

# INFORMATION SHEET FOR PROCUREMENT GENERATOR SETS

Reference No.: FNK-I/IUL/2021/177

Issued on 26th April 2021

Issued by:

Fenaka Corporation Limited

Male', Republic of Maldives





### **Section I: Instruction to Bidders**

A. General				
1. Scope of Bid	1.1	Fenaka Corporation Limited requests quotations for generator		
		sets in accordance with Section III, Technical Specifications		
	1.2	It is in Fenaka Corporation Limited's discretion to cancel the bid		
		invitation mentioned in 1.1 at any time.		
2. Eligible	2.1	Local companies registered in Maldives are eligible to participate		
Participants		in the tender		
	2.2	Foreign companies are eligible to participate in the tender only if		
		the total bid value is above 2,500,000 Maldivian Rufiyaa.		
B. Preparation of	the B	id		
3. Bid Prices	3.1	The unit price of each item and the total price shall be clearly		
		indicated in the quotation		
	3.2	All items shall be quoted in the bid (please refer to Section III,		
		Technical Specifications for the details of required items)		
	3.3	Quotation shall separately indicate the additional charges such as		
		freight charges, insurance, etc.		
	3.4	The bidder shall submit quotation on CIF basis to Male' port		
4. Currency	4.1	The bidder shall quote entirely in Maldivian Rufiyaa		
5. Alternative Bids	5.1	Bidders can submit a maximum of two (2) options		
6. Validity of Bids	6.1	Quotation shall remain valid for minimum sixty (60) days from		
		the date of bid opening		
7. Bid Security	7.1	All bids should be accompanied with a bid security of USD		
		10,000 (Ten Thousand US Dollars) or its equivalent in Maldivian		
		Rufiyaa		
	7.2	The bid security should be:		
		- Original bank guarantee letter (or)		
		- Bank guaranteed and stamped check (or)		

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Port Complex Building, 7th Floor, Hilaalee Magu, Male, 20207, Maldives

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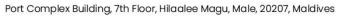




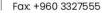


		- An insurance policy from an insurance company registered at
		Maldives Monetary Authority.
	7.3	Any bid not accompanied by a Bid Security shall be rejected
		during bid opening
	7.4	The bid security must be valid for a minimum of twenty (20)
		additional days beyond the validity of quotation
8. Technical	8.1	All relevant information including the brand shall be given to
Compliance		enable technical evaluation of quoted items
	8.2	The documents required for technical evaluation are:
		- Technical data sheets of engine and the alternator
		- Datasheets specifying cooling system rated at ambient
		temperature 50°C
		- Certificate of Authenticity specifying manufacturer/assembler
		is an OEM or a genuine reputed international engine brand
	8.3	If the manufacturer or assembler is not the same as the bidder, a
		document indicating that manufacturer or assembler is willing to
		sell the generator set to the bidder is required
	8.4	Technical compliance letter will be required to enable technical
		evaluation
	8.5	If the goods do not comply with the requirements mentioned in
		Section III, Technical Specifications, the bid will be rejected
		during evaluation.
	8.6	Generator set should comply with our requirements, if not the
		bid will be rejected
9. Documents	9.1	Quotation (inclusive of the delivery period and payment terms)
Comprising the	9.2	Specifications of the offered product
Bid	9.3	Certificate of Authenticity specifying that manufacturer /
		assembler is an OEM of a genuine reputed international engine
		brand

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	9.4	Details of the company					
		- Company profile/background					
		- Company registration certificate					
		- GST registration certificate (for local bidders only)					
		- TAX clearance report (6 months validity)					
		- Contact details (name, designation, mobile number and e-					
		mail address)					
	9.5	Experience letters, if available					
		- Letters within past five (5) years					
		- Relevant experience letters					
		- Letters with project name and value					
	9.6	One (1) compact disc with original bid document scanned and					
		written					
	9.7	Bids lacking the documents above are subjected to be rejected					
		during the bid opening					
10. Format of Bid	10.1	The Bidder shall submit two (2) sets of the bid document					
		(1 original and 1 copy), enclosed separately in two envelopes and					
		sealed with company stamp					
	10.2	All pages of the bid document shall be stamped and bound					
		properly (excluding the bid security)					
C. Bid Submission	ì						
11. Sealing and	11.1	The bid document shall be sealed properly in an envelope clearly					
Marking Bid		marked 'ORIGINAL' or 'COPY', with the name of the company					
Document		and the tender reference number					
		(FNK-I/IUL/2021/177)					
12. Bid Opening	12.1	The bids will be opened on 04th May 2021, 11:30am in the					
		presence of bidders					
	12.2	Bids will be opened at:					
		Fenaka Corporation Limited					
		·					

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Maldives

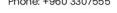




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- Earth fault (alarm testing)
- Over current (alarm testing)
- High temperature (alarm testing)
- Cooling system (alarm testing)
- High voltage pressure (alarm testing)
- All the functioning tests and routine tests should be done
- 15.3 All the protections should work properly, it should be examined for oil and coolant leaks, and it should be visually tested and secured
- 15.4 The remote radiator should operate continuously 100% in a 50degree ambient temperature
  - It should be designed with vertical air discharge remote radiator with motor and fan
  - It should include all the generator connection pipes, accessories, joints and diagrams
  - The radiator should be developed remotely from the engine providing an added flexibility cooling system, and to be installed at the desired location
  - It should be designed with lower power consumption, and high efficiency aero foil designed fans are used
  - It must be designed with lower noise levels
  - The radiator core should be formed using high efficiency fin profile
  - The thickness of connection pipes must be in a range of 2mm to 4mm















## **Section II: Evaluation Criteria**

**Proposal Cost**: 70 points for the lowest price

(Lowest price / proposed price) x 70

**Delivery**: 20 points for the lowest delivery period

- (Lowest delivery period / proposed delivery period) x 20
- If the delivery period indicates 'ex-stock', it shall be taken same as the party offering the longest delivery period.

Credit Period: 10 points for the maximum credit period

(Proposed credit period / longest credit period) x 10













# **Section III: Technical Specifications**

#	DESCRIPTION	QTY
1	350kW Generator set	01
2	400kW Generator set	04

<sup>\*</sup>Please note that the below specifications are for one unit only.

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### SPECIFICATION FOR 350 kW Generator Set(2019)

S/N:	Description	Unit	Qty
1	350 kW prime rated diesel generator set with parameters 0.8 P.F, 415kV, 3 Phase, 4 wires, 50 Hz at 1500 r.p.m. Powered by Internationally reputed brand engine coupled with internationally reputed brand Alternator.	1	No
	The Generator set shall be powered by a Branded engine origin or		
	assembled/manufactured by an Original Company's Licenced OEM		
	manufactured/assembler.		
	The engine must produce a mechanical power output (kW <sub>m</sub> ) which should meet the		
	required electric power ( kW <sub>e</sub> ) of 350kW and must be coupled with a 350kW		
	Alternator with pre-installed Droop CT and a control connection box.(termination		
	Alternator with pre-installed proop CT and a control conflection box(termater)		
	box to connect control cables and power cables)		
	Engine to be complete with following auxilliary items :		
	Heavy electrical flywheel		
	SAF flywheel housing		
	<ul> <li>Air filters, Lubricating Oil Filters, Fuel Filters and all other such filter required</li> </ul>		
	for operation of the engine		
	<ul> <li>Low lubricating oil pressure switch</li> </ul>		
	High engine temperature switch		
	lub oil sender		
	Water Temperature Sender		
	All necessary items to run and to protect the engine		
	Starting equipment fitted to engine, consisting of:		
	24 Volt charging altenator (Brushless)		
	24 Volt starting motor		
	Fuel Shut-off solenoid     And the deviate supplied in a dry charged condition		
	<ul> <li>Heavy duty lead acid batteries, supplied in a dry charged condition</li> </ul>		
	Governing System		
	The engine to be fitted with a close tolerance Electronic Governing system,		
	which should include efc, actuators, magnetic pickups, etc, including wiring		
	Cooling Equipment     Cooling equipment compromising a heavy-duty tropical radiator, together		
	with pusher type cooling fan and guards to be fitted. The radiator core		
	should be elecroplated with silver solder tin plated to prevent early failure		
	due to corrosion. Coupon plated radiators are acceptable. Radiator has to		
	be mounted on vibration mounts with enough strength to withstand the		
	radiator and vibrations.		
	Radiator must be designed to adequately cool the generator at an ambient		
	temperature of 50°C		
	Exhaust system     I believe time flevible exhaust together with	1	Ť
	450 mm of stainless steel bellow type flexible exhaust, together with		
	suitable flanges and fittings shall be supplied for each silencer.	1	
	Alternator	1	A.

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	The alternator shall be brushless revolving type altenator, having class H insulation on both the stator and field windings. It shall be built and rated to BS 5000, tropically impregnated with voltage regulation being in the order of +/- 1.5% from no load to full load under the steady state conditions assuming a speed variation not exceeding 4% on the engine. Anti-Condensation Coil to be fitted in the Alternator.		
	Generator arrangement and drive		
	The simplex type base plate is of heavy duty rolled steel constructed, bolted and electrically welded, drilled on the underside to allow the fitting of foundation bolts. The engine and the alternator are to be mounted on a base plate and vibration mounts to be mounted underside of the base plate. The vibration mounts are to be supplied as loose item.		
	<ul> <li>Finishing         After assembling the genset zinc coated self-etching primer should be applied to the complete set.     </li> </ul>		
1.2	Fuel system	1	No
	A fuel day tank of 12 hours capacity complete with level indicator, drain plug, filler, fuel return with fuel outlet connections and a fuel filter fitted with outlet connection is to be mounted. These mounts are are to be suuplied as loose item. All necessary fittings to be supplied in conformity with fuel flow diagram.		
1.3	Factory testing The generator should be fully tested at the manufacturer workshop in the presence of client/apointees to check the ratings, overload, functional tests on a dummy load prior to dispatch in case the bidder is unable to provide factory test as required the bidder shall provide an extended warranty of one extra year than mentioned in iteme no 1.6 of this document.	1	No
1.4	Literature and drawings consisting of:  1 No x Manual on How to handle the generation equipment  1 No x Electrical wiring diagram  1 No x Engine operation and maintenance manual  1 No x Engine parts catalogue  1 No x Generator parts catalogue  1 No x Generator operation and maintenace manual  1 No x Generator AVR manual  1 No x Governor control unit manual  1 No x Engine shop manual	1	Lot
1.5	Accessories		
	The Components shall meet the British Standard and ISO standards. Items are for the		
	above mentioned generator sets.		
1.5.1	Primary silencer barrel (to match engine exhaust)	1	No
1.5.2	Secondary silencer barrel (to match engine exhaust)	1	No
1.5.3	3m Exhaust pipe dia ( to match engine exhaust)	2	No
1.5.4	Elbows having dia (to match the engine exhaust)	6	No
1.5.5	Flanges having dia (to match the engine exhaust)	4	No
F 6	Bolts, Nuts and Washers for the Flanges. (Each set shall include 1 bolt, 2 washers, 1 spring washer 2 Nuts)	1	Lot
1.5.6	Split type rockwool insulation lagging suitable for 75 to 125mm dia. Exhaust		

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Generator set should carry a warranty of one year from the date of commissioning Lot

### Documents Required for technical evaluation

- · technical data sheets of engine
- · technical data sheets of Alternator
- datasheets specifying cooling system rated at ambient temperature 50°C
- Certificate of Authenticity specifying manufacturer / Assembler is an OEM of a genuine reputed international Engine Brand

Note: Proposal that do not conform to the given technical specification shall be rejected.

Prepared and checked by:

Technical Services & Green Energy Department

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### SPECIFICATION FOR 400Kw Generator Set

S/N:	Description	Unit	Qty
1	400 kW prime rated diesel generator set with parameters 0.8 P.F, 415 Volts, 3 Phase,	1	No
	4 wires, 50 Hz at 1500 r.p.m. Powered by Cummins engine coupled with Stamford		
	Alternator.		
	The Generator set shall be powered by a Cummins engine origin (UK, USA) or		
	assembled/manufactured by an Original Cummin's Licenced OEM		
	manufactured/assembler.		
	The engine must produce a mechanical power output (kW <sub>m</sub> ) which should meet the		
	required electric power ( kW <sub>e</sub> ) of 400kW and must be coupled with a400kW		
	Stamford Alternator with pre-installed Droop CT and remote mounted control panel.		
	The controller should be Deepsea model: 8810 engine controller.		
	Motorised TP, 800A ACB c/w UVT Coil AC 230 V, brand "MERLIN GERIN") or		
	equivalent.		
	Engine to be complete with following auxilliary items:		
	Heavy electrical flywheel     SAS flowback begins		
	SAE flywheel housing     Air filters, Lubricating Oil Filters, Eugl Filters, and all other such filters, required		
	Air filters, Lubricating Oil Filters, Fuel Filters and all other such filter required		
	for operation of the engine  • Low lubricating oil pressure switch		
	High engine temperature switch		
	• lub oil sender		
	Water Temperature Sender		
	All necessary items to run and to protect the engine		
	Starting equipment fitted to engine, consisting of:		
	<ul> <li>24 Volt charging altenator (Brushless)</li> </ul>		
	• 24 Volt starting motor		
	Fuel Shut-off solenoid		
	Heavy duty lead acid batteries, supplied in a dry charged condition		
	Governing System     The engine to be fitted with a close tolerance Cummins Electronic		
	Governing system, which should include efc, actuators, magnetic pickups,		
	etc, including wiring		
	Cooling Equipment		
	Cooling equipment compromising a neavy-duty tropical radiator, together		
	with pusher type cooling fan and guards to be fitted. The radiator core		
	should be elecroplated with silver solder tin plated to prevent early failure		
	due to corrosion. Coupon plated radiators are acceptable. Radiator has to		
	be mounted on vibration mounts with enough strength to withstand the		
	radiator and vibrations.		
	Radiator must be designed to adequately cool the generator at an ambient temperature of 50°C		
	Exhaust system     450 mm of stainless steel below type flexible exhaust, together with		
	suitable flanges and fittings shall be supplied for each silencer.		
	Alternator		
	The alternator shall be brushless revolving type altenator, having class H insulation on both the stator and field windings. It shall be built and rated to BS 5000, tropically impregnated with voltage regulation being in the order of +/- 1.5% from no load to full load under the steady state conditions assuming a speed variation not exceeding 4% on the engine. Anti-Condensation Coil to be fitted in the Alternator.		
1	Generator arrangement and drive		

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1.2	The simplex type base plate is of heavy duty rolled steel constructed, bolted and electrically welded, drilled on the underside to allow the fitting of foundation bolts. The engine and the alternator are to be mounted on a base plate and vibration mounts to be mounted underside of the base plate. The vibration mounts are to be supplied as loose item.  • Finishing  After assembling the genset zinc coated self-etching primer should be applied to the complete set.  Fuel system  A fuel day tank of 12 hours capacity complete with level indicator, drain plug, filler, fuel return with fuel outlet connections and a fuel filter fitted with outlet	1	No
	connection is to be mounted. These mounts are are to be suuplied as loose item.  All necessary fittings to be supplied in conformity with fuel flow diagram.		
1.3	Factory testing	1	No
	The generator should be fully tested at the manufacturer workshop in the presence		
	of client/apointees to check the ratings, overload, functional tests on a dummy load		
	prior to dispatch in case the bidder is unable to provide factory test as required the		
	bidder shall provide an extended warranty of one extra year than mentioned in		
1.4	iteme no 10 of this document. Literature and drawings consisting of :	1	Lot
1.4	1 No x Manual on How to handle the generation equipment	1	LOL
	1 Nos x Electrical wiring diagram		
	1 No x Engine operation and maintenance manual		
	1 No x Engine operation and manner mineral manner     1 No x Engine parts catalogue		
	1 No x Generator parts catalogue		
	1 No x Generator operation and maintenace manual		
	1 No x Generator AVR manual		
	1 No x Governor control unit manual		
	1 No x Engine shop manual		
1.5	Accessories		
	The Components shall meet the British Standard and ISO standards. Items are for		
	the above mentioned generator sets.		
1.5.1	Primary silencer barrel (to match engine exhaust)	1	No
1.5.2	Secondary silencer barrel (to match engine exhaust)	1	No
1.5.3	3m Exhaust pipe dia ( to match engine exhaust)	2	No
1.5.4	Elbows having dia (to match the engine exhaust)	6	No
1.5.5	Flanges having dia (to match the engine exhaust)	4	No
1.5.6	Bolts, Nuts and Washers for the Flanges. (Each set shall include 1 bolt, 2	1	Lot
457	washers,1spring washer 2 Nuts)		
1.5.7	Split type rockwool insulation lagging suitable for 75 to 125mm dia. Exhaust pipes. The lagging shall be covered with High Quality Aluminium foil.	1	Lot
1.6	Warranty		$\vdash$
	Generator set should carry a warranty of one year from the date of		,
	commissioning	1	Lot

#### Documents Required for technical evaluation

- · technical data sheets of engine
- · technical data sheets of Alternator
- datasheets specifying cooling system rated at ambient temperature 50°C
- · Certificate of Authenticity specifying Assembler is a Cummins OEM

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