (Fences and gates) Fencing & Gates	Kindly provide the details for the type of fence/boundary wall to be adopted. Also provide the details for spacing between the columns.	Regarding the fences, please note that the substations in this project are located within existing DOMELEC sites. Therefore, all fences to be constructed must resemble the existing ones. We can define two different types: 1. Prefabricated concrete columns every 2 meters + Isolated reinforced concrete foundation + mesh fencing 5x5 + semi-buried pallet-board + barbed wire (the height must be no less than 2.5 meters): This type of fence will be used to demarcate the substation from the DOMELEC site. 2. Reinforced concrete columns every 2.5 meters + isolated reinforced concrete foundations + masonry blocks + plastering + barbed wire (the height must also be no less than 2.5 meters): This type of fence will be used to separate the substation from neighboring areas or roads.	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTATIONS (SUB)_26-02-2024	Addendum No. 7 Item No. 21

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
			Regarding the gate , it should be robust and comprised of double leaves. Specific details will be provided by the contractor.		
153	Land Development / Contour	Request to kindly provide the contour drawings of the substation plot area. Please provide Hydrology study / High flood level (HFL); Finished Ground Level (FGL); Type of slope protection.	The contractor must provide the hydrology and high flood level study during the site investigation phase. The finished ground level is already specified in the indicative drawings as the level of the heavy exterior road. As for the type of slope protection , it is clearly defined in our indicative sections. The protection can either be through a reinforced retaining wall or vegetation slope.	None	None
154	Nearby Road Level	Kindly share the road level of nearby public road.	Please refer to the indicative drawings for each substation	None	None
155	Slope Protection	Request to kindly share the type of slope protection to be adopted for the substation.	within the context of this EPC project, it falls upon the contractor to make and submit his own detailed studies, and type of slope protection that he proposes for approval of the Engineer/Client.	None	None
156	31.16 Transformer Foundation Tranformer/ Reactor foundation,	Kindly provide the details for the following : a) Type of transformer foundation (Wall type/block type) b) Type of reactor foundation c) Requirement of railcum road	Please note that the technical specifications and the indicative drawings provide the minimum requirements However, within the context of this EPC project, it falls upon the contractor to make and submit	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
	Oil collection pit, Firewall & Railcum road		his own detailed studies, calculations, the chosen type, and drawings for approval of the Engineer/Client.		
157	31.19 Site installation Car Parking	Kindly provide details for the type of parking to be adopted and its capacity.	within the context of this EPC project, it falls upon the contractor to submit his own proposed type of parking for approval of the Engineer/Client.	None	None
158	Architectural plan (Trafalgar Substation)	This part is not clear (MV Room) 	Please refer to "Annex A3-1a - DGDC-ARCH-TRAF-LAY-001" where MV room dimensions are clearly indicated along with names of MV cabinets. In addition, a list of requested MV cabinets is detailed in scope of supply section 3.1 of "Substations Particular Requirements" document. The MV Room in Trafalgar substation is specified as follows: - Reinforced concrete slab finished with epoxy. - Masonry walls measuring 20 cm. - Housing 11 MV cells. Cable basement located at the bottom.	None	None
159	3.1.4.1 Civil works design (Carpentry) Windows	Kindly provide the position of window in plan for Trafalgar Substation.	Please note, that all drawings are indicative and provide the minimal requirement, but within the context of this EPC project, it falls upon the contractor to make and submit his own detailed drawings for approval of the Engineer/Client.	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum
160	3.1.3 Scope of construction works (Civil construction works) Road	Kindly provide the length of Heavy railed road & Access Road.	Please note, that all drawings are indicative and provide the minimal requirement, but within the context of this EPC project, it falls upon the contractor to make and submit his own detailed drawings for approval of the Engineer/Client.	None	None
161	3.1.4.1 Civil works design Transformer zone	Transformer zone & CRB are in same building or in different please clarify.	Power transformers will be installed outdoor nearby the control building as shown in annexes drawings. Please note, that all drawings are indicative and provide the minimal requirement, but within the context of this EPC project, it falls upon the contractor to make and submit his own detailed studies and drawings for approval of the Engineer/Client.	None	None
162	3.1.3 Scope of construction works; Secondary systems within the control building Generator Room	Kindly provide details of Generator room.	As specified in Annex A2-30, the Diesel Generator should be an outdoor type. However the contractor should propose an adequate location concept for the DG to be protected from sun and projectile (part of the control building or separate location) Please note, that all drawings are indicative and provide the minimal requirement, but within the context of this EPC project, it falls upon the contractor to make and submit his own detailed drawings for approval of the Engineer/Client.	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
163	3.1.4.1 Civil works design (Finishing and other complement ary works) Septic Tank	Kindly provide the capacity of septic tank.	within the context of this EPC project, it falls upon the contractor to make and submit his own studies, calculations, and detailed drawings for approval of the Engineer/Client.	None	None
164	3.1.3 Scope of construction works (Civil construction works)	Warehouse, Office room, Sanitary room, Kitchen not shown in plan for Trafalgar Substation. Construction of Control building with minimum surface of 130m², including a control room, MV cells room, Batteries room, AC/DC auxiliary room, Telecom room, warehouse, sanitary room, kitchen and outdoor location for station auxiliary transformer. This connected to electricity and water supplies and connected to sewage system if exists other alternative. Details are in annex A3-1 of this document. In addition, the finish	Please note, that all drawings are indicative and provide the minimal requirement, but within the context of this EPC project, it falls upon the contractor to make and submit his own detailed drawings for approval of the Engineer/Client.	None	None
165	31. Detailed Requirements for Civil Works (31.1 General)	Kindly provide the type of substation AIS/GIS for the following: a) Trafalgar b) Padu AIS (Air Insulated Switchgear) → requires a large installation area, so it was not applicable to a to the constraints on the substation locations. GIS (Gas Insulated Switchgear) → requires a high budget but allows for a smaller installation used in the Fond Cole substation, due to the very limited space available at the site.	No GIS for Trafalgar and Padu substation. These substations will consist mainly of a MV metal clad switchgear with outdoor transformers and UGC links. Please refer to sections 3.1 and 3.2 for specific scope of supply and works for Trafalgar and Padu SS in the "Substation Particular Requirements" document.	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
166	31. Detailed Requirements for Civil Works (31.1 General)	Columns not shown in plan for following substation: i. Trafalgar ii. Padu iii. Fond Colé Installation and maintenance of the various electrical equipment. Reinforced concrete columns must be placed in accordance with the <i>Vertical edges will be chamfered 15 x 15 mm</i>	Please note, that all drawings are indicative and provide the minimal requirement, but within the context of this EPC project, it falls upon the contractor to make and submit his own detailed studies and drawings for approval of the Engineer/Client.	None	None
167	3.2.4.1 Civil works design; 3.3.3 Scope of construction works Retaining wall	Kindly provide the length & width of retaining wall for Padu & Fond Cole Substation.	Please note, that all drawings are indicative and provide the minimal requirement, but within the context of this EPC project, it falls upon the contractor to make and submit his own detailed drawings for approval of the Engineer/Client.	None	None
168	12.12 Protection, Measuring and Indicating Devices Weather Proofing Coating	Please specify if any special weather proofing coating is required for external face of building walls	The masonry blockwork must be plastered and covered by Super caoutchouc smooth plastering (2 layers) with elasticity which is crucial to ensure the building's durability. Additionally, the roof will be a concrete slab with a slope designed for rainwater recovery, overlaid with two layers of waterproof membrane, surrounded by parapets All surfaces must be of a suitable durable finish so as to minimize maintenance over the design life of the substation, over flow should be added at 20 cm from roof top slab.	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTATIONS (SUB)_ 26-02-2024	Addendum No. 7 Item No. 14

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum
169	31. Detailed Requirements for Civil Works (31.1 General) Masonary Wall	Please specify the type of masonry wall to be used in buildings such as burnt brick wall, perforated concrete blocks, solid concrete blocks, hollow concrete blocks, etc.	The construction involves hollow concrete blocks, with a thickness of 20 cm. Additionally, RC lintels will be incorporated into the walls to support doors and windows	PART II SECTION B PARTICULAR REQUIREMENTS SUBSTITUTIONS (SUB)_ 26-02-2024	Addendum No. 7, Item No. 13
170	Grade of concrete	Please specify the grade of concrete to be used for the PCC.	It is the responsibility of the contractor to determine, through a detailed study, the appropriate grade of concrete to be used. As outlined in Section 14.2 of the technical specifications UGC, the minimum concrete strength specified for use is C25 MPa. However, it is the responsibility of the contractor to select the concrete mix design suitable for the project requirements. The contractor is required to submit the concrete formulation along with the results of their analysis to the Project Owner for approval Please note that it's an EPC project, the provided drawings are conceptual, and the contractor is responsible for developing detailed drawings that must be submitted for the approval of the engineer/client."	None	None

No.	RFB Ref.	Question or Comment	Owner's Response	Attachment	Supporting Clarification or Addendum												
171	Grade of reinforcement steel	Please specify the grade of reinforcement steel.	It is the responsibility of the contractor to determine, through a detailed study, the appropriate grade of steel reinforcement to be used. As stipulated in the particular technical specification of UGC - Section 14, <i>"the contractor is required to submit the dimensional, mechanical, and compositional characteristics of the proposed steel reinforcements for approval by the project owner."</i> Please note that it's an EPC project, the provided drawings are conceptual, and the contractor is responsible for developing detailed drawings that must be submitted for the approval of the engineer/client."	None	None												
172	OHL PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC 16 Oct 23 5.3 Transmission Line Design Basis	With reference to Steel Monopole Design for sag/ loading calculation, please provide/clarify the below points: a. OPGW clients requirement for the sag calculation b. Temperature condition for sag calculation is not specified such as normal, broken wire, maintenance condition c. FOS for material & load factor according to loading condition is not specified d. Minimum and maximum temperature is not given e. Minimum weight span is not provided f. Basic span is not given g. FOS for sag calculation not clarified h. Criteria for broken wore condition is not clarified i. Slack span for terminal tower is not given j. Please clarify whether we have to use OPEG cable or	a. The OPGW is to match the catenary of the Shield wire. Please refer to "OHL Annex 3: Conductors" updated rev of Jan 18th 2024. b. Please refer to table 3 of IEC 60826 <table border="1"><thead><tr><th>Load Type</th><th>State</th><th>Description</th></tr></thead><tbody><tr><td>Torsional</td><td>Broken Conductor</td><td>Complete Broken Phase or Shield Wire in adjacent span at any one attachment; application of Permitted Static Load. At "sagging temperature", with no wind or ice load.</td></tr><tr><td>Longitudinal</td><td>Conductor Load imbalance</td><td>Bare conductor on one side, loaded conductor on other side with loaded conductor unit weight equal to twice the unit weight of the bare conductor. Temperature -5°C.</td></tr><tr><td>Other</td><td>Sagging Options for High Security Lines</td><td>Increase FS by a factor of 3.5, or; Apply FS loads at any two points of conductor or OHL attachment, or; Insertion of anti-collision towers at every tenth structure.</td></tr></tbody></table> Table 3-2: IEC 60826: 2021 Failure (acknowledged) Processes c. Please refer to IEC 60826 Section 6.5.2 "Erection of supports" and 6.5.3 "Construction stringing and sagging" .	Load Type	State	Description	Torsional	Broken Conductor	Complete Broken Phase or Shield Wire in adjacent span at any one attachment; application of Permitted Static Load. At "sagging temperature", with no wind or ice load.	Longitudinal	Conductor Load imbalance	Bare conductor on one side, loaded conductor on other side with loaded conductor unit weight equal to twice the unit weight of the bare conductor. Temperature -5°C.	Other	Sagging Options for High Security Lines	Increase FS by a factor of 3.5, or; Apply FS loads at any two points of conductor or OHL attachment, or; Insertion of anti-collision towers at every tenth structure.	None	None
Load Type	State	Description															
Torsional	Broken Conductor	Complete Broken Phase or Shield Wire in adjacent span at any one attachment; application of Permitted Static Load. At "sagging temperature", with no wind or ice load.															
Longitudinal	Conductor Load imbalance	Bare conductor on one side, loaded conductor on other side with loaded conductor unit weight equal to twice the unit weight of the bare conductor. Temperature -5°C.															
Other	Sagging Options for High Security Lines	Increase FS by a factor of 3.5, or; Apply FS loads at any two points of conductor or OHL attachment, or; Insertion of anti-collision towers at every tenth structure.															

No.	RFB Ref.	Question or Comment	Owner's Response	Attach ment	Supporting Clarification or Addendum			
		ground earth wire for calculation of sag k. Weather conductor details provided are of 69kV or 33kV? l. Please specify terrain category for calculation of wind loads m. How many conductors wires per phase?	d. Refer to Section 21b PART II SECTION B PARTICULAR REQUIREMENTS FOR OHL DGDC Conductor Temperature: • Hot 70° C • Every day temperature: +25° C • Cold Temperature: 5° C e. Due to the large variation in line angles, elevation difference, and span lengths, the wind and weight spans have not been specified, for suspension, Small / Medium / Large angle tension structure types. The bidder is expected to create his own suitable structure family comprising his own range of structure types best suited to the line. f. Due to the large variation in line angles, elevation difference, and span lengths, the basic span is not given. The bidder’s design shall propose the optimal basic span. g. Please refer to IEC 60826 Section 6.5.2 “Erection of supports” and 6.5.3 “Construction stringing and sagging” . h. Please refer to IEC 60826 Section 6.5.2 “Erection of supports” and 6.5.3 “Construction stringing and sagging” , as follows: <table><tr><td>Structure Type</td><td>Wires broken</td><td>FOS</td></tr></table>	Structure Type	Wires broken	FOS		
Structure Type	Wires broken	FOS						

No.	RFB Ref.	Question or Comment	Owner's Response			Attach ment	Supporting Clarification or Addendum									
			<table><tr><td>Suspension</td><td>1 phase or one SW/ OPGW</td><td>1</td></tr><tr><td>Angle tension</td><td>1 phase and 1 SW/OPGW</td><td>1.5</td></tr><tr><td>Terminal</td><td>All broken</td><td>1.5</td></tr></table> i. The slack span tension is to match the capacity of the substation gantry, typically 400kg to 500kg. j. Between single monopoles there will be one OPGW. For long spans utilising triple pole structures, there will be one OPGW and one SW. At the interface between triple pole structures and single monopoles, there will be a bifurcation consisting of one SW and one OPGW. Where OPGW and SW are required, the catenary of the selected OPGW shall match as closely as possible, the catenary of the SW over the span. The SW shall be used as reference. The selected OPGW shall match the SW characteristics. Conductor details are not voltage specific. i.e. applicable to 69kV and 33kV.			Suspension	1 phase or one SW/ OPGW	1	Angle tension	1 phase and 1 SW/OPGW	1.5	Terminal	All broken	1.5		
Suspension	1 phase or one SW/ OPGW	1														
Angle tension	1 phase and 1 SW/OPGW	1.5														
Terminal	All broken	1.5														