

AIR TRAFFIC AND NAVIGATION SERVICES SOC. LTD

REPUBLIC OF SOUTH AFRICA



**2021/22: General Electrical and Mechanical
Project**

Replacement of Generator at FAOR RX site and mobile generator

Detailed Technical Specification Document

Version 1.0

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TABLE OF CONTENTS

TABLE OF CONTENTS	2
ABBREVIATIONS.....	5
CHAPTER 1: GENERAL SPECIFICATIONS FOR BOTH GENERATORS	6
1 Project Introduction	6
1.1 Scope of Work.....	6
2 Generator Specifications	7
3 Generator components.....	8
3.1 Engine	8
3.2 Alternator.....	10
3.3 Control Panel	11
3.4 Generator Battery	14
3.5 Fault Current Rating.....	17
3.6 Deviation from Specification.....	17
3.7 Submittals	17
3.8 General.....	19
3.9 Equipment Installation.....	20
3.10 Cabling.....	20
3.11 Software	21
3.12 Environmental Conditions.....	22
3.13 Regulations.....	22
3.14 Electrical Work	23
3.15 Warning Notices.....	25
3.16 Manufacturing.....	27
3.17 Commissioning.....	27
3.18 Design and Specification	28
3.19 Generator Alarm	28
3.20 Interlocked Contactors	29
3.21 Load Acceptance	29

3.22	Fuel Drip Tray	29
3.23	Exhaust Silencer	30
3.24	Derating conditions	31
3.25	Start Delay	32
3.26	Stop Delay	32
3.27	Generator Fuel consumption	32
3.28	Diesel generator system operation	33
3.29	Diesel generator system protection	33
3.30	Diesel storage system	36
CHAPTER 2: SPECIFICATIONS FOR THE FIXED GENERATOR		39
1	Site Information	39
2	Building grills	39
3	Automatic Transfer Switch	40
4	Transition Plan	41
5	Isolator switch installation	43
6	Monitoring	43
7	Diesel generator storage system	44
CHAPTER 3: SPECIFICATIONS FOR THE MOBILE GENERATOR		45
1	General	45
2	Mobile Diesel generator system enclosure	47
3	Mobile generator access doors	50
4	Mobile Diesel generator system trailer-mounting	52
5	GSM Commander	54
6	Mobile Diesel generator storage system	55
CHAPTER 4: PROJECT MANAGEMENT		57
1	General	57
2	Project Management Plan	58
3	Project Status Reports	58
4	Master Project Schedule	60
5	Project Review Meetings	61
6	Installation Management Plan	62

6.1	General.....	62
6.2	Work Breakdown Structure	63
6.3	Statement of Work (SOW)	63
6.4	Resource Allocation Plan	63
6.5	Resumes of Key Personnel	64
6.6	Technical Reviews and Meetings	64
6.7	Installation and Construction Specification	64
7	Testing & Commissioning	65
7.1	Test and Evaluation Master Plan.....	65
7.2	Acceptance and Commissioning Tests	65
8	Risk Management Plan	65
8.1	Risk Policy and Procedures	65
8.2	Risk Abatement.....	66
8.3	Risk Report.....	66
8.4	Delivery of Project Risk Management Plan.....	67
9	Quality assurance.....	67
9.1	QA Policy and Procedures.....	67
9.2	Responsibility for Quality.....	67
9.3	Audit Reports	68
9.4	Company Quality Inspections	68
9.5	Delivery of Project QA Plan.....	68
10	Occupational Health and Safety Plan.....	69
10.1	Safety File	69
11	Site Survey.....	72
11.1	Requirements	72
12	Environmental Management Programme	73
CHAPTER 5: LOGISTICS & MAINTENANCE		74
1	Warranty	74
2	Operational Training.....	74
3	Maintenance Contract	75
4	Service-Level Agreement	76

ABBREVIATIONS

ACSA	Airports Company South Africa
ATNS	Air Traffic and Navigation Services Company
ATC	Air Traffic Control
CD	Compact Disk
CNS	Communications, Navigation and Surveillance
COTS	Commercially off the shelf
DB	Distribution Board
FAOR	O.R. International Airport
HMI	Human-Machine Interface
IEC	International Electrotechnical Commission
OJT	On the Job Training
OTN	Open Transport Network
PC	Personal Computer
QA	Quality Assurance
RX	Receiver
SANS	South African National Standards
SLA	Service Level Agreement
SMS	Short Message sender
VHF	Very High Frequency

CHAPTER 1: GENERAL SPECIFICATIONS FOR BOTH GENERATORS

1 Project Introduction

This project calls for the removal and disposal of the existing generator at the FAOR VHF Receiver (RX) site with the subsequent delivery, supply and installation of a new generator at the FAOR RX site and the FAOR mobile generator, with their associated refurbishments, civil and electrical works. The training of technical personnel with the establishment of a support and maintenance contract, is also a significant part of this project. (I)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

1.1 Scope of Work



Figure 1: Summary of Requirements

The scope of the project is to:

- Decommission and dispose of the existing generators in line with ATNS processes and procedures.
- Supply, install and commission the FAOR RX site fixed generator and the FAOR mobile generator.
- Perform all necessary and required civil and electrical works.
- Training of technical personnel.
- Establishment of a maintenance and support contract for the fixed and mobile generators.

[A] The bidder shall demonstrate their understanding off the scope of work.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

2 Generator Specifications

The following information regarding both generators shall be provided by the bidder:

[A] Both generators shall have the following specifications:

- Apparent Power – 15 kVA
- Frequency – 50Hz
- Power Factor – 0.8
- Rated Power – 12kW
- Voltage rating – 400/230 V (Ph-Ph/Ph-N)
- Tolerance – +- 5%

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] Both the fixed and mobile shall be diesel generators.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] Within this specification a generator set is defined as consisting of an engine, alternator and fuel supply tank.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3 Generator components

3.1 Engine

The following information regarding the engine shall be provided by the bidder:

[A] The brake horsepower rating of the engine and speed variation in percentage (%).

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] The engine protection mechanism in general and against high temperature and low oil pressure.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] Engine performance curves.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[D] Noise levels from the generator & at the tail of the exhaust pipe (both in dBA).

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [E] The recommended interval in running hours for Lubricating oil change, Oil filter element change & decarbonising.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [F] The engine's de-rating capabilities, and percentage de-rating for site conditions such as altitude, temperature, humidity and total de-rating.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [G] The Engine shall be fitted with the following:

- A sump drainpipe with a shut-off valve placed in a convenient position outside the base frame to facilitate drainage.
- Indication of recommended oil types on the engine, or base frames, by means of suitable labels.
- Clear markings on the faceplates indicating all engine instruments, such as the normal operating zone(s), maximum and minimum allowable values/limits and danger zone(s).

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [H] The engine may be either of the air-cooled or water-cooled type. With the following considerations:

- In the case of water-cooling, a built-on heavy duty, tropical type pressurised radiator shall be fitted. Only stand-by sets that are water cooled shall have electric heaters.
- For either method of cooling, protection shall be provided against running at excessive temperatures. The operation of this protective device shall give a visual and audible indication on the control panel.

- Water-cooled engines shall in addition be fitted with a low water cut-out switch, installed in the radiator, to switch the set off in the event of a loss of coolant. All air ducts for the cooling of the engine are to be allowed for. The air shall be supplied from the cooling fan cowling/radiator face to air outlet louvers in the plant room wall.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [I] The engine shall be fitted with an electric starter motor and be able to start under both summer and winter conditions without the need for special devices.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.2 Alternator

The bidder shall provide the following information regarding the generator's alternator.

- [A] The alternator shall be of the Low Harmonic Type and should be brushless. Information regarding the Class of insulation of windings, method of excitation and symmetrical short circuit current at terminals in Ampere is to be made available.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] During operation, information which describes the generator efficiency at 0.8 Power Factor and Full load, $\frac{3}{4}$ load and $\frac{1}{2}$ load shall be provided, the Transient voltage dip on full load & the maximum permanent voltage variation in percentage (%). Voltage recovery on full load application in milli-seconds shall also be indicated.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.3 Control Panel

The bidder shall provide the following information regarding the generator's control panel:

- [A] The diesel generator system shall be supplied complete with an onboard control panel with a microprocessor that can be configured to sense abnormal engine operating conditions and take corrective action. i.e. shutting down the engine, cooling down etc.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

The control panel shall:

- [B] Have a dedicated viewing window.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] Allow for fault history logging.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[D] Date and time stamp all faults.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[E] Display breaker statuses.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[F] Allow for the monitoring of the environmental temperature and humidity.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[G] Have high graphics resolution with an alphanumeric touch screen.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[H] The control panel shall display at least the following:

- Ratio of current transformers
- Manual Start & Stop Button
- Hour meter
- Cyclometer counter
- Rating of circuit breaker in Amp and fault level in kA
- Setting range of overload trips & instantaneous trips
- Generator battery charging status indicator

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[I] The control panel shall contain the following digital readouts:

- Engine oil pressure
- Coolant temperature
- Engine RPM
- System DC Volts
- Engine running hours
- Generator frequency
- Percentage of rated Power
- kVA, kVAR, Power Factor, kW & kWhr meters

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[J] The control panel shall contain the following measurements:

- Generated output power
- Output voltage and current;
- Load percentage;
- Power factor;
- Fuel level;
- Oil level;
- Battery voltage; and
- Battery charge/discharge current.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[K] The control panel shall provide the following alarms:

- Battery charger ac failure
- Charging alternator failure
- Emergency Standby Power (ESP) supplying load
- Emergency and unexpected stops
- Engine stop failure
- Faulty switch position
- Generator overspeed & overload
- Generator contact failure
- High water temperature
- Low oil pressure and low fuel main tank
- Low and high coolant temperature & levels
- Low and high battery voltage
- Maintenance required
- Mains contactor failure
- Over and under frequency

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.4 Generator Battery

The bidder shall provide the following information regarding the generator's battery:

[A] Generator Battery voltage, Number of cells & capacity in crank amp shall be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] The generator set shall be supplied with a battery. The battery will be housed in a suitable battery box and have enough capacity to provide the starting torque stipulated by the engine manufacturer. This battery shall be of the heavy duty "low maintenance" type.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] The generator should have its own voltmeter and ammeter for its battery charging circuit.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[D] The diesel generator system shall be equipped with Direct Current (DC) batteries rated for the starting motor voltage and current, and the control system.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[E] The batteries shall be kept in a clean and cool compartment of the unit and shall be mounted separately from the vibrating parts of the diesel generator system.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[F] The batteries shall be mounted such that they are protected from potential corrosion.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [G] The batteries shall be charged through the battery charger when the diesel generator system is not in running mode.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [H] The batteries shall be charged through the charging generator when the diesel generator system is in running mode.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [I] The batteries shall operate under the conditions specified herein for a minimum period of 3 years.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [J] The starting battery capacity shall be such that the full cranking current can be drawn for at least 30s, whilst maintaining the required discharge voltage.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.5 Fault Current Rating

[A] All equipment shall be designed to withstand a fault current of at least 5 kA.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.6 Deviation from Specification

[A] Any deviation from the specification shall be indicated.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.7 Submittals

The following submittals shall be supplied for the fixed and mobile generators by the bidder:

[A] Factory published specification sheet indicating standard and optional accessories, equipment ratings etc.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] Manufacturer's catalogue of all auxiliary components such as isolators, battery chargers, silencer, exhaust flex, main circuit breaker, etc.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] Dimensional elevation and layout drawings of the generator sets, enclosure and transfer switch gear and related accessories.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] Engine mechanical data at varying loads up to full load, including heat rejection, exhaust gas flows, combustion air and ventilation air flows, noise data, fuel consumption, etc.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [E] Generator electrical data including temperature and insulation data, cooling requirements, excitation ratings, voltage regulation, voltage regulator, efficiencies, waveform distortion and telephone influence factor.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [F] Full performance curves and illustrations of the equipment offered.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.8 General

- [A] The Contractor shall decommission and dispose of the existing generators in accordance with ATNS's environmental policy, practices and procedures.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] A Turn-Key solution addressing all project requirements is required, the Contractor shall supply, deliver and install a fixed generator at the FAOR RX site as well as a FAOR mobile generator.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The Contractor shall take full responsibility of all piping, civil and electrical works required for the installation of the system including painting, wall filling etc.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] The Generators shall have a design life of at least 15 years.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.9 Equipment Installation

- [A] The ATNS Project Manager reserves the right to attach ATNS Company officials to the Supplier's installation party during installation, setting up and commissioning of the equipment for gaining practical experience (OJT) on the equipment.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The final parameters and settings will be recorded by the Contractor on the successful installation and will be made available to the Company as a part of the As-Built document.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.10 Cabling

The bidder shall provide the following information regarding the cabling:

- [A] All cables shall be labelled, colour coded and include a numerical identifier, cable type, source (unit name, port, location) and destination (unit name, port and location).

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] A proposed interconnection diagram depicting the flow of communication and power between the various system components shall be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] All power cables shall be neatly installed in cable trays and/or ducts as applicable and shall not run parallel to communication cables.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] All high voltage cables shall be designed according to local and international standards such as SANS 6289:2007 and IEC 60183:2015.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.11 Software

- [A] All equipment related software shall be supplied on Compact Disk (CD) and be placed under configuration control.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] All CDs supplied may be copied by the Company for backup purposes and internal distribution.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The laptops and/or desktop computers required to run the software provided under this project and to support the generator HMI shall be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.12 Environmental Conditions

- [A] The systems offered shall operate within specifications under the following environmental conditions and tolerances.

Indoor Conditions	Operational Temperature Ambient	-5 °C to +60 °C
	Relative humidity	<95% in the range of –5°C to +35°C <60% in the range of + 35°C to 40°C
	Height above sea level	1 694 m

Table 1: Environmental parameters

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REERENCE TO ADDITIONAL INFORMATION HERE]		

3.13 Regulations

- [A] The installation shall be performed in accordance with at least the following Acts and regulations:

- SANS 10142-1:2017 Part 1: Low-voltage installations;
- SANS 8528-1:2008 2016 Reciprocating internal combustion engine driven alternating current generating sets Part 1 - 9: Application, ratings and performance.
- SANS 10131:2004 above-ground storage tanks.
- SAN/S 60529: 2013 degrees of protection provided by enclosures
- SANS 1652:2013 Battery chargers – Industrial type.
- The latest issue of SABS 0142: “Code of Practice for the Wiring of Premises”.

- The Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended.
- The Local Government Ordinance 1939 (Ordinance 17 of 1939) as amended.
- The Electricity Act 1984 (Act 41 of 1984) as amended.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] SANS compliance certificates shall be provided following the successful Site Acceptance Tests and commissioning.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.14 Electrical Work

The following electrical work shall be completed:

- [A] The Contractor shall be responsible for disconnecting the current generator from the DBs and shall be responsible for supplying, installing and connecting power cables from the new generator to the DBs for three phase power and balancing the electrical load on all phases.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] Details on the circuit breakers required in the DBs that will be compatible with the installation of the new generator shall be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The Contractor shall replace the circuit breakers in the DBs which are not compatible with the new generator.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] The Contractor shall be responsible for the supply of an Electrical Compliance Certificate (ECC) as issued by a certified electrical contractor for all DBs worked on and all electrical work completed.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [E] The Contractor shall be responsible for verifying that the connection of the Generator to the DBs earth is adequately sufficient and in a good condition.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[F] The Contractor shall ensure that all equipment installed is properly earthed.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[G] A wiring diagram depicting the proposed layout of the power cables shall be provided as part of the as built.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[H] Each system shall be supplied with an isolator switch installed between the equipment and the mains power supply.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.15 Warning Notices

[A] The Occupational Health and Safety Act 83 of 1993 shall be consulted and approval of the wording from this department obtained, prior to ordering the following notices and indicate letter colouring for all notices. These notices must be placed in the relevant places concerned with the Generator:

- Unauthorised entry prohibited.
- Unauthorised handling of equipment is prohibited.
- Procedure in case of electric shock.
- Procedure in case of fire.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] These notices shall be made of a non-corrodible and non-deteriorating material.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] All safety signages shall be engraved.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[D] The Generator area shall include an additional notice to include the following words:

DANGER: This engine will start without notice. Turn selector switch on control board to "OFF" before working on the plant.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[E] The Contractor shall also install other relevant signage associated with the installation of the system.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.16 Manufacturing

[A] The supplier's product manufacturing processes considering environmental aspects shall be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.17 Commissioning

[A] The Contractor shall perform a quality test before commissioning of the systems and shall submit a report as a part of the documentation.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] The Contractor shall perform an overall assessment of the site loading to confirm the generator operation after contract award and before delivery and installation of the system.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] A certificate of compliance to the scope of work shall be provided at the Site Acceptance Test on the completion of all work.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.18 Design and Specification

[A] A control panel for the control and monitoring of the engine and generator shall be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] A generator mounted control panel for complete control and monitoring of the engine and generator set functions, shall include the following:

- Adjustable cool down timer.
- Adjustable cycle cranking.
- Automatic start/stop operation.
- Digital AC metering with phase selector switch.
- Digital engine monitoring.
- Emergency stop push-button.
- Fault logging.
- Self-diagnostics capabilities.
- Shutdown sensors and alarms with horn and reset.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.19 Generator Alarm

[A] The generator sets shall be connected to a siren that will sound once a fault has been detected.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.20 Interlocked Contactors

- [A] To prevent the alternator being electrically connected to the mains supply when the mains supply is on and vice versa, a safe and fail proof system of suitably interlocked contactors shall be supplied and fitted onto the control panel.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.21 Load Acceptance

- [A] The generator set shall accept 75% of the electrical load at the site, 10 seconds after the starter motor is energised and the remaining 25%, 5 seconds thereafter, therefore 100% load acceptance shall not exceed 15 seconds.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.22 Fuel Drip Tray

- [A] A drip tray shall be mounted below the fuel tank and shall be large enough to collect any fuel that drips from the tank accessories.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The drip tray shall be manufactured from mild steel.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.23 Exhaust Silencer

- [A] A critical type silencer, companion flanges, and flexible stainless-steel exhaust fitting properly sized shall be furnished and installed according to the manufacturer's recommendation.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] Mounting the silencer shall be done by the contractor, so that its weight is not supported by the engine and exhaust system growth due to thermal expansion will not be imposed on the engine.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] Exhaust pipe size shall be sufficient to ensure that exhaust backpressure does not exceed the maximum limitations specified by the engine manufacturer.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] Information which indicate that the exhaust fumes that leaves the exhaust pipe are within environmental regulations shall be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [E] The exhaust pipe diameter shall be 50cm, to allow exhaust fumes to leave the generator and flow to the outside of the building. Figure 2 shows the current exhaust pipe of the generator that needs to be replaced.



Figure 2: Exhaust pipe system

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.24 Derating conditions

- [A] The complete generator set shall be de-rated according to the site conditions with all components tropicalised.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
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[INSERT FULL RESPONSE FOR EVALUATION HERE]
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[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]

3.25 Start Delay

[A] Starting shall be automatic in the event of a mains failure.

COMPLIANCE (C/PC/NC/Noted)	Only responding C/PC/NC/Noted will not be accepted without proof.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] A 0-15 second adjustable start delay timer shall be provided to prevent start-up on power trips or very short interruptions.

COMPLIANCE (C/PC/NC/Noted)	Only responding C/PC/NC/Noted will not be accepted without proof.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.26 Stop Delay

[A] A stop delay timer shall be provided for the set, to keep the set on load for an adjustable period of five to ten minutes after the return of the mains supply, before changing back to the supply.

COMPLIANCE (C/PC/NC/Noted)	Only responding C/PC/NC/Noted will not be accepted without proof.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.27 Generator Fuel consumption

[A] The fuel consumption of the complete generating set in litres per hour (l/h) at Full load, $\frac{3}{4}$ load and $\frac{1}{2}$ load shall be indicated.

Note: A tolerance of 5% shall be allowed above the stated value of fuel consumption.

COMPLIANCE (C/PC/NC/Noted)	Only responding C/PC/NC/Noted will not be accepted without proof.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.28 Diesel generator system operation

[A] The no load to full load voltage regulation shall be within 1% of rated value.

COMPLIANCE (C/PC/NC/Noted)	Only responding C/PC/NC/Noted will not be accepted without proof.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] The no load to full load frequency variation must be within 0.25% of rated value.

COMPLIANCE (C/PC/NC/Noted)	Only responding C/PC/NC/Noted will not be accepted without proof.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] The Total Harmonics Distortion (THD) at full load shall not exceed 5% of rated voltage and no single harmonic shall exceed 3% of rated voltage.

COMPLIANCE (C/PC/NC/Noted)	Only responding C/PC/NC/Noted will not be accepted without proof.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.29 Diesel generator system protection

The following information regarding the diesel generator system protection shall be provided by the bidder:

[A] Diesel generator system earthing shall be provided to meet system protection and safety requirements.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] Provision shall be made for the earthing of the plant to the earth mat.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] The diesel generator system frame shall be flexibly earthed to the earth continuity conductor.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[D] A non-copper cable shall be used for earthing any exposed equipment.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

The diesel generator system shall be equipped with:

[E] Protective relays for protection against faults occurring both inside and outside the diesel generator system.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[F] An over-current relay to monitor and protect the alternator.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[G] The over-current relay shall activate the connected Circuit Breaker (CB) to provide protection against overload and short-circuit.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[H] Proof of the system relay and other protective mechanisms been factory tested shall be provided, with the results of the factory tests.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[I] Circuit diagrams and safety placards shall be clearly displayed on the diesel generator system.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[J] The diesel generator system shall be protected against the following:

- over speed.
- fuel overflow.
- direct lightning strike.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3.30 Diesel storage system

[A] The storage tank shall be supplied with a spill control system in line with the environmental management requirements as stipulated herein.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] The diesel level sensor in the storage tank shall be installed to control and maintain the predetermined limits.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] The diesel tank level shall be enabled for local and remote monitoring.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[D] The fuel system shall be equipped with a water and fuel separating device.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[E] The fuel system shall have a water content level alarm system installed.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[F] The fuel system shall be equipped with a fuel level monitoring system to give alarm indication at 25%, 50% and 75% loading.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[G] The fuel system and associated piping requirements shall not be constructed from material that may cause contamination i.e. galvanised material, zinc material, copper etc.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [H] The diesel storage tanks shall be supplied with a dedicated earthing facility to allow for connection of the earth conductor to the frame of the set.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>		
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>		

CHAPTER 2: SPECIFICATIONS FOR THE FIXED GENERATOR

1 Site Information

[A] The following table provides the dimensions of the VHF RX site, as applicable to the installation of the fixed generator, that must be taken into consideration for the provision and installation of the generator and its components. (I)

System dimensions	Length	2.1 m
	Breadth	1.0 m
	Height	1.5 m
Entrance door	Height	2 m
	Breadth	0.75 m
Room dimensions	Length	2.96 m
	Breadth	2.66 m
	Height	3.0 m

Table 2: Dimensions

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

2 Building grills

[A] The generator can be installed or brought through the entrance door by its components with dimensions as shown in table 2 above. Alternatively, the Contractor may safely remove the grill on the side of the building entrance shown in figure 3 below, during installation of the generator and shall replace the grill once the generator has been commissioned. The bidder shall describe their approach regarding these options.



Figure 3: Building grill on side entrance

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3 Automatic Transfer Switch

[A] The Automatic Transfer switch ratings in amps and volts for its relays and its protection mechanism with adequate substantiation shall be indicated.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] The Ratings in amps of the change-over equipment, mains on load isolator, the by-pass switch & circuit breaker to outgoing feed with adequate substantiation shall be indicated.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] Once a fault on the mains supply had been detected, the automatic control feature shall make provision for three consecutive starting attempts on the generator set, thereafter the set shall be switched off and the start failure relay on the control panel shall provide a visible and audible indication of the fault.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] The system shall be equipped with a load transfer switch to allow for manual changeover.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [E] Three phase status monitor (open/close contact) of the infeed three-phase power supply to the receiver site shall be provided such that if power loss occurs on any one of the phases, the generator set will switch on and begin operation, this is a required feature since there is a problem of losing some phases during power failures. The bidder shall provide details regarding the offered status monitor.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

4 Transition Plan

- [A] A transition plan shall be in place to support the replacement of the current generator with a minimal disruption of service.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] It is proposed that the transition plan shall incorporate the connection of a mobile generator to ensure the continuation of services in the event of a mains power failure during the entire installation period.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] Figure 4 below shows the plug-in port for the 3-phase mobile generator. A draft proposed transition plan shall be submitted by the bidder.



Figure 4: Entrance and mobile generator plug in port

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

5 Isolator switch installation

- [A] The new fixed generator installation shall include an isolator switch such that a user can simulate a power failure to test the automatic start function of the generator set. This means that by turning the isolator switch the main power supply to the VHF receiver site is cut and the generator system would immediately begin operation. The bidder shall describe their understanding of this requirement.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] Figure 5 below, shows the cable supply and is labelled as “main cable”, which shall be isolated from the new generator system.



Figure 5: Generator power cables

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

6 Monitoring

- [A] The generator at the VHF RX site, shall be connected to the existing OTN node via TCP/IP connection. The OTN nodes, connected to the ATNS airport fibre optic backbone, provides various interfaces and protocols for the connection of the different systems at the different sites on the airport to the ATNS equipment room in the FAOR main operational complex.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

7 Diesel generator storage system

- [A] The generator system shall be supplied with a factory fitted diesel day tank with all the required auxiliaries i.e. pipping, pumps, valves etc. to enable it to provide generator backup at full load for a minimum period of 24 hours.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

CHAPTER 3: SPECIFICATIONS FOR THE MOBILE GENERATOR

1 General

- [A] The total weight and overall dimensions of the generator, enclosure and trailer with its wheels shall be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The operating instructions shall be included near the operating panel.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The diesel generator system shall be factory tested to verify operation at rated power.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] All wiring shall be routed and housed to be clear of any heat sources.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [E] The mobile diesel generator system shall be mounted on a heavy-duty base that provides vibration isolation.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [F] The mobile diesel generator system shall be supplied complete with all the required auxiliaries to enable for connection and operation.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [G] The mobile diesel generator system shall be supplied with a self-contained fuel system.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [H] The mobile generator shall be supplied with a wheel locking/clamping equipment to deter equipment theft.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

2 Mobile Diesel generator system enclosure

[A] The mobile diesel generator system enclosure shall:

- Allow for access doors from both sides of the diesel generator system, and a separate door for the control panel.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Allow for a vertical exhaust discharge.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Allow for adequate amount of ventilation, for diesel generator system temperature regulation.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Be fitted with removeable dust filters.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Be rated at IP 54

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Be lockable and weather-proof.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Be compliant with the relevant SANS standards for having a generator fitted on it.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Be weather-proofed and have a sound-attenuated canopy.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Be painted white.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Be a factory tested industrial steel type enclosure.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Have sufficient lightning and surge protection.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Include ATNS signage and contact numbers.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The enclosure construction shall be in accordance to the SANS 60529: 2013 degrees of protection provided by enclosures.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The outlet for the generator shall be mounted on the enclosure. The outlet shall be an IEC 60309 (formerly IEC 309) socket. The plug for this socket shall also be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3 Mobile generator access doors

- [A] The mobile generator access doors shall:

- Be equipped with gaskets.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Be constructed such that they allow for easy access to all the maintenance items i.e. filters, water jacket heater etc.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- Make provision for padlocking.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] All door handles should be recessed latching type.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] The doors and viewing glass shall allow for easy access during maintenance.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[D] The control panel door shall be fitted with a Plexiglass window to allow for viewing.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[E] All external signages shall be engraved and weather resistant.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [F] All access points to the diesel generator system shall be locked and supplied with three sets of keys.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [G] The interior of the enclosure shall be equipped with a fire-retardant foam insulation, extended to the intake and discharge ducts.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [H] The enclosure and any other area that is susceptible to corrosion shall be prime coated as per manufacturer standards and recommendations.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

4 Mobile Diesel generator system trailer-mounting

The mobile diesel generator system trailer shall:

- [A] Be licensed and supplied with a valid road worthy certificate.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] Be easily towed, by a van such as a Ford Ranger.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[C] Be compliant with the relevant SANS standards for having a generator fitted on it.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[D] Conform to the industry safety standards.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[E] Have a heavy-duty welded steel frame construction.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[F] Have a spare wheel supplied that is mounted on the trailer.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [G] Meet the Gross Vehicle Weight Rating (GVWR) requirements with the generator, its fuel tank, when it is fully fuelled and all loaded accessories.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [H] Fitted with warning signs as per regulations.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [I] Fitted with a compliant and serviced fire extinguisher.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

5 GSM Commander

- [A] The mobile generator shall be integrated to a GSM Commander.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The GSM commander shall alert technical support of various alarms via SMS as and when it occurs.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The most important alarms such as oil level, fuel level and generator operational status shall be connected to the GSM commander. The bidder shall demonstrate their understanding of this requirement.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] The sim card for the GSM commander shall be supplied by ATNS. (I)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

6 Mobile Diesel generator storage system

- [A] The mobile diesel generator system shall be supplied with a factory fitted day tank with all the required auxiliaries i.e. pipping, pumps, valves etc. to enable it to supply full load for a minimum of 48 hours.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The design and construction of the fuel storage system for the mobile diesel generator system shall allow for the inclusion of interior baffles to contain fuel movement during transit.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>		
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>		

CHAPTER 4: PROJECT MANAGEMENT

1 General

- [A] The Contractor shall establish, implement and maintain extensive and comprehensive Project Management plans throughout the period of any contract arising from this bid. These plans shall be submitted to the Company for information and reporting purposes. Draft plans shall be submitted with the bid and shall be refined as necessary during the Contract development and reporting phases.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The project shall be divided into management plans and activities, which can be managed, monitored, and measured in terms of duration, cost, and resources. These activities shall be organised into logical sequences. Such logical activity sequences shall be used as the main framework for planning, budgeting, controlling and reporting to the Company throughout the period of the Contract.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The Contractor shall utilise an automated Project Management Scheduling tool to assist in the overall control of this project. The Company may require direct access to such Project Management Scheduling System for at least monitoring and audit purposes. Indication shall be made on the Project Management Scheduling tool they are using.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] Project Management shall encompass the management of all the various facets of the project as defined in the Contract. These include design, development, production and supply of all equipment and its auxiliaries. Resource allocation and management of sub-contractors. On-site installation and construction. As well as all Integrated Logistic Support activities such as testing, transitioning, commissioning and transportation movements etc.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

2 Project Management Plan

- [A] A detailed draft Project Management Plan (PMP) with the proposal response shall be provided. The Project Management Plan will be a formally accepted and approved document used to manage and control project executions throughout the project life-cycle phases. The PMP shall be comprehensive and detail the activities necessary to successfully complete the project.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3 Project Status Reports

- [A] The Contractor shall provide at monthly intervals (or at other such mutually agreed intervals) Project Status Reports to the Company, which documents project implementation performance to date, and makes recommendations for future implementation and changes. The project status shall be presented relative to the project schedule critical path and cost and shall also include a Risk Report. The Risk Report shall identify risks and the mitigation measures taken to either manage or avoid the risks. The Project status report shall also include the Master Project Schedule and Schedule Analysis. The Contractor shall promptly submit to the Company any Master Project Schedule which, when updated, shows a negative float or indicates a significant change to the delivery schedule. A submission of a project report template that addresses the above requirements shall be provided.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The contractor shall provide project status reports at two-weekly intervals, this shall capture the project performance to date and make recommendations for future implementations and changes. (D)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The contractor shall provide the acceptance of the system once commissioning has been completed. (D)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] The contractor shall provide as-built drawings of all systems on commissioning of the system. (D)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

4 Master Project Schedule

- [A] The contractor shall develop, maintain and track progress against the Master Project Schedule, which shall be organized to depict flow of work, task interdependencies and interrelationships necessary to accomplish the program objectives from contract award to completion. This Master Project Schedule shall be broken down to a sufficient level of detail and included in this bid. (D)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] A detailed Master Project Schedule for the entire management of the project shall be developed. (D)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] Project Status shall be presented relative to schedule critical path and cost and shall include a Risk Report, which will identify risks and place measures in place to manage or avoid these risks. (D)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] The project schedule includes all contractual specified milestones, identifies the critical path and is linked to the Work-Breakdown Structure. (D)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

5 Project Review Meetings

- [A] The Contractor shall attend Progress Review Meetings at monthly intervals (or at other mutually agreed intervals) to present the monthly Project Status Report to the company. The regular Progress Review meetings shall be held at the airport premises or at the Company's Office, or any other mutually agreed locations. A copy of the written Project Status Report and meeting presentation material shall be submitted to the Company at least one week prior to the Progress Review Meeting.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The Contractor shall be represented by appropriate key personnel in each significant area to be considered during the meeting to enable effective discussion of agenda items and the Progress Report. The Project Manager and relevant specialists and support personnel shall represent the Company. The Project Manager shall chair the Progress Review Meetings.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The Contractor shall submit a draft Agenda for Company concurrence at least two weeks prior to a scheduled Progress Review Meeting. The Company may submit items for inclusion in the Agenda. The Contractor shall provide administrative support for the progress review and/or technical review meeting and prepare and distribute a draft record of the minutes of the meeting within one week of the meeting. The minutes are to include an Action Item List. The Company and the Contractor shall submit any updates to the Action Item List during the meeting. The Company and the Contractor prior to the next meeting shall review the draft minutes for accuracy.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] The Contractor and the Company will each meet their own related costs associated with attending Progress Review Meetings.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

6 Installation Management Plan

6.1 General

- [A] The Contractor shall prepare an Installation Management Plan to clearly indicate the technical management of proposed methods, activities and work packages for installation, testing integrating and commissioning the generators, while the service provided by the existing generators continues. The Plan shall furthermore indicate how the transition from the existing installation will be achieved, leading to the commissioning and acceptance of the generators. A draft Installation Management Plan shall be submitted.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] A draft safety plan for the associated scope of work shall be submitted. (D)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

6.2 Work Breakdown Structure

- [A] The Work Breakdown Structure enables the Company to maintain visibility of the project elements. A draft WBS for FAOR RX site shall be submitted. The WBS shall identify all activities and work packages required from contract award to successful completion and commissioning of the generators. The WBS shall be included in the draft Construction and Installation Management Plan to be submitted as part of the proposal response.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

6.3 Statement of Work (SOW)

- [A] A SOW shall be provided, for each of the identified activities and/or work package which includes a detailed description of the methodology and resources required to implement and complete the work package. The Statement of Work will also be used as an input into the development of the Site Safety File. The SOW shall be included in the draft Installation Management Plan to be submitted as part of the proposal response.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

6.4 Resource Allocation Plan

- [A] A Resource Allocation Plan, which identifies the resources, including sub-contract resources, to be applied to each element, activity and/or work package of the project shall be submitted. The Plan shall clearly identify all project related organisational breakdowns, responsibilities and work proposed. The Resource Allocation Plan shall be included in the draft Installation Management Plan to be submitted as part of the proposal response.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

6.5 Resumes of Key Personnel

- [A] The Contractor shall ensure that only appropriately qualified and experienced personnel will be employed on the tasks and/or work packages identified. The Company shall retain the right to direct the Contractor to remove from the project any personnel considered by the Company to be inappropriately qualified or experienced, or unacceptable to the Company. The response shall include as part of the resource allocation the resumes of key personnel to be dedicated to the project.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

6.6 Technical Reviews and Meetings

- [A] The Contractor shall be required to conduct technical reviews and meetings with Company personnel either at the Company Headquarters or on-site at the airport. It is preferred that these reviews be held concurrently with Progress Review Meetings, where possible. The below requirements are representative requirements, certain alternative plans may or may not be offered. These plans must list and describe the Technical Reviews and Meetings they would propose for this project. The technical reviews and meetings should consist of at least a Site Survey and Acceptance Test Readiness Review. (I)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

6.7 Installation and Construction Specification

- [A] A draft installation and construction specification shall be submitted. The specification shall indicate the comprehension of the scope of work required.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

7 Testing & Commissioning

7.1 Test and Evaluation Master Plan

- [A] The Contractor shall prepare, implement and maintain a Test and Evaluation Master Plan (TEMP) that describes the plan for all Tests and Evaluations to be undertaken in demonstrating compliance with the technical, operational, contractual and performance requirements of the project. This Plan shall include an Acceptance Matrix, which identifies all deliverables, and methods of testing proposed, to demonstrate compliance. A draft Test and Evaluation Master Plan shall be submitted with the bid.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

7.2 Acceptance and Commissioning Tests

- [A] Specific testing and evaluation procedures for the Acceptance Tests (e.g. Physical Inspections, Final Site Acceptance Tests etc.) shall be defined and detailed in the Test and Evaluation plan for each project deliverable. Indication shall be made of the type of test equipment required for each test described and shall be clearly documented.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

8 Risk Management Plan

8.1 Risk Policy and Procedures

- [A] The proposal response has an outline of their risk policy and methodology for risk identification, assessment and abatement for all equipment and services to be supplied shall be submitted under this project.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

8.2 Risk Abatement

[A] The Contractor shall provide, during the execution of the contract, information which identifies risk, the estimated level of risk, the consequences of failure, and risk reduction strategies associated with:

- Construction and Installation objectives;
- Equipment and cables; and
- Construction and Installation schedules.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

8.3 Risk Report

[A] The Contractor shall provide a Risk Report at each Progress Review Meeting to indicate the status and action associated with identified risk items. The format of the Risk Report shall be mutually agreed.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

8.4 Delivery of Project Risk Management Plan

- [A] A detailed Project Risk Management Plan after contract award and completion of the site survey, before implementation shall be submitted.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

9 Quality assurance

9.1 QA Policy and Procedures

- [A] The Contractor shall include in their details, the company quality assurance policy and procedures and relevant accreditations held by the company.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

9.2 Responsibility for Quality

- [A] The Contractor shall be responsible for ensuring that the quality of equipment and installation materials are supplied in accordance with the terms of the Contract, and any construction and installation activity performed, fully conforms to the prescribed requirements. The Company will undertake a monitoring and audit role in relation to the Quality Plan and program to determine whether equipment, construction and installation deliverables meet the contractual requirements.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

9.3 Audit Reports

- [A] The Contractor shall prepare monthly Audit Reports in respect of the project as part of his internal QA procedures and provide details of any corrective actions taken. Audit Reports shall be submitted for evaluation by the Company during Project Progress Review Meetings.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

9.4 Company Quality Inspections

- [A] The Company reserves the right to perform inspections, conduct tests or perform audits at the Contractor's or sub-contractors' premises at any time when such actions are deemed necessary to ensure supplies and services conform to the specified requirements.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

9.5 Delivery of Project QA Plan

- [A] A detailed Project Quality Assurance Plan after contract award and completion of the site survey shall be submitted.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

10 Occupational Health and Safety Plan

10.1 Safety File

[A] A Safety File shall be submitted as per the Occupational Health and Safety Act No. 85 of 1993, SABS 0142-1981 requirements for approval by ATNS before any construction work may commence at the site. The draft Safety File to be submitted shall address the minimum requirements of the Occupational Health and Safety Act No. 85 of 1993 as listed below. After contract award, the detailed Safety File shall be further developed by the successful Contractor.

Table: Minimum Requirements for Draft Safety File

No	Item	Included in Draft SHE File	Comments
1.	Health and Safety Policy (signed)	Yes	
2.	Department of Labour - Valid Letter of Good Standing.(COID)	Yes	
3.	Public Liability Insurance Certificates (Valid)	Yes	
4.	Scope of Work including the Company Organogram, resource allocation and individual OHS responsibilities	Yes	Based on proposal offered
5.	Method Statements	Yes	Based on proposal offered
6.	Notification of Construction Work (Where Applicable)	Yes	Completed form and signed for transmission to DoL after contract award and completion of SHE File
7.	OHS 37(2) Mandatory Form <ul style="list-style-type: none"> Agreement between ATNS and Contractor 	Yes	Completed form where possible. Agreements will be included after contract award and completion of SHE File
8.	Mandatory Agreements – Between Principal Contractor and Sub-Contractors	Yes	Signed agreement, if any
	Legal Letters of Appointments 16.1 – CEO	Yes	All appointment letters must be duly signed.

No	Item	Included in Draft SHE File	Comments
4..	CR 8.5 – Construction Health and Safety Officer CR 8.1 - Construction Manager CR 8.7 - Construction Supervisor CR 9(1) - Risk Assessor GAR 9(2) - Incident Investigator CR 13.1(a) - Excavations Supervisor CR 23 - Construction Vehicle/Mobile Plant Supervisor All other Legal Appointees as applicable		
5	Competency Certificates for all Legal Appointees.	Yes	Valid certificates for all Appointees included
6	ATNS OHS Specifications	No	ATNS Specifications to be provided after contract award for completion of SHE File
7	Health and Safety Plan	Yes	In draft format and must be based on work to be undertaken and in relation to the proposal offered
8	Risk Assessment	No	To be developed in conjunction with ATNS after contract award and during completion of the SHE File
9	Baseline Risk Assessment + Risk Matrix	No	To be developed in conjunction with ATNS after contract award and during completion of the SHE File
10	Medical proof of all Contractor employee's physical and psychological fitness to work ON SITE at the individual airports listed	No	Valid medical certificates will be submitted after contract award for inclusion in the SHE File

No	Item	Included in Draft SHE File	Comments
11	Airside Safety Plan	No	To be developed in conjunction with ATNS after contract award and during completion of the SHE File
12	Check Sheets and Registers Personal Protection Equipment Powered Mobile Plant Public Safety Site Establishment Trenching and excavation Backfilling and compaction Fire fighting Inspection First Aid Box and Equipment Hand Tools Hygiene Facilities Daily Plant Environmental	Yes	
13	Incident Investigation and Reporting Procedures	Yes	Comprehensive Procedures and all forms for reporting
14	Toolbox talks	Yes	List of subject matters applicable and record keeping thereof
15	Emergency Plan	No	To be developed after contract award for inclusion in the SHE File
16	Waste Management Plan	Yes	Detailed Waste Management Plan

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

11 Site Survey

11.1 Requirements

[A] A comprehensive site survey of the civil works, for the FAOR receiver site generator shall be provided. The site surveys shall be completed at the beginning of the project activities and at least before any equipment is ordered. The site survey shall include but not be limited to: (I)

- Detail investigation of the status of the current generator's electrical connections including remote monitoring interfaces
- Identification of the cable routing
- Actual measurements of route lengths
- Detail inspection of the available space on existing cable trays
- Photographs of all aspects identified

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] A draft detailed site survey and use of the information gathered to update planning, design, installation and implementation specifications shall be submitted.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

12 Environmental Management Programme

- [A] The Contractor shall develop an Environmental Management Programme (EMPr) based on identified activities which may have potential or actual environmental impacts before the commencement of work in accordance to the National Environmental Management Act (No. 107 of 1998) and associated environmental legislation as well as ATNS' environmental specifications. The bidder to submit a draft environmental management programme with their submission. (D).

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] A Draft Environmental Management Programme (EMPr) shall be provided, specific to the project scope. The environmental management programme shall address, without limitations, the following: (D)

- Energy efficiency pertaining to all aspects of the project;
- The use of Environmentally sustainable materials and products;
- Biodiversity management i.e. soil erosion, clearance of vegetation, rehabilitation of the site, all flora and fauna protection;
- Waste and water management;
- Air quality management i.e. dust suppression; and
- Visual and aural impacts.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] A suitably qualified environmental officer or service provider shall render the services required as per EMPr activities associated with this project. (D)

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

CHAPTER 5: LOGISTICS & MAINTENANCE

1 Warranty

[A] The fixed and mobile generators shall have a minimum 1-year warranty.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] The warranty shall cover all system malfunctions such that it shall maintain the system to its initial commissioning status.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

2 Operational Training

[A] Operational training shall be provided to three technical staff, on the use of these systems at commissioning, to monitor system status and contact the contractor when major faults occur.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

[B] The operational manual shall be delivered with both systems.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

3 Maintenance Contract

- [A] A detailed maintenance contract shall be provided, clearly indicating all required maintenance activities such as preventative and corrective maintenance per annum as well as, all labour and spare parts costs for a period of 5 years. 1 year warranty and 4 years support and maintenance.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [B] The maintenance contract shall be for a period of 4 years and commences after the 1-year warranty for the mobile and fixed generators. However, ATNS reserves the right to include or withdraw the 4-years maintenance in the final contract. The bidder shall include as part of the bid the technical and pricing schedule for the 4-years support and maintenance for both generators.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [C] The contractor shall therefore be responsible to keep the system fully operational for a total duration of 5 years. However, ATNS reserves the right to include or withdraw the 4-years maintenance in the final contract. The bidder shall include as part of the bid the technical and pricing schedule for the 4-years support and maintenance for both generators.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

- [D] Routine maintenance for the generators during the one-year warranty period shall be described.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		

4 Service-Level Agreement

- [A] Should the system or any of its components malfunction, the contractor shall return the system to full operation within 12 hours. This also applies to the warranty and maintenance contract.

COMPLIANCE (C/PC/NC/Noted)	<i>Only responding C/PC/NC/Noted will not be accepted without proof.</i>	
[INSERT FULL RESPONSE FOR EVALUATION HERE]		
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]		