



Republic of Maldives

ADDENDUM 03

Request for Bids

GRID-UPGRADING IN SELECTED ISLANDS IN THE MALDIVES

RFB No: MV-MEE-266363-CW-RFB

**Accelerating Renewable Energy Integration and Sustainable
Energy (ARISE) Project**

Issued on: July 13, 2022

Issued by:

Ministry of Finance

Republic of Maldives



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Ministry of Finance
Male' Republic of Maldives

Accelerating Renewable Energy Integration and Sustainable Energy (ARISE) Project

GRID-UPGRADING IN SELECTED ISLANDS IN THE MALDIVES

RFB No.: MV-MEE-266363-CW-RFB

ADDENDUM 03

(a) Section II - Bid Data Sheet (BDS)

C. Preparation of Bids	
<i>Clause ITB 15.1 is deleted and replaced as follows:</i>	
ITB 15.1	The Employer will convert the amounts in various currencies in which the Bid Price, corrected pursuant to ITB 31, is payable (excluding Provisional Sums but including Daywork where priced competitively) to the single currency identified below in ITB 32.1 at the selling rates established for similar transactions by the authority specified and, on the date, stipulated below in ITB 32.1
<i>Clause ITB 18.1 is deleted and replaced as follows:</i>	
ITB 18.1	The Bid shall be valid until: November 10, 2022

D. Submission and Opening of Bids	
<i>Clause ITB 22.1 is deleted and replaced as follows:</i>	
ITB 22.1	For <u>Bid submission purposes</u> only, the Employer's address is: National Tender Ministry of Finance Ameenee Magu, Maafannu, Male', 20379 Republic of Maldives The deadline for Bid submission is: Date: August 11, 2022 Time: 01:00 PM Male' Time Bidders shall not have the option of submitting their Bids electronically.



Clause ITB 25.1 is deleted and replaced as follows:

ITB 25.1

The Bid opening shall take place at:

**National Tender
Ministry of Finance
Ameenee Magu, Maafannu,
Male', 20379
Republic of Maldives**

Date: **August 11, 2022**
Time: **01:00 PM Male' Time**

Clause ITB 25.6 is deleted and replaced as follows:

ITB 25.6

The Letter of Bid and priced Bill of Quantities shall be initialed by Two (2) representatives of the Employer conducting Bid opening.

E. Evaluation, and Comparison of Bids

Clause ITB 32.1 is deleted and replaced as follows:

ITB 32.1

The currency that shall be used for Bid evaluation and comparison purposes to convert (at the selling exchange rate) all Bid prices expressed in various currencies into a single currency is:

United States Dollars

The source of exchange rate shall be:

Maldives Monetary Authority www.mma.gov.mv

The date for the exchange rate shall be: **July 28, 2022**

The Employer will convert the amounts in various currencies in which the Bid Price, corrected pursuant to ITB 31, is payable (excluding Provisional Sums but including Daywork where priced competitively) to the single currency identified above at the selling rates established for similar transactions by the authority specified and, on the date, stipulated above.

F. Award of Contract

Clause ITB 47.1 is deleted and replaced as follows:

ITB 47.1

The successful Bidder **shall** submit the Beneficial Ownership Disclosure Form.



(b) Section III - Evaluation and Qualification Criteria

B. Multiple Contracts

(ii) Qualification Criteria for Multiple Contracts

Delete and replace the qualification criteria as follows:

The criterion for qualification is the aggregate minimum requirement for respective lots as specified under items 3.1, 3.2, 4.2(a) and 4.2(b).



Delete and replace Eligibility and Qualification Criteria tables for Financial Situation and Performance in Bid Document Pages 42, 43 & 44 as follows:

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
3. Financial Situation and Performance							
3.1	Financial Capabilities	<p>(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as per the following for the subject contract(s) net of the Bidder's other commitments:</p> <p>Lot 1: USD 4 Million Lot 2: USD 1.2 Million Lot 3: USD 1.4 Million</p> <p><i>Bidders Bidding for multiple lots will be evaluated based on combination of lots (Refer Section III, B.)</i></p>	Must meet requirement	Must meet requirement	N/A	N/A	Form FIN – 3.1, 3.3 & 3.4, with attachments



Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
		(ii) The Bidders shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.	Must meet requirement	Must meet requirement	N/A	N/A	
		(iii) The Auditor's Report independently audited and certified (<i>with Financial Statements and Notes to Financial Statements</i>) or, if not required by the laws of the Bidder's country, other reports and/or financial statements acceptable to the Employer, for the years 2018, 2019 and 2020 shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.	Must meet requirement	N/A	Must meet requirement	N/A	
3.2	Average Annual Construction Turnover	Minimum average annual construction turnover as follows, calculated as total certified payments received for	Must meet requirement	Must meet requirement	Must meet at least Twenty percent	Must meet at least Forty percent	Form FIN – 3.2



Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
		contracts in progress and/or completed within the years 2018, 2019 and 2020 , divided by Three (3). Lot 1: USD 40 Million Lot 2: USD 12 Million Lot 3: USD 14 Million			(20%) of the requirement	(40%) of the requirement	



Delete and replace Eligibility and Qualification Criteria tables for Experience in Bid Document Pages 45, 46 & 47 as follows:

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
4. Experience							
4.1(a)	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, Subcontractor, or management contractor for at least the last Five (5) years , starting 1st January 2017 .	Must meet requirement	N/A	Must meet requirement	N/A	Form EXP – 4.1



Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
4.2(a)	Specific Construction & Contract Management Experience	<p>(i) A minimum number of similar⁵ contracts that have been satisfactorily and substantially⁶ completed as a prime contractor, joint venture member⁷, management contractor or Subcontractor between 1st January 2017 and bid submission deadline as specified below.</p> <ol style="list-style-type: none"> 1. Minimum three (3) contracts including both low voltage (<400V) and medium voltage (6-33kV) underground distribution cable installations with cumulative length not lower than 30 km for Lot 1 and not less than 10 km for Lot 2 and not less than 10 km for Lot 3; and 2. Minimum two (2) contracts inclusive of substation automation works (Substation automation: including supply, installation and commissioning 	Must meet requirement	Must meet requirement ⁸	N/A	<p>Must meet the following requirements for the key activities listed below:</p> <ol style="list-style-type: none"> 1. Minimum three (3) contracts including both low voltage (<400V) and medium voltage (6-33kV) underground distribution cable installations with cumulative length not lower than 30 km for Lot 1 and not less than 10 km for Lot 2 and not less than 10 km for Lot 3; and 2. Minimum two (2) contracts inclusive of substation automation works (Substation automation: including supply, installation and commissioning of intelligent electronic devices 	Form EXP 4.2(a)

⁵ The similarity shall be based on the physical size, complexity, methods/technology and/or other characteristics described in Section VII, Works' Requirement. Summation of number of small value contracts (less than the value specified under requirement) to meet the overall requirement will not be accepted.

⁶ Substantial completion shall be based on 80% or more works completed under the contract.

⁷ For contracts under which the Bidder participated as a joint venture member or Subcontractor, only the Bidder's share, by value, shall be considered to meet this requirement

⁸ In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.



Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
		of intelligent electronic devices (IED), such as per IEC 61850)				(IED), such as per IEC 61850)	
		(ii) Minimum two (2) contracts inclusive of substation automation works.	Must meet requirement	Must meet requirement	N/A	N/A	
4.2(b)	Specific Experience in managing ES aspects	For the contracts in 4.2 (a) above and/or any other contracts [substantially completed and under implementation] as prime contractor, joint venture member, or Subcontractor between 1st January 2017 and Bid submission deadline, experience in managing ES risks and impacts in the following aspect(s): Preparation or implementation of project specific ESIA or ESMP or ESCP or other equivalent required by the law of the specific country.	Must meet requirements	Must meet requirement	N/A	N/A	Form EXP 4.2 (b)



(c) Section IX - Particular Conditions

Below Sub-Clauses are deleted from the bidding document and replaced as follows:

Conditions	Sub-Clause	Data
Site	1.1.74	Sites will be entered later on depending on the respective lot
Maximum allowable accumulated value of work subcontracted	5.1(a)	Thirty-Five (35) Percent Accepted Contract Amount
Delay damages payable for each day of delay	8.8	0.05% of the Accepted Contract Amount, less provisional sum, for DAAB.
Method of measurement	12.2	In accordance with the Specifications, Drawings and Bill of Quantities
Period of payment of Advance Payment to the Contractor	14.7(a)	Forty-Two (42) Days
Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.6 (interim Payment)	14.7b(i)	Fifty-Six (56) Days
Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.13 (Final Payment)	14.7b(ii)	Forty-Two (42) Days



(d) Appendix 1. Terms and Procedures of Payment

Deleted "Appendix 1. Terms and Procedures of Payment" on Page 350 of the Bid Document.

(e) Section IV - Bidding Forms

Letter of Bid

Clause (h) is deleted and replaced as follows:

- (h) **Bid Validity:** Our Bid shall be valid until **November 10, 2022** in accordance with ITB 18.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

Add the following form to the Bidding Forms:

Manufacturer's Authorization

Date: _____

RFB No.: _____

To: _____

WHEREAS

We _____, who are official manufacturers of _____, having factories at _____, do hereby authorize _____ to submit a Bid the purpose of which is to provide the following goods, manufactured by us _____, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty, and for a period of at least that specified in Technical Specifications, Appendix A, Section 11, with respect to the goods offered by the above firm. We have viewed the requirements of Technical Specifications, Appendix A, Section 10.1 and commit to providing the specified information, with respect to the goods offered by the above firm.

Signed: _____

Name: _____

Title: _____

Duly authorized to sign this Authorization on behalf of: _____

Dated on _____ day of _____, _____



(f) Bill of Quantities

Note to Bidders: For bid submission, replace Bill No. 1.1 in bid document pages 59 and 60 with the below bill.

Bill No. 1: General Items – Lot 1

Bill No. 1.1: General Items – Lot 1									
Item no.	Description/Type	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
1.0	Site investigation								
1.01		Soil temperature, electrical and thermal resistivity	Islands	4					
1.02		Route confirmation, including underground and concealed services survey	Islands with cable installation	4					
1.03		Verification of suitability of MV configuration	Islands with MV works	4					
2.0	Design confirmation								
2.01		Power systems studies	Islands with MV works	3					
2.02		MV Protection study	Islands with MV works	4					
2.03		MV Earthing study	Islands with MV works	4					
2.04		MV Cable sizing report	Islands with MV works	4					
2.05		LV protection report	Islands with LV works	-					
2.06		LV cable sizing and earthing report	Islands with LV works	-					
2.07		Communications design report	Islands	4					
2.08	For construction drawings:	Drawings and installation specifications	Islands	4					
2.09	GIS mapping	Final route map in GIS format	Islands with cable installation	4					
3.0	As-built drawings								
3.01		Drawings	Islands	4					
3.02	Manuals and procedures documentation	All	Islands	4					
3.03	Training & Capacity Building	All	Islands	4					
4.0	Environmental & Social tasks								
4.01		Implementation of Environmental and Social Code of Practice (ESCP)	Islands	4					



Bill No. 1.1: General Items – Lot 1

Item no.	Description/Type	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
4.02		Transfer of Construction waste to Thilafushi during demobilization	Islands	4					
4.03		Procuring of safety signs, barricade tape and project site boards for each island	Islands	4					
4.04		Procuring Personal Protective Equipment for workforce as per the ESCP	Islands	4					
4.05		Health and Safety Toolbox training to construction workforce prior to commencement and weekly thereafter as per ESCP	Islands	4					
4.06		Excavation protection sloping/shoring/shielding method approved by engineer as per the ESCP	Islands	4					
4.07		Briefing session on Code of conduct of workforce prior to commencement of work	Islands	4					
4.08		Development of Occupation Health Safety Management Plan for the project	Document	1					
4.09		Updating of ESCP	Document	1					
5.0	Mandatory Spares								
5.01		Termination kit and joining kit for each cable type	Islands	4					
5.02		Spare FOBOT	Units	4					
5.03		Spare 4-way RMU	Units	1					
5.04		Fiber optic cable reel (min 200m length)	Islands	4					
5.05		Fiber optic splicing kit	Units	4					
5.06		Complete O&M tool set	Islands	4					
5.07		Complete set of basic consumables for maintenance	Islands	4					
Total for Bill No. 1.1 (carried forward to Grand Summary – Lot 1, p.)									



Note to Bidders: For bid submission, replace Bill No. 2a in bid document pages 61 and 62 with the below bill.

Bill No. 2: Electrical Works – Lot 1

Bill No. 2a: ADDU CITY MAIN LAND									
Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
1.0	Step-up transformer at power station, including installation and connection requirements								
1.01		3500 kVA	Unit	-					
1.02	MV switchgear at the power station, including installation and connection requirements	As per Employer Requirements, Appendix B	Unit	1					
2.0	MV cable and FO cable (equal quantity of each) - Replace existing cable or new cable includes all related equipment and installation requirements, not limited to: electrical cable, fibre optic cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
2.01		185 mm ²	Meter	40,000					
2.02		150 mm ²	Meter	1,200					
2.03		120 mm ²	Meter	-					
2.04		70 mm ²	Meter	2,040			L		
3.0	Substation Includes all equipment and installation requirements, not limited to building, RMU, transformer, LV board, earthing, circuit breakers, testing and certification								
3.01		Building (This is only needed for new substations) - specifications as per Employer Requirements Includes all related equipment and installation requirements, not limited to: foundations, earthing, ducting, cable entries, security, lighting	Unit	6					
3.02		RMU-4 way	Unit	5					
3.03		RMU-3 way	Unit	5					
3.04		800 kVA transformer	Unit	5					
3.05		500 kVA transformer	Unit	4					
3.06		LV DB	Unit	5					
4.0	LV distribution cable - replace existing Includes all related equipment and installation requirements, not limited to: electrical cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
4.01		300 mm ²	Meter	-					
4.02		240 mm ²	Meter	-					
4.03		185 mm ²	Meter	-					



Bill No. 2a: ADDU CITY MAIN LAND									
Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
4.04		150 mm ²	Meter	-					
4.05		120 mm ²	Meter	-					
4.06		95 mm ²	Meter	-					
4.07		70 mm ²	Meter	-					
4.08		50 mm ²	Meter	-					
4.09		35 mm ²	Meter	-					
4.10		25 mm ²	Meter	-					
4.11		16 mm ²	Meter	-					
5.0	Low voltage distribution box including all related equipment and installation requirements not limited to: structure / mounting, earthing, connections, fuses and fuse holders, terminations, test and certifications.		Unit	-					
Total for Bill No.2a (carried forward to Grand Summary – Lot 1, p.....)									



Note to Bidders: For bid submission, replace Bill No. 1.2 in bid document pages 73 and 74 with the below bill.

Bill No. 1: General Items – Lot 2

Bill No. 1.2: General Items -Lot 2									
Item no.	Description	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
1.0	Site investigation								
1.01		Soil temperature, electrical and thermal resistivity	Islands	3					
1.02		Route confirmation, including underground and concealed services survey	Islands with cable installation	3					
1.03		Verification of suitability of MV configuration	Islands with MV works	3					
2.0	Design confirmation								
2.01		Power systems studies	Islands with MV works	3					
2.02		MV Protection study	Islands with MV works	3					
2.03		MV Earthing study	Islands with MV works	3					
2.04		MV Cable sizing report	Islands with MV works	3					
2.05		LV protection report	Islands with LV works	-					
2.06		LV cable sizing and earthing report	Islands with LV works	-					
2.07		Communications design report	Islands	3					
2.08	For construction drawings	Drawings and installation specifications	Islands	3					
2.09	GIS mapping	Final route map in GIS format	Islands with cable installation	3					
3.0	As-built drawings								
3.01		Drawings	Islands	3					
3.02	Manuals and procedures documentation	All	Islands	3					
3.03	Training & Capacity Building	All	Islands	3					
4.0	Environmental & Social tasks								
4.01		Implementation of Environmental and Social Code of Practice (ESCP)	Islands	43					
4.02		Transfer of Construction waste to Thilafushi during demobilization	Islands	43					



Bill No. 1.2: General Items -Lot 2									
<i>Item no.</i>	<i>Description</i>	<i>Type</i>	<i>Unit</i>	<i>Quantity</i>	<i>Rate</i>	<i>Amount</i>			
						<i>Local Currency</i>	<i>Foreign Currency 1</i>	<i>Foreign Currency 2</i>	<i>Foreign Currency 3</i>
4.03	Procuring of safety signs, barricade tape and project site boards for each island	Islands		43					
4.04	Procuring Personal Protective Equipment for workforce as per the ESCP	Islands		43					
4.05	Health and Safety Toolbox training to construction workforce prior to commencement and weekly thereafter as per ESCP	Islands		43					
4.06	Excavation protection sloping/shoring/shielding method approved by engineer as per the ESCP	Islands		43					
4.07	Briefing session on Code of conduct of workforce prior to commencement of work	Islands		43					
4.08	Development of Occupation Health Safety Management Plan for the project	Document		1					
4.09	Updating of ESCP	Document		1					
5.0	Mandatory Spares								
5.01	Termination kit and joining kit for each cable type	Islands		3					
5.02	Spare FOBOT	Units		3					
5.03	Spare 4-way RMU	Units		1					
5.04	Fiber optic cable reel (min 200m length)	Units		3					
5.05	Fiber optic splicing kit	Units		3					
5.06	Complete O&M tool set	Islands		3					
5.07	Complete set of basic consumables for maintenance	Islands		3					
Total for Bill No. 1.2: General Items -Lot 2 (carried forward to Grand Summary – Lot 2, p.)									



Note to Bidders: For bid submission, replace Bill No. 2f in bid document pages 78 and 79 with the above bill.

Bill No. 2: Electrical Works – Lot 2

Bill No. 2f: Lh. HINNAVARU									
Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
1.0	Step-up transformer at power station, including installation and connection requirements								
1.01		3500 kVA	Unit	2					
1.02	MV switchgear at the power station, including installation and connection requirements	As per Employer Requirements, Appendix B	Unit	1					
2.0	MV cable and FO cable (equal quantity of each) - Replace existing cable or new cable Includes all related equipment and installation requirements, not limited to: electrical cable, fibre optic cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
2.01		185 mm ²	Meter	-					
2.02		150 mm ²	Meter	-					
2.03		120 mm ²	Meter	2,600					
2.04		70 mm ²	Meter	1000 300					
3.0	Substation Includes all equipment and installation requirements, not limited to building, RMU, transformer, LV board, earthing, circuit breakers, testing and certification								
3.01		Building - specifications as per Employer Requirements Includes all related equipment and installation requirements, not limited to: foundations, earthing, ducting, cable entries, security, lighting	Unit	5					
3.02		RMU-4 way	Unit	5					
3.03		RMU-3 way	Unit	-					
3.04		800 kVA transformer	Unit	5					
3.05		500 kVA transformer	Unit	-					
3.06		LV DB	Unit	5					
4.0	LV distribution cable - replace existing Includes all related equipment and installation requirements, not limited to: electrical cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
4.01		300 mm ²	Meter	-					
4.02		240 mm ²	Meter	-					



Bill No. 2f: Lh. HINNAVARU									
Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
4.03		185 mm ²	Meter	-					
4.04		150 mm ²	Meter	-					
4.05		120 mm ²	Meter	152					
4.06		95 mm ²	Meter	279 529					
4.07		70 mm ²	Meter	292					
4.08		50 mm ²	Meter	457					
4.09		35 mm ²	Meter	-					
4.10		25 mm ²	Meter	-					
4.11		16 mm ²	Meter	-					
5.0	Low voltage distribution box including all related equipment and installation requirements not limited to: structure / mounting, earthing, connections, fuses and fuse holders, terminations, test and certifications.		Unit	-					
Total for Bill No. 2f. (carried forward to Grand Summary – Lot 2, p.)									



Note to Bidders: For bid submission, replace Bill No. 1.3 in bid document pages 86 and 87 with the above bill.

Bill No. 1: General Items – Lot 3

Bill No. 1.3: General Items – Lot 3									
Item no.	Description	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
1.0	Site investigation								
1.01		Soil temperature, electrical and thermal resistivity	Islands	8					
1.02		Route confirmation, including underground and concealed services survey	Islands with cable installation	7					
1.03		Verification of suitability of MV configuration	Islands with MV works	5					
2.0	Design confirmation								
2.01		Power systems studies	Islands with MV works	5					
2.02		MV Protection study	Islands with MV works	5					
2.03		MV Earthing study	Islands with MV works	5					
2.04		MV Cable sizing report	Islands with MV works	5					
2.05		LV protection report	Islands with LV works	3					
2.06		LV cable sizing and earthing report	Islands with LV works	3					
2.07		Communications design report	Islands	8					
2.08	For construction drawings	Drawings and installation specifications	Islands	8					
2.09	GIS mapping	Final route map in GIS format	Islands with cable installation	7					
3.0	As-built drawings								
3.01		Drawings	Islands	8					
3.02	Manuals and procedures documentation	All	Islands	8					
3.03	Training & Capacity Building	All	Islands	8					
4.0	Environmental & Social tasks								
4.01		Implementation of Environmental and Social Code of Practice (ESCP)	Islands	48					
4.02		Transfer of Construction waste to Thilafushi during demobilization	Islands	48					



Bill No. 1.3: General Items – Lot 3

Item no.	Description	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
4.03		Procuring of safety signs, barricade tape and project site boards for each island	Islands	48					
4.04		Procuring Personal Protective Equipment for workforce as per the ESCP	Islands	48					
4.05		Health and Safety Toolbox training to construction workforce prior to commencement and weekly thereafter as per ESCP	Islands	48					
4.06		Excavation protection sloping/shoring/shielding method approved by engineer as per the ESCP	Islands	48					
4.07		Briefing session on Code of conduct of workforce prior to commencement of work	Islands	48					
4.08		Development of Occupation Health Safety Management Plan for the project	Document	1					
4.09		Updating of ESCP	Document	1					
5.0	Mandatory Spares								
5.01		Termination kit and joining kit for each cable type	Islands	8					
5.02		Spare FOBOT	Units	8					
5.03		Spare 4-way RMU	Unit	1					
5.04		Fiber optic cable reel (min 200m length)	Units	8					
5.05		Fiber optic splicing kit	Units	8					
5.06		Complete O&M tool set	Islands	8					
5.07		Complete set of basic consumables for maintenance	Islands	8					
Total for Bill No. 1.3: General Items – Lot 3 (carried forward to Grand Summary – Lot 3, p.)									



Note to Bidders: For bid submission, replace Bill No. 2i in bid document pages 90 and 91 with the above bill.

Bill No. 2: Electrical Works – Lot 3

Bill No. 2i – L. ISDHOO									
Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
1.0	Step-up transformer at power station, including installation and connection requirements								
1.01		3500 kVA	Unit	-					
1.02	MV switchgear at the power station, including installation and connection requirements	As per Employer Requirements, Appendix B	Unit	-					
2.0	MV cable and FO cable (equal quantity of each) - Replace existing cable or new cable Includes all related equipment and installation requirements, not limited to: electrical cable, fibre optic cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
2.01		185 mm ²	Meter	-					
2.02		150 mm ²	Meter	-					
2.03		120 mm ²	Meter	-					
2.04		70 mm ²	Meter	7,400					
3.0	Substation Includes all equipment and installation requirements, not limited to building, RMU, transformer, LV board, earthing, circuit breakers, testing and certification								
3.01		Building - specifications as per Employer Requirements Includes all related equipment and installation requirements, not limited to: foundations, earthing, ducting, cable entries, security, lighting	Unit	3					
3.02		RMU-4 way	Unit	2					
3.03		RMU-3 way	Unit	1					
3.04		800 kVA transformer	Unit	-					
3.05		500 kVA transformer	Unit	3					
3.06		LV DB	Unit	3					
4.0	LV distribution cable - replace existing Includes all related equipment and installation requirements, not limited to: electrical cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
4.01		300 mm ²	Meter	-					
4.02		240 mm ²	Meter	-					



Bill No. 2i – L. ISDHOO

Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
4.03		185 mm ²	Meter	-					
4.04		150 mm ²	Meter	-					
4.05		120 mm ²	Meter	-					
4.06		95 mm ²	Meter	-					
4.07		70 mm ²	Meter	-					
4.08		50 mm ²	Meter	-					
4.09		35 mm ²	Meter	-					
4.10		25 mm ²	Meter	-					
4.11		16 mm ²	Meter	-					
5.0	Low voltage distribution box including all related equipment and installation requirements not limited to: structure / mounting, earthing, connections, fuses and fuse holders, terminations, test and certifications.		Unit	-					
Total for Bill No. 2i (carried forward to Grand Summary – Lot 3, p.)									



Note to Bidders: For bid submission, replace Bill No. 2j in bid document pages 92 and 93 with the above bill.

Bill No. 2j – L. KALAI DHOO									
Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
1.0	Step-up transformer at power station, including installation and connection requirements								
1.01		3500 kVA	Unit	2					
1.02	MV switchgear at the power station, including installation and connection requirements	As per Employer Requirements, Appendix B	Unit	1					
2.0	MV cable and FO cable (equal quantity of each) - Replace existing cable or new cable Includes all related equipment and installation requirements, not limited to: electrical cable, fibre optic cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
2.01		185 mm ²	Meter	-					
2.02		150 mm ²	Meter	-					
2.03		120 mm ²	Meter	-					
2.04		70 mm ²	Meter	3,200					
3.0	Substation Includes all equipment and installation requirements, not limited to building, RMU, transformer, LV board, earthing, circuit breakers, testing and certification								
3.01		Building - specifications as per Employer Requirements Includes all related equipment and installation requirements, not limited to: foundations, earthing, ducting, cable entries, security, lighting	Unit	2					
3.02		RMU-4 way	Unit	20					
3.03		RMU-3 way	Unit	2					
3.04		800 kVA transformer	Unit	-					
3.05		500 kVA transformer	Unit	2					
3.06		LV DB	Unit	2					
4.0	LV distribution cable - replace existing Includes all related equipment and installation requirements, not limited to: electrical cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
4.01		300 mm ²	Meter	-					
4.02		240 mm ²	Meter	-					
4.03		185 mm ²	Meter	-					



Bill No. 2j – L. KALAI DHOO									
Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
4.04		150 mm ²	Meter	-					
4.05		120 mm ²	Meter	-					
4.06		95 mm ²	Meter	-					
4.07		70 mm ²	Meter	-					
4.08		50 mm ²	Meter	-					
4.09		35 mm ²	Meter	-					
4.10		25 mm ²	Meter	-					
4.11		16 mm ²	Meter	-					
5.0	Low voltage distribution box including all related equipment and installation requirements not limited to: structure / mounting, earthing, connections, fuses and fuse holders, terminations, test and certifications.		Unit	-					
Total for Bill No. 2j (carried forward to Grand Summary – Lot 3, p.)									



Note to Bidders: For bid submission, replace Bill No. 2k in bid document pages 94 and 95 with the above bill.

Bill No. 2k – L. DHANBIDHOO									
Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
1.0	Step-up transformer at power station, including installation and connection requirements								
1.01		3500 kVA	Unit	-					
1.02	MV switchgear at the power station, including installation and connection requirements	As per Employer Requirements, Appendix B	Unit	-					
2.0	MV cable and FO cable (equal quantity of each) - Replace existing cable or new cable Includes all related equipment and installation requirements, not limited to: electrical cable, fibre optic cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
2.01		185 mm ²	Meter	-					
2.02		150 mm ²	Meter	-					
2.03		120 mm ²	Meter	-					
2.04		70 mm ²	Meter	-					
3.0	Substation Includes all equipment and installation requirements, not limited to building, RMU, transformer, LV board, earthing, circuit breakers, testing and certification								
3.01		Building - specifications as per Employer Requirements Includes all related equipment and installation requirements, not limited to: foundations, earthing, ducting, cable entries, security, lighting	Unit	1					
3.02		RMU-4 way	Unit	±0					
3.03		RMU-3 way	Unit	1					
3.04		800 kVA transformer	Unit	-					
3.05		500 kVA transformer	Unit	1					
3.06		LV DB	Unit	1					
4.0	LV distribution cable - replace existing Includes all related equipment and installation requirements, not limited to: electrical cable, conduits, mechanical protection, marker tape, trenching, special fill materials, compaction, marker posts, terminations, test and certification.								
4.01		300 mm ²	Meter	-					
4.02		240 mm ²	Meter	-					
4.03		185 mm ²	Meter	-					
4.04		150 mm ²	Meter	-					



Bill No. 2k – L. DHANBIDHOO

Item no.	Description- refer Employer Requirements for full detail	Type	Unit	Quantity	Rate	Amount			
						Local Currency	Foreign Currency 1	Foreign Currency 2	Foreign Currency 3
4.05		120 mm ²	Meter	-					
4.06		95 mm ²	Meter	-					
4.07		70 mm ²	Meter	-					
4.08		50 mm ²	Meter	-					
4.09		35 mm ²	Meter	-					
4.10		25 mm ²	Meter	-					
4.11		16 mm ²	Meter	-					
5.0	Low voltage distribution box including all related equipemnt and installation requirements not limited to: structure / mounting, earthing, connections, fuses and fuse holders, terminations, test and certifications.		Unit	-					
Total for Bill No.2l (carried forward to Grand Summary – Lot 3, p.)									



(g) Section VII - Works' Requirements

Following are parts of Appendix B to be deleted and replaced:

Appendix B – Grid Infrastructure Requirements

3. Equipment - General Technical Requirements

3.6 Protection

RMU's shall be provided with multifunction protection relays. The back-up protection functions will be provided by the next upstream protection device to the RMU.

~~Inter-tripping if required may be via dedicated fibre optic link using Modbus TCP/IP and DNP3 protocols or hardwired pilot wires.~~

Inter-tripping if required may be via dedicated fibre optic link or hardwired pilot wires. The dedicated fibre optic link can be fibre cores allocated within a multicore fibre cable used for SCADA. Each RMU shall have the following minimum protection functions installed on each circuit breaker:

- 50 – Instantaneous overcurrent;
- 50N – Instantaneous earth fault overcurrent;
- 51 – Time delay overcurrent;
- 51N – Time delay earth fault overcurrent; and
- 50CBF – Circuit breaker fail.

5. Phase 1(Lot 01 and Lot 02) Island Specific Estimated Requirements

5.2 Addu city

5.2.1 Addu-mainland

5.2.1.2 Eight (8) MW (indicative) Floating PV - Port Area Lagoon (RAF Area) – (#2)

A new circuit will be run from the existing Power House 11kV switchboard to the Port Area Lagoon (RAF Area) (**Error! Reference source not found.**4). The 11 kV switchboard is to be provided by the Contractor under Section ~~5.2.2. Error! Reference source not found.~~ MV board upgrade Addu power house. . . .”

5.3 Addu - Hulhumeedhoo

5.3.3 MV grid upgrades

The Contractor is responsible for undertaking specified upgrades to the existing network on Hulhumeedhoo:

“ . . .

Replace existing 11 kV feeder cable (Refer to Appendix C: Drawings for network map and SLDs):



- Total length: 21,000 m
 - Size:~~185~~ 120 mm²
 - Re-terminate substations
- ...”

5.5 Thinadhoo

5.5.1 Thinadhoo Solar Fields

“ ...

The works involves:

- Site preparation and traffic control
 - Site investigations and surveys required for the network upgrade design works
 - Design and supply of all required 11kV cable, termination kits, conduits etc. require to complete the works.
 - Installation of ~~850m~~ 620m of underground 11kV cable from the new Power House to the Solar Farm point of connection RMU
 - Termination of new 11kV cable in Power House 11kV switchboard
 - Setting and configuration of new 11kV feeder protection relay in the Power House, settings must co-ordinate upstream and downstream
 - Installation and termination of 11kV feeder at the Solar Field RMU point of connection
 - Installation of communication cables and FOBOT boxes
 - Commissioning of new solar field 11kV feeder, CB, protection and associated ancillary equipment
 - Make good pathways, landscaping
- ...”

5.7 Hinnavaru

5.7.2 Island 11kV network

Table **Error! No text of specified style in document.**1: Substations and Required Transformers

Substation	Rated Power (kVA)
SS-1	500 800
SS-2	500 800
SS-3	800
SS-4	800
SS-5	800

6. Phase 2 (Lot 03) Island Specific Estimated Requirements

6.11 L. Kunahandhoo

“ ...

The three generators and low voltage busbar are to remain, as are the customer connections between customers and the distribution boxes. The contractor is required to modernise the LV network by:

- Removing the existing low voltage buried cable supplying existing distribution boxes
- Supply and install ~~25~~ 21 new distribution boxes as per the attached plans
- Supply and install new low voltage buried radial feeders between the existing powerhouse low voltage bus and the 53 distribution boxes (28 existing and 25 new)
- Contractor may refer to Drawings & Supplementary Information for further details on the network layout for Maabaidhoo.
- Cable lengths are as per Bill of Quantities"

6.13 Sh. Fundahoo

6.13.2 Island 11kV network

The scope of works for the Island 11kV network includes the design, supply, installation and commissioning of two 11kV underground feeders originating at the new 11kV switchyard and forming an 11kV loop around the island. The 11kV loop will provide connection access for the existing load, the proposed solar fields and future growth areas associated with land reclamation projects.

~~Each substation RMU shall consist of two (2) 11 kV isolation switches and one (1) 11 kV circuit breakers Each RMU will be configured as shown in and Figure 6:8: Funadhoo – substation RMU consisting of 2 –11kV circuit breakers and 2 –fuse switches.~~ As well as the associated remote monitoring and control equipment, protection system and communication interfaces.

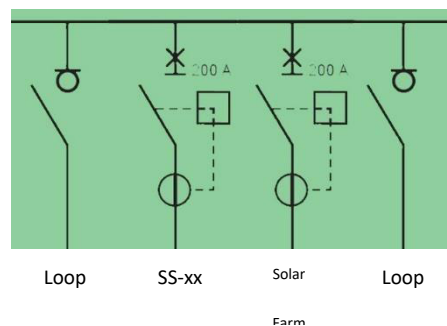


Figure ~~Error! No text of specified style in document.:~~1: Funadhoo – substation RMU

The works involves:

- Site preparation and traffic control
- Site investigations and surveys required for the network upgrade design works
- Design, supply, installation and commissioning of 11kV underground feeder cables for the main loop circuits and associated radial feeders.
- All associated civil works required to install the 11kV network, including but not limited to:
 - Cable trenching

- Road crossing design supply and construction
- Drainage system modifications
- RMU foundations
- Installation of 11kV RMUs and substation ancillary equipment
- Installation of communication cables and FOBOT boxes
- Commissioning of 11kV network, RMUs, substations and ancillary equipment
- Make good pathways, landscaping and security fencing

Estimated distances and cross section cables for the 11kV network are presented in Table 6.1: Estimated 11kV cable requirements for .

Table **Error! No text of specified style in document..2**: Estimated 11kV cable requirements for Funadhoo

Distance (m)	Cable Cross Section (mm ²)@11kV
4000 0	120
100 3552	70

Table **Error! No text of specified style in document..3**: Substation Transformer requirements

Substation	Rated Power (kVA)
RMU&TX1	₹ 800
RMU&TX2	₹ 800
RMU&TX3	₹ 800

Table **Error! No text of specified style in document..4**: Substation 400V distribution panel requirements

Substation	Main Circuit Breaker @400V	Additional LV Breakers
RMU&TX1	750A	8 x 100A
RMU&TX2	750A	8 x 100A
RMU&TX3	750A	8 x 100A

6.13.3 11kV sub distribution substations

The Contractor will design supply and install ~~five~~ **three (3)** new substations to support the LV distribution network. Each substation will consist of an 11/0.4 kV transformer and 400V distribution board fed from the new RMU's installed as part of the 11kV network works.

...”



(h) Appendix E: Supplementary Information

Refer [ARISE Grid-Upgrading Bid Data Room](#)

Data Room Contents:

- Folder: Appendix C Final drawings
 - Folder: Drawings DWG format for ref
 - Folder: Lot 1
 - Folder: Addmainland
 - DWG file: Addu Distribution network SLD
 - DWG file: Addu MV network route
 - Folder: Hulhudhoomedhoo
 - DWG file: Existing & Proposed Network Design Rev
 - Folder: Kulhudhuffushi
 - DWG file: Kulhudhuffushi network design
 - Folder: Thinadhoo
 - DWG file: Thinadhoo MV network
 - Folder: Lot 2
 - Folder: Eydhafushi
 - PNG file: BEydhafushi Distribution SLD
 - PDF file: MV and LV Distribution Network Chart (4)
 - Folder: Hinnavaru
 - PDF file: Hinnavaru Distribution Network Upgrade Chart (2)
 - Folder: Lot 3
 - Folder: Fonadhoo
 - DWG file: L.Fonadhoo network design SLD (7)
 - Folder: Funadhoo
 - (Empty)
 - Folder: Hithadhoo



- DWG file: L.HITHADHOO new LV network (4)
- Folder: Isdhoo Kalaidhoo Dhanbidhoo
 - DWG file: LIsdhooKalaidhooDhanbidhooCPSDesign (2)
- Folder: Kunahandhoo
 - DWG file: KunahandhooAMMENDEDEDGRID
UPGRAD_MAP&SLDSOLAR (4)
- Folder: Maabaidhoo
 - DWG file:
L.Maabaidhoo_Grid_upgrade_AMMENDEDED_ARISE (6)
- PDF File: Appendix C Final Drawings
- Folder: Environmental and Social Safeguards Reports and Documents
 - PDF file: ARISE ESMF
 - PDF file: ARISE LMP
 - PDF file: ARISE SEP
 - PDF file: Environmental and Social Code of Practice Grid Upgrading phase 1 and 2
 - PDF file: Environmental and Social Screening Report Grid Upgrading phase 1 and 2
- Folder: Installation Standards
 - PDF file: URA installation-standards
- Folder: KMZ files
 - Folder: Lot 1
 - KMZ file: 1 - Addu Mainland
 - KMZ file: 2- Hulhumeedhoo
 - KMZ file: 3- Fuvamulah
 - KMZ file: 4-Thinadhoo
 - KMZ file: 5- Kulhudhuffushi
 - Folder: Lot 2
 - KMZ file: 6 – Eydhafushi
 - KMZ file: 7-Hinnavaru
 - Folder: Lot 3



- KMZ file: 8-L.Fonadhoo
- KMZ file: 9-Isdhoo Kalaidhoo Dhanbidhoo network
- KMZ file: 10-Kunahandhoo
- KMZ file: 11-Hithadhoo
- KMZ file: 12-Maabaidhoo

➤ Folder: Other data

- Folder: Island datasheets
 - B.Edyhafushi_datasheet_B.pdf
 - Hdh.Kulhudhuffushi_datasheet_B.pdf
 - L.Fonadhoo_datasheet_A.pdf
 - L.Gan_datasheet_A.pdf
 - L.Hithadhoo_datasheet_A.pdf
 - L.Kalaidhoo_datasheet_A.pdf
 - L.Maabaidhoo_datasheet_A.pdf
 - L.Maavah_datasheet_A.pdf
 - Lh.Hinnavaru_datasheet_B.pdf
 - Lh.Naifaru_datasheet_A.pdf
 - S.Hulhumeedhoo_datasheet_B.pdf
 - Sh.Funadhoo_datasheet_A.pdf
- Folder: Island Drone maps for PV locations & BESS sites
 - (Empty)
- PDF file: Typical Substation Building

End of Document

