forestry, fisheries & the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: + 27 86 625 1042

Ref.: PAEL/KZN/TNPA/01/04/2025-4483
Enquiries: Mr. D Makhubele
Tel: (012) 399- 9800/ **Fax:** (012) 359 3625/**Email:** DMakhubele@dffe.gov.za

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PROVISIONAL ATMOSPHERIC EMISSION LICENSE AS CONTEMPLATED IN SECTION 43 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, (ACT NO. 39 OF 2004)

The Provisional Atmospheric Emission License (PAEL) issued to Transnet National Port Authority (TNPA) in terms of section 41(1) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("the Act"), in respect of Listed Activities No.1.2: Liquid Fuel Combustion Installation and No. 1.4: Gas Combustion Installations**.** The PAEL has been issued based on information provided in the company's application dated 31 March 2025; observations made during pre-licensing inspection on 16 May 2025 and information that became available during processing of the application.

The license is valid for a period of **twelve (12) months** from the date of the commissioning of the listed activities. The Licensing Authority must be informed in writing regarding the date of the commissioning of the listed activity/activities.

The reason for the issuance of the current license is: **New Application**.

The PAEL is issued subject to the conditions and requirements set out below which form part of the license and which are binding on the holder.

1. ATMOSPHERIC EMISSION LICENSE ADMINISTRATION

Name of the Licensing Authority	Department of Forestry, Fisheries and the Environment
Atmospheric Emission License Number	PAEL/KZN/TNPA/01/04/2025-4483
Atmospheric Emission License Issue Date	23 July 2025
Atmospheric Emission License Type	Provisional
Review Date, not later than	12 months after commencement of listed activities

2. ATMOSPHERIC EMISSION LICENSE HOLDER DETAILS

Enterprise Name	Transnet National Ports Authority (TNPA)
Trading as	Transnet National Ports Authority (TNPA)
Enterprise Registration Number (Registration Numbers if Joint Venture)	1990/000900/30
Registered Address	TNPA Administration Building, Port of Richards Bay, Alton, Richards Bay, South Africa
Postal Address	P O Box 181, Richards Bay 3900, South Africa
Telephone Number (General)	035 905 3203
Industry Sector	Energy Generation
Name of Responsible Officer	Nosicelo Biyana
Name of Emission Control Officer	Lungile Nyembe
Telephone Number	0673670110
Cell Phone Number	0673670110
Fax Number	N/A
Email Address	nosicelo.biyana@transnet.net
After Hours Contact Details	0673670110
Land Use Zoning as per Town Planning Scheme	Industrial

3. LOCATION AND EXTENT OF PLANT

Physical Address of the Premises	Erf 397 of Township Richards Bay
Description of Site (Erf)	Port of Richards Bay
Coordinates of Approximate Centre of Operations	North-south:-28.785672° East-west: 32.031792°
Extent (km²)	0.005 km2
Elevation Above Mean Sea Level (m)	9.1 m
Province	KwaZulu Natal
Metropolitan/District Municipality	King Cetshwayo District Municipality
Local Municipality	uMhlathuze Local Municipality
Designated Priority Area	N/A

3.1 Description of surrounding land use (within 5 km radius)

The proposed project site is at the Port of Richards Bay within the City of uMhlathuze Local Municipality and King Cetshwayo District Municipality in KwaZulu Natal (Figure 1). The proposed project site is located at the Port's main entrance and at the Employee Care Centre in the Bayvue Precinct. The land-use within 5 km radius of the proposed project site includes industrial facilities, residential areas and natural resources such as shrubs and the coastline /beaches. The residential areas within 5 km radius of the proposed project site include Arboretum, which is located approximately 3 km northeast of the proposed project site. Other residential areas such as Meer En See, Birdswood and Bhiliya are located beyond the 5 km radius of the proposed project site. Several commercial facilities are situated at the northern parts of the proposed project site.

Figure 1: Satellite image representing the surrounding land-use in relation to the TNPA Power Generation Facility. The red circle represents the 5 km radius around the facility (Source: Google Earth, 2025)

Air Quality Officer Signature: _____ Date: 23 July 2025_____ PAEL/KZN/TNPA/01/04/2025-4483

4. GENERAL CONDITIONS

4.1 Process and ownership changes

4.1.1 The holder of the PAEL must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated.

4.1.2 No building, plant or site of works related to the listed activity or activities used by the license holder shall be extended, altered or added to the listed activity without required authorisation/license.

4.1.3 Any changes in processes or production increases, by the license holder, will require prior approval by the licensing authority.

4.1.4 Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities will require prior written approval by the licensing authority.

4.1.5 The license holder must, in writing, inform the licensing authority of any change of ownership of the enterprise. The licensing authority must be informed within 30 (thirty) days after the change of ownership.

4.1.6 The license holder must immediately on cessation or decommissioning of the listed activity inform, in writing, the licensing authority.

4.2 General duty of care

4.2.1 The holder of the license must, when undertaking the listed activity, adhere to the duty of care obligations as set out in section 28 of the NEMA.

4.2.2 The license holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.

4.2.3 Failure to comply with the above condition is a breach of the duty of care, and the license holder will be subject to the sanctions set out in section 28 of the NEMA.

4.3 Sampling and/or analysis requirements

4.3.1 Measurement, calculation and/or sampling and analysis shall be carried out in accordance with methods listed in the Air Quality Act. A different method may be acceptable to the licensing authority as long as it has been consulted and agreed to the satisfactory documentation necessary in confirming the equivalent test reliability, quality and equivalence of analyses.

4.3.2 The license holder is responsible for quality assurance of methods and performance. Where the holder of the license uses external laboratories for sampling or analysis, accredited laboratories shall be used.

4.4 General requirements for license holder

4.4.1 The license holder is responsible for ensuring compliance with the conditions of this license by any person acting on his, her or its behalf, including but not limited to, an employee, agent, sub-contractor or person rendering a service to the holder of the license.

4.4.2 The license does not relieve the license holder of complying with any other statutory requirements that may be applicable to the carrying on of the listed activity.

4.4.3 A copy of the license must be kept at the premises where the listed activity is undertaken. The license must be made available to the environmental management inspector representing the licensing authority who requests to see it.

4.4.4 The license holder must inform, in writing, the licensing authority of any change to its details including the name of the emission control officer, postal address and/or telephonic details.

4.4.5 The holder of the PAEL is entitled to an atmospheric emission license when the commissioned facility has been in full compliance with conditions and requirements of PAEL for a period of at least six (6) months. Should the license holder opt to renew the PAEL in terms of section 47 or extend the PAEL in terms of section 41(3) of the act, such application must reach the licensing authority not later than sixty (60) days before the expiry of the PAEL.

4.5 Statutory obligations

4.5.1 The license holder must comply with the obligations as set out in Chapter 5 of the Act.

5. NATURE OF PROCESS

5.1 Process description

5.1.1 The proposed activities at TNPA will involve the following:

Power Generation

- The dual-fuel generator for the proposed project can operate on either diesel fuel or liquified natural gas (LNG (in natural gas form)). A transmission line from the generator to the Harbour West Substation, Sorting Yard Substation, Liquid Pitch Substation, Arrivals Yard Substation, Eastern Intake Substation, Carina Substation and Admin Quay Substation will be installed to allow for power distribution within the port.
- During the power generation process, the gas turbine mixes compressed air with either natural gas or liquid fuels (diesel or aviation fuel) then ignites it, producing high-speed exhaust gases that rotate turbine blades connected to a shaft that powers a generator or other machinery.

Although the operations of a gas turbine are complex, there are three essential parts: the compressor, the combustion system, and the turbine. The compressor, which draws air into the engine, pressurizes it, and feeds it to the combustion chamber at speeds of hundreds of kilometres per hour. The combustion system is typically made up of a ring of fuel injectors that inject a steady stream of fuel into combustion chambers where it mixes with the air. The mixture is burned at temperatures of more than 1 000 °C. The combustion produces a high temperature, high pressure gas stream that enters and expands through the turbine section. The turbine is an intricate array of alternate stationary and rotating aerofoil-section blades. As hot combustion gas expands through the turbine, it spins the rotating blades. The rotating blades perform a dual function: they drive the compressor to draw more pressurized air into the combustion section, and they spin a generator to produce electricity.

Diesel

- Diesel is distilled from crude oil and is refined until it is 'clean' enough to use in engines. Diesel consists primarily of hydrocarbons with smaller amounts of hydrogen, nitrogen, sulphur, and volatile organic compounds. Diesel has a sulphur content of 500 ppm or less. Combustion of diesel results in emissions of sulphur dioxide (SO_2), oxides of nitrogen (NO and NO_2, referred to as NO_X), particulates and carbon monoxide (CO).

Liquefied natural gas (LNG)

- Natural gas used for energy generation is primarily methane, with low concentrations of other hydrocarbons, water, carbon dioxide, nitrogen, oxygen and some sulphur compounds. Liquefied Natural Gas (in natural gas form)) is natural gas which has been cooled below its boiling point of minus 161 °C in a process known as liquefaction. The process of liquefaction involves extracting most of the impurities in raw natural gas. The remaining natural gas is primarily methane with only small amounts of other hydrocarbons and consequently is widely considered a clean fossil fuel.

Figure 2: Infrastructure layout of the proposed TNPA power generating plant.

Air Quality Officer Signature: _____ Date: 23 July 2025_____ PAEL/KZN/TNPA/01/04/2025-4483

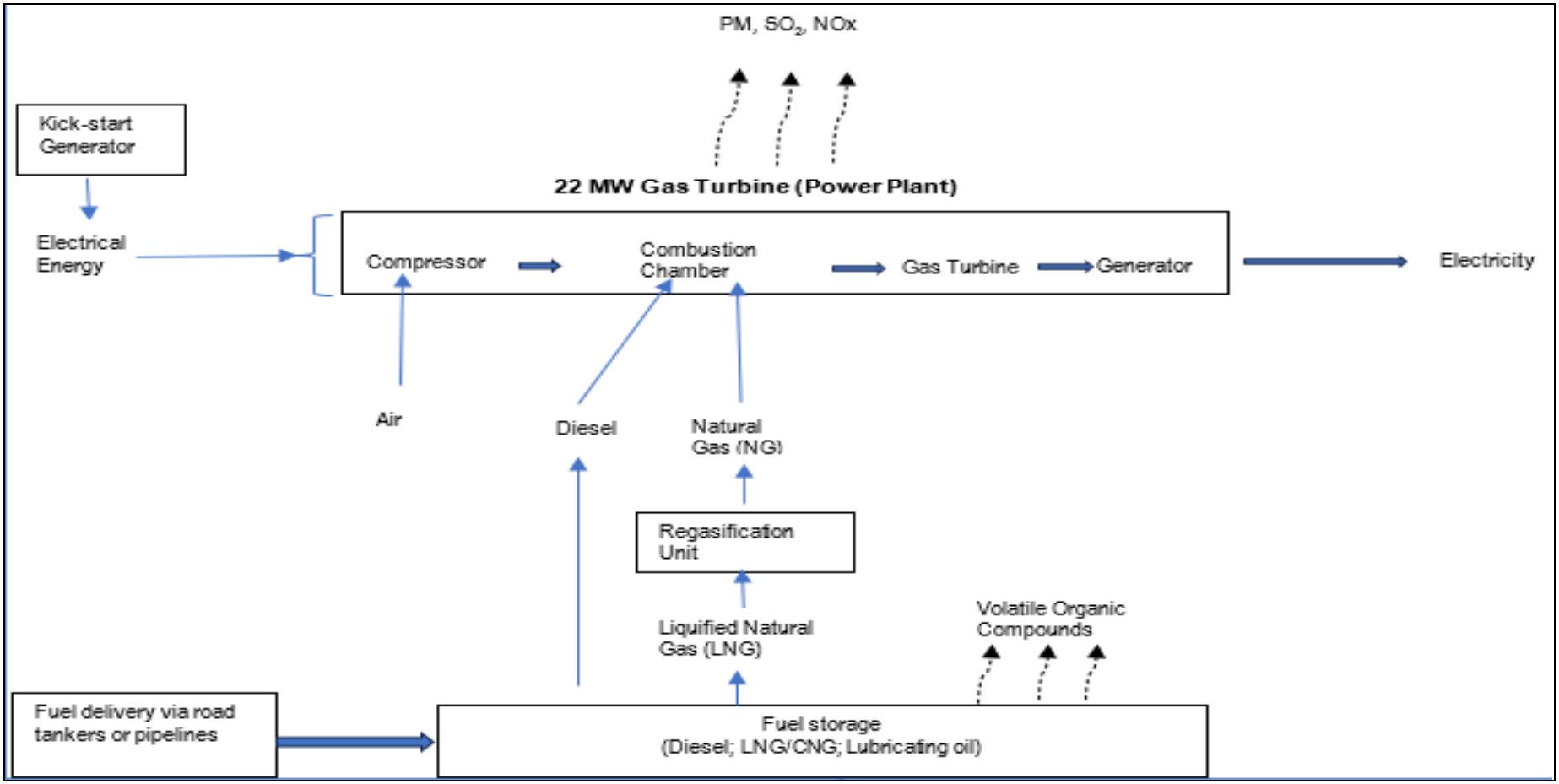

Figure 3: Process Flow Diagram

Air Quality Officer Signature: _____ Date: 23 July 2025_____ PAEL/KZN/TNPA/01/04/2025-4483

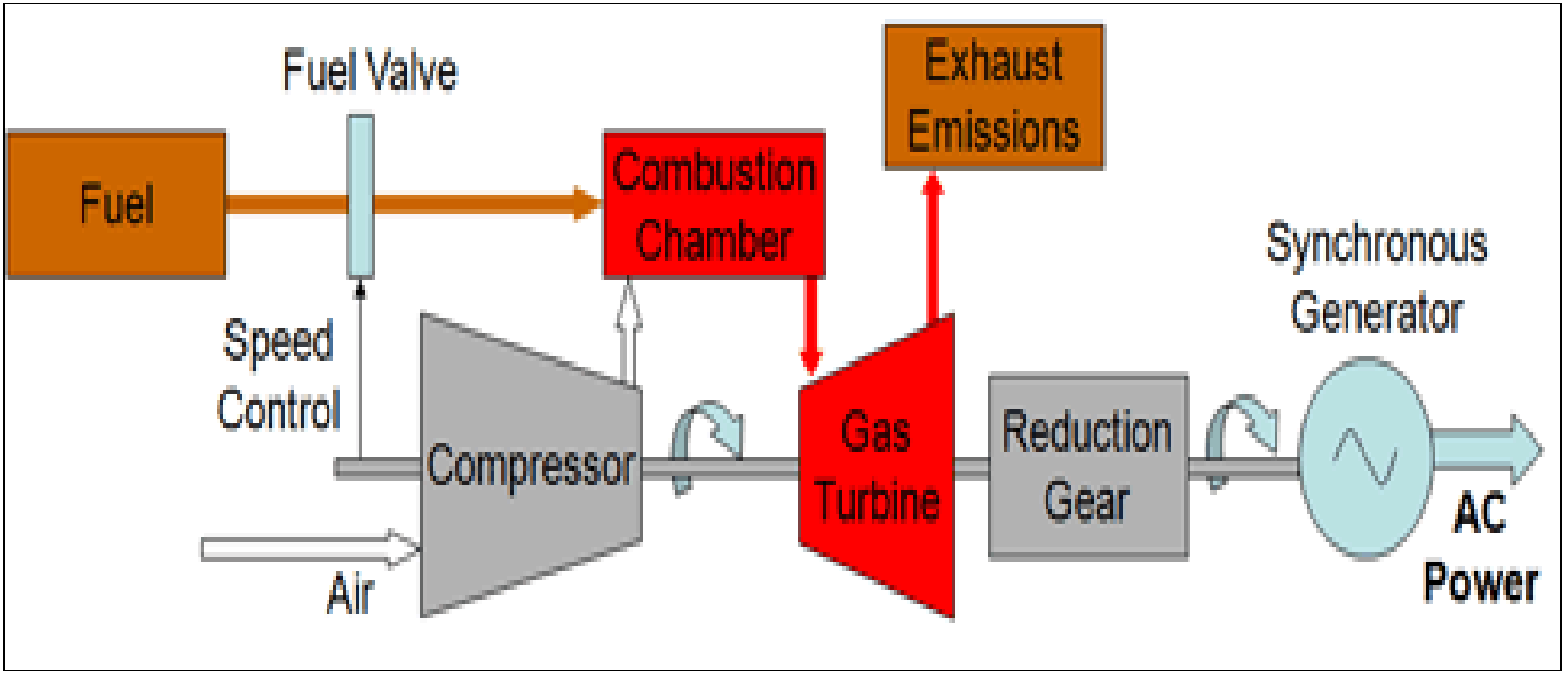

Figure 4: Process Flow Diagram

5.2 Listed activity or activities

List of all Listed Activities, as published in terms of Section 21 of the AQA, authorised to be conducted at the premises by the license holder:

Category of Listed Activity	Sub-category of the Listed Activity	Description of the Listed Activity	Application
Category 1: Combustion Installations	Subcategory 1.2: Liquid Fuel Combustion Installations	Liquid fuels combustion installations used primarily for steam raising or electricity generation.	All installations with design capacity equal to or greater than 50 MW heat input per unit, based on the lower calorific value of the fuel used
Category 1: Combustion Installations	Subcategory 1.4: Gas Combustion Installations	Gas combustion (including gas turbines burning natural gas) used primarily for steam raising or electricity generation	All installations with design capacity equal to or greater than 50 MW heat input per unit, based on the lower calorific value of the fuel used

5.3 Unit process or processes and hours of operation

List of all unit processes associated with the listed activities to be undertaken at the site of work.

Unit Process	Unit Process Function	Batch or Continuous Process	Hours of Operation (per year)
Power generating plant (22 MW gas turbine)	Generation of electricity	Continuous	8760
Start-up diesel generator	Turbine kick-start	Batch	90
Liquified Natural Gas (LNG) regasification unit 1	Conversion of LNG to NG	Batch	144
LNG/CNG pipeline	Receiving LNG/CNG (via pipeline)	Batch	144
LNG/CNG storage tank 1- 4	Storage of LNG/CNG	Continuous	8760
Diesel tanker truck	Receiving diesel (via road tankers)	Batch	360
Diesel pipeline	Receiving diesel (via pipeline)	Batch	N/A
Diesel storage tank 1	Storage of diesel	Continuous	8760
Lubricating oil storage tank 1	Storage of lubricating oil	Continuous	8760

6. RAW MATERIALS AND PRODUCTS

6.1 Raw materials used (material to be stored)

Raw Material Type	Design Consumption Rate (Quantity)	Actual Consumption Rate (Quantity)	Units (Quantity/Period)
Diesel	51 719	51 719	Tonnes/Annum
LNG (in natural gas form)/CNG	45 819	45 819	Tonnes/Annum
Lubricating oil	To be confirmed during the operational phase of the project		

6.2 Production rates

Production Name	Actual Production Capacity (Quantity)	Design Production Capacity (Quantity)	Units (Quantity/Period)
Electricity	22	22	MW

6.3 Materials used in energy sources

Materials for Energy Source	Sulphur Content of the Material (%)	Ash Content of Material (%)	Design Consumption Rate (Quantity)	Actual Consumption Rate	Units (Quantity/ Period)
Diesel	0.005-0.051	0.01	51 719	51 719	Tonnes/Annum
LNG (in natural gas form)	0.012	0.01	45 819	45 819	Tonnes/Annum
Electricity	N/A	N/A	500	500	kW

6.4 Sources of atmospheric emission

6.4.1 Point source parameters

Point Source Code	Source Name	Latitude (decimal degrees) South	Longitude (decimal degrees) East	Height of Release Above Ground (m)	Height Above Nearby Building (m)	Diameter at Stack Tip / Vent Exit (m)	Actual Gas Exit Temperature (°C)	Actual Gas Volumetric Flow (m^3/hr)	Actual Gas Exit Velocity (m/s)	Emission Hours (per year)	Type of Emission (Continuous / Batch)
SV001	Stack 1 (diesel-fired option) (Sub-category 1.2)	-28.785529°	32.031688°	27.43	-	2.59	543.50	564 911	30.48	8760	Continuous
	Stack 1 (gas-fired option) (Sub-category 1.4)						526.49	564 495	30.48	8760	Continuous

Air Quality Officer Signature: _____ Date: 23 July 2025_____ PAEL/KZN/TNPA/01/04/2025-4483

7. APPLIANCES AND MEASURES TO PREVENT AIR POLLUTION

7.1 Appliances and control measures

Appliances				Abatement Equipment Control Technology								
Associated Unique Stack ID	**Appliance / Process Equipment Number**	**Appliance Type / Description**	**Appliance Serial Number**	**Abatement Equipment Manufacture Date**	**Abatement equipment (Control Device) Code**	**Abatement Equipment Name and Model**	**Abatement Equipment Technology Type**	**Commission Date**	**Date of Significant Modification / Upgrade**	**Design Capacity**	**Minimum Control Efficiency (%)**	**Minimum Utilization (%)**
SV001	N/A	Water injection metering system for NOx emissions reduction	N/A (Built in within the Generators)	To be confirmed	N/A (Build in within the Generators)	Name: Flow Technology Model FT Series (FT-24C3XWRLEG5S)	Water injection metering system	N/A	N/A	97.5%	95	99%

7.2 Maximum emission rates (under normal working conditions of 15% O_2, 273K and 101,3kPa)

Point Source Code	Pollutant Name	Maximum Release Rate			Duration of Emissions
		(mg/Nm³)	Date to be Achieved By	Average Period	
SV001(Sub-category 1.2)	Particulate Matter	50	Immediately	Hourly	Continuous
	Sulphur Dioxide	500	Immediately	Hourly	Continuous
	Oxides of Nitrogen	250	Immediately	Hourly	Continuous
SV001(Sub-category 1.4)	Particulate Matter	10	Immediately	Hourly	Continuous
	Sulphur Dioxide	400	Immediately	Hourly	Continuous
	Oxides of Nitrogen	50	Immediately	Hourly	Continuous

7.2.1 The following special arrangements shall apply

a) Continuous emission monitoring of PM, SO2, and Nox is required, however, installations less than 100 MW heat input per unit must adhere to periodic emission monitoring.
b) Where co-feeding with waste materials with calorific value allowed in terms of the Waste Disposal Standards published in terms of the Waste Act, 2008 (Act No.59 of 2008) occurs, additional requirements under subcategory 1.6 (Waste Co-feeding combustion installations) shall apply.

7.3 Point source – maximum emission rates (under start-up, maintenance and shut-down conditions)

7.3.1 The following conditions must be adhered to a minimum during start-up, maintenance and shut-down conditions

a) The license holder must take all reasonable measures to control atmospheric emissions during start-up, maintenance and shut-down operations
b) Normal maintenance and shut down conditions shall not exceed a period of forty-eight (48) hours. Should maintenance, upset and shut-down conditions exceed a period of 48 hours, Section 30 of the National Environmental Management Act (Act no.107 of 1998) shall apply.

c) During start-up, maintenance and shut-down, or in the event where there is an indication of adverse impacts to human health and environment, the license holder must take appropriate measure to avoid such adverse impacts from occurring and/or recurring.

7.4 Point source – emission monitoring and reporting requirements

Point Source Code	Listed Activity	Emission Sampling / Monitoring Method	Sampling Frequency	Sampling Duration	Parameters to be measured and reported	Reporting Frequency
SV001	Subcategory 1.2; Subcategory 1.4	As per the Annexure A of the Air Quality Act	Quarterly	3X tests, each 8 hours	Particulate Matter Sulphur Dioxide Oxides of nitrogen	Quarterly

7.5 Area and/or line source – management and mitigation measures

Area and/or Line Source Code	Area and/or Line Source Description	Description of Specific Measures	Timeframe for Achieving Required Control Efficiency	Method of Monitoring Measures Effectiveness	Contingency Measures
EU001	Diesel Storage Tak 1	• Tank internal and external inspections • Leak detection and repair monitoring	Monthly	• Site inspection programmes • Periodic inspection reports	Development and implementation of contingency plan

Area and/or Line Source Code	Area and/or Line Source Description	Description of Specific Measures	Timeframe for Achieving Required Control Efficiency	Method of Monitoring Measures Effectiveness	Contingency Measures
EU002	Lubricating Oil Storage Tank 1	• Tank internal and external inspections • Leak detection and repair monitoring	Monthly	• Site inspection programmes • Periodic inspection reports	Development and implementation of contingency plan
EU003-EU006	LNG / CNG Storage Tanks 1-4	• Tank internal and external inspections • Leak detection and repair monitoring	Monthly	• Site inspection programmes • Periodic inspection reports	Development and implementation of contingency plan

8. ROUTINE REPORTING AND RECORD-KEEPING

8.1 Complaints register

8.1.1 The license holder must maintain a complaint register at its premises, and such register must be made available for inspections. The complaints register must include the following information on the complainant, namely, the name, physical address, telephone number, date and the time when the complaint was registered. The register should also provide space for noise, dust and offensive odours complaints.

8.1.2 Furthermore, the license holder is to investigate and, monthly, report to the licensing authority in a summarised format on the total number of complaints logged. The complaints must be reported in the following format with each component indicated as may be necessary:

a) Source code / name;
b) Root cause analysis;
c) Calculation of impacts / emissions associated with incidents and dispersion modelling of pollutants, where applicable;
d) Measures implemented or to be implemented to prevent recurrence; and
e) Date by which measure will be implemented.

8.1.3 The licensing authority must also be provided with a copy of the complaints register. The record of a complaint must be kept for at least 5 (five) years after the complaint was made.

8.2 Quarterly reporting

8.2.1 The license holder must complete and submit to the licensing authority a quarterly report. The report must include information for the quarter under review.

8.2.2 The report must be submitted to the licensing authority not later than 30 (thirty) days after the end of each reporting period. The quarterly report must include, amongst others, the following:

a) Pollutant emission trend;
b) Three monthly dust fallout results and trends;
c) Compliance audit report;
d) Major upgrades projects; and
e) Complaints register.

8.2.3 The license holder must keep a copy of the annual report for a period of at least 5 (five) years.

8.2.4 The license holder must report data and information for all identified point, non-point and mobile sources of atmospheric emissions to the internet-based National Atmospheric Emission Inventory System (NAEIS) in line with the National Atmospheric Emission Regulations (Government Notice No.R. 283 of 2 April 2015).

8.2.5 The license holder must report greenhouse gas emissions, where applicable, in terms of National Greenhouse Gas Reporting Regulations, 2017 (Government Notice No 275 of 3 April 2017).

9. DISPOSAL OF WASTE AND EFFLUENT ARISING FROM ABATEMENT EQUIPMENT CONTROL TECHNOLOGY.

9.1 The disposal of any waste and effluent arising from the abatement equipment control technology must comply with the relevant legislation and requirements of the relevant authorities.

10. PENALTIES FOR NON-COMPLIANCE WITH LICENSE AND STATUTORY CONDITIONS OR REQUIREMENTS

10.1 Failure to comply with any condition of the license and relevant statutory conditions and/or requirements is an offence, and license holder, if convicted, will be subjected to those penalties as set out in section 52 of the AQA.

11. APPEAL OF LICENSE

11.1 The license holder must notify registered interested and affected parties of the issuance of this license, in writing and within fourteen (14) days, of receiving the Department's decision.

11.2 The notification referred to in 11.1 must –

a) Specify the date on which the license was issued;

b) Inform the registered interested and affected parties of the appeal procedure provided for in the National Appeal Regulations, GN 993 of 08 December 2014; and

c) Advise the interested and affected parties that a copy of the license will be furnished on request.

11.3 An appeal against the decision may be lodged with the Minister in terms of the National Appeal Regulations GN 993 of 08 December 2014 within 20 days from the date of this license, and directed to: Director: Appeals and Legal Review, Department of Environment, Forestry and Fisheries, Private Bag X447, PRETORIA, 0001, Tel No.: 012 399 9626, Email address: AppealsDirectorate@dffe.gov.za.