REPUBLIC OF SOUTH AFRICA

APPLICATION FORM FOR ATMOSPHERIC EMISSION LICENCE / PROVISIONAL ATMOSPHERIC EMISSION LICENCE IN TERMS OF CHAPTER 5 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004 (ACT NO. 39 OF 2004), AS AMENDED

Name of Enterprise: Kelvin Holdings (Pty) Ltd

Declaration of accuracy of information provided:

Application for an atmospheric emission licence / provisional atmospheric emission licence as envisaged in chapter 5 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), as amended.

I, Segotsane Hendrick Seopa [*delegated by the Accounting Officer*], declare that the information provided in this application or attached to the application is, to the best of my knowledge, in all respects factually true and correct. I am aware that the supply of false or misleading information in the application form is a criminal offence in terms of section 51(1)(f) of the Act.

Signed at Kempton Park on this 15th day of September 2025

SIGNATURE

General Manager (Kelvin Power Station)

CAPACITY OF SIGNATORY

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NB: PLEASE COMPLETE ALL SECTIONS. KINDLY MARK WITH AN X IN SPACES WHERE APPLICABLE. IF THE SPACE PROVIDED IS INSUFFICIENT, THE REQUIRED INFORMATION MAY BE SUBMITTED IN THE FORM OF A MEMORANDUM. ATTACH REQUIRED MAPS AND SKETCHES. GRAPHICS MUST BE CLEAR, LABELED AND, WHERE APPLICABLE.

1 TYPE OF APPLICATION

X	New Application		Transfer
	Renewal		Variation/Amendment/Review

Current Atmospheric Emission Licence Number:	

2 ENTERPRISE INFORMATION

Enterprise Name	Kelvin Holdings (Pty) Ltd
Trading As	-
Type of Enterprise, e.g. Company/Close Corporation/Trust, etc	Power generation
Company/Close Corporation/Trust Registration Number (Registration Numbers if Joint Venture)	M2000024196
Registered Address	3 Zuurfontein Road, Kempton Park, 1620
Postal Address	PO Box 311, Kempton Park, 1620
Telephone Number (General)	011 573 2500
Fax Number (General)	0862749293
Industry Type/Nature of Trade	Power generation
Land Use Zoning as per Town Planning Scheme	Industrial
Land Use Rights if outside Town Planning Scheme	N/A

Responsible Person Name or Emission Control Officer (where appointed)	Oupa Seopa
Telephone Number	011 573 2500/2607
Cell Phone Number	073 278 9684
Fax Number	086 274 9293
E-mail Address	Lavhelesani.Nelwamondo@kelvinpower.com
After Hours Contact Details	011 573 2500/2508/2588

3 SITUATION AND EXTENT OF PLANT

3.1 Location and extent of plant

Physical Address of the Plant	3 Zuurfontein Road, Kempton Park, 1620
Description of Site (Where No Street Address)	3 Zuurfontein Road, Kempton Park, 1620
Coordinates of Approximate Center of Operations	26.113267°S; 28.192195°E
Extent (km²)	226.18 ha
Elevation Above Mean Sea Level (m)	~1650 m
Province	Gauteng
Metropolitan/District Municipality	City of Ekurhuleni
Local Municipality	Kempton Park Customer Care Centre
Designated Priority Area	Highveld Priority Area

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

Provide a description of the surrounding land use within a 5 km radius, specifically noting the names and proximity of residential and commercial areas in relation to the site of the works.

Potential sensitive receptors within 5 km from the Kelvin CCGT Power Plant include residential areas, i.e., Esther Park, Edleen, Cresslawn, Kelvin Estate, Croydon, Eden Glen and Illiondale (Figure 3-1). Residential areas within 10 km from the project site include Edenvale, Kempton Park, and Lethabong (Figure 3-2). The list of hospitals and schools within the study area is provided in Table 3-1.

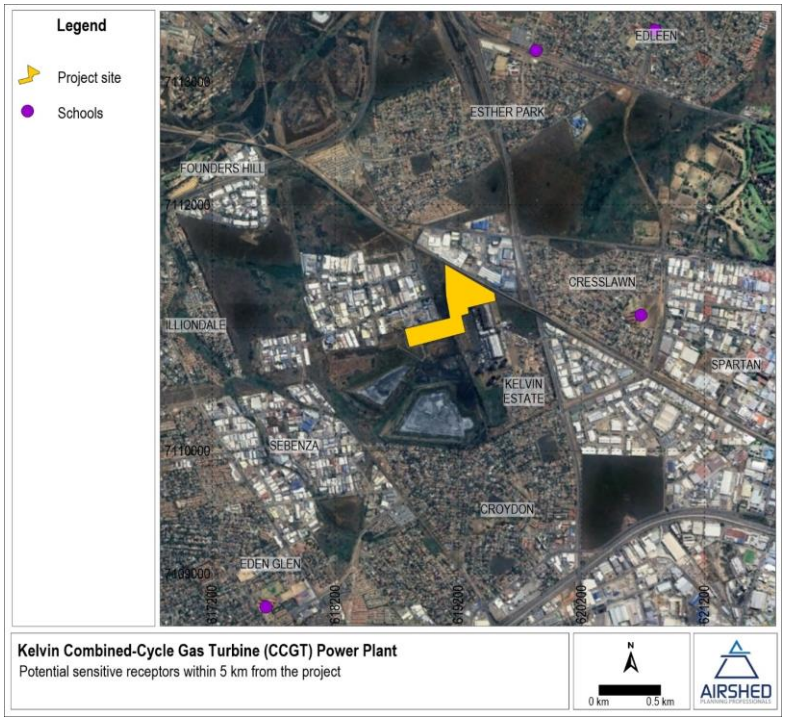

Figure 3-1: Potential sensitive receptors within 5 km from the Kelvin CCGT Power Plant

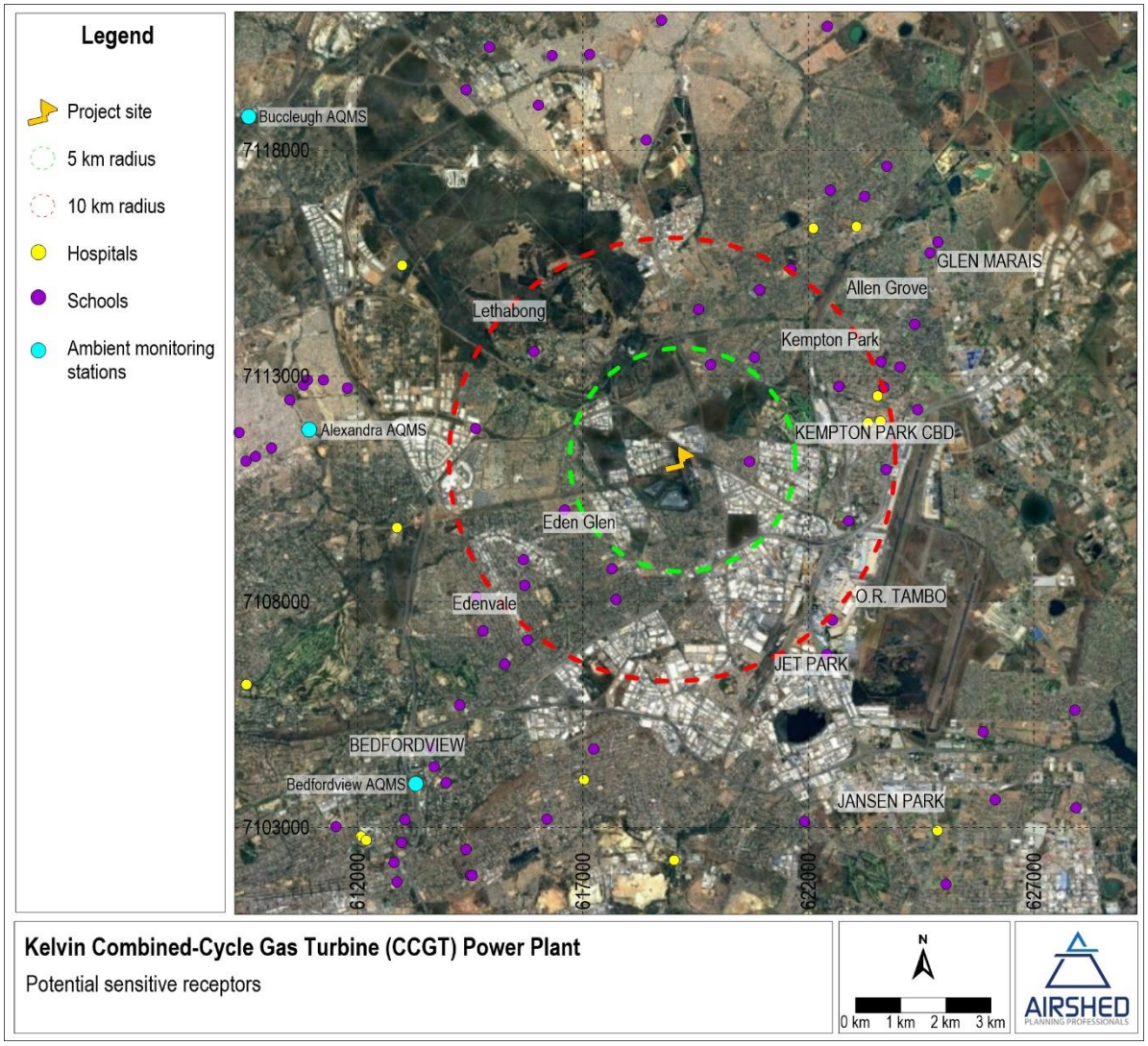

Figure 3-2: Potential sensitive receptors and ambient monitoring stations within the vicinity of the Kelvin CCGT Power Plant

Table 3-1: Location of Air Quality Monitoring Stations (AQMS), hospitals and schools within the study area

ID	UTM WGS84 (35S)		Name	Distance from project centre (m)
	Easting	Northing		
AQMS				
1	611016	7111989	Alexandra AQMS	8 312
2	609936	7118870	Buccleugh AQMS	12 092
3	613234	7104036	Bedfordview AQMS	9 389
Hospitals				
4	624862	7102933	Advanced East Rand Day Hospital	9 976
5	623594	7112000	Arwyp Medical Centre	4 374
6	623070	7116306	Birchleigh Clinic	6 345
7	622101	7116267	Birchmed Day Hospital	5 786
8	612993	7115449	Busamed Modderfontein Private Hospital Orthopaedic & Oncology Centre	7 593

ID	UTM WGS84 (35S)		Name	Distance from project centre (m)
	Easting	Northing		
9	612872	7109642	Edenvale Hospital	6 608
10	623539	7112561	Ekurhuleni Surgiklin Day Hospital	4 458
11	619019	7102272	Knights Chest Hospital	8 941
12	612076	7102809	Life Bedford Gardens Hospital - Emergency Unit	11 073
13	612190	7102722	Life Bedford Gardens Private Hospital - Medical Ward	11 066
14	617028	7104065	Life Roseacres Hospital	7 494
15	623313	7111960	Marymount Hospital	4 091
16	609544	7106167	Netcare Linksfield Hospital	10 974
Schools				
17	624359	7114148	Aston Manor Primary School	5 858
18	613050	7103178	Bedfordview Academy	10 171
19	612812	7102223	Bedfordview High School	11 079
20	613966	7103999	Bedfordview Primary School	8 964
21	622415	7106840	Benoni Secondary School	5 370
22	609736	7111223	Bovet Primary School	9 555
23	614264	7105711	Crawford International - Bedfordview	7 450
24	620686	7111104	Cresslawn Primary School	1 398
25	617734	7108045	Curro Edenvale High School	3 527
26	624026	7113206	Destiny Independent School Kempton Park	5 138
27	614632	7108111	Dowerglen High School	5 595
28	615265	7106627	Dunvegan Primary School	6 100
29	610891	7112912	East Bank High School	8 571
30	615684	7108937	Eastleigh Primary School	4 264
31	617640	7108732	Edenglen High School	2 977
32	614783	7107361	Edenvale High School	5 928
33	619831	7113255	Edleen Primary	2 116
34	626139	7103620	Eduvu - Remedial School / Academy	10 221
35	609376	7111753	Ekukhanyisweni Primary School	9 930
36	612979	7102665	Elandspark School	10 622
37	616012	7118999	Gideon Rambuwani Primary School	8 452
38	623732	7117645	Hoërskool Birchleigh	7 819
39	621615	7115369	Hoërskool Jeugland	4 765
40	614505	7101949	Hoërskool Primrose	10 424
41	615778	7107158	Holy Rosary School for Girls	5 362
42	610500	7112467	Ikage Primary School	8 881
43	609526	7111117	Inkanyezi Waldorf Centre	9 766
44	616591	7110033	Jacaranda Academy	2 945
45	623609	7113318	Kempton Park Primary School	4 805
46	611247	7112919	Kwabhekilanga Secondary School	8 224
47	623238	7116981	Laerskool Birchleigh	6 992
48	620801	7113420	Laerskool Edleen	2 678
49	623724	7110930	Laerskool Kempton Park FSS	4 441
50	623673	7112744	Laerskool Kreft	4 643
51	624700	7115735	Laerskool Kruinsig	7 052
52	620920	7114905	Laerskool Van Riebeeckpark	4 039
53	627936	7103441	Laerskool Westwood	11 622
54	610800	7112802	M.C. Weiler Primary School	8 640
55	616321	7120101	Maphutha Secondary School	9 375
56	624876	7115967	Maranatha Christian School	7 337
57	625053	7101750	Martin Primary School	11 075
58	617148	7120125	Mayibuye Primary School - New	9 170
59	614406	7119337	Midrend Primary School	9 484
60	622540	7107594	Moduopo Primary School	4 860
61	614622	7111838	Nobel Primary School	4 711
62	622479	7117114	Norkem Park Primary School	6 710

ID	UTM WGS84 (35S)		Name	Distance from project centre (m)
	Easting	Northing		
63	610097	7111410	Pholosho Primary School	9 197
64	618406	7118236	Phomolong Secondary School	7 083
65	615908	7113541	Pinnacle College Founders Hill	4 109
66	614408	7102517	Primrose Hill Primary School	9 969
67	616195	7103186	Primrose Primary School	8 599
68	614540	7101933	Primrose Technical High School	10 422
69	611524	7103025	Reddam House Bedfordview	11 284
70	622888	7109793	Rhodesfield High School	3 865
71	622678	7112774	Sir Pierre van Reyneveld High School	3 730
72	611780	7112738	Skeen Primary School	7 665
73	613624	7104762	St Benedict's College	8 584
74	613703	7104351	St Benedict's Junior Preparatory School	8 846
75	615706	7108363	Success College Primary	4 578
76	627902	7105597	Summerfields Primary School	10 278
77	617239	7104746	Sunnyridge Primary School.	6 781
78	614919	7120295	Taal-Net Midrand School	10 083
79	624414	7112252	Taalnet Primary & High School Kempton Park	5 228
80	618745	7120880	Tembisa West Secondary School	9 687
81	622421	7120743	Thuthuka Primary School	10 035
82	619570	7114484	Westside Primary School	3 287
83	621920	7103141	Wit Deep Primary School	8 485
84	625874	7105122	Woodlands International College	8 965
85	612872	7101800	Wychwood Primary School	11 390

4 NATURE OF PROCESS

4.1 Process description

Please provide a detailed description of the entire production process including reference to the overall balance sheet of inputs, outputs and emissions at the site of the works.

4.1.1 Process Description of a Combined Cycle Gas Turbine (CCGT) Power Plant

A Combined Cycle Gas Turbine (CCGT) power plant integrates two thermal power cycles— the gas turbine cycle and the steam turbine cycle— to maximize efficiency and electricity generation. The CCGT design allows for the utilization of exhaust heat from the gas turbine, which would otherwise be wasted, to generate additional electricity via the steam turbine. This process enhances overall plant efficiency, reaching up to 60% or more, compared to 30-40% for conventional gas-fired plants (open cycle gas turbines).

4.1.1.1 Gas Turbine Cycle

The CCGT process starts in the gas turbine section, where natural gas is the primary fuel source. This fuel is mixed with compressed air and ignited in a combustion chamber, producing high-temperature, high-pressure exhaust gases. These hot gases are directed through a series of turbine blades in the gas turbine, which converts the thermal energy of the gases into mechanical energy by rotating the turbine shaft. This shaft is connected to an electric generator that converts the mechanical energy into electricity.

4.1.1.2 Heat Recovery Steam Generator (HRSG)

After passing through the gas turbine, the hot exhaust gases still contain a significant amount of thermal energy. Instead of being released directly into the atmosphere, these gases are routed into a Heat Recovery Steam

Generator (HRSG). The HRSG acts as a heat exchanger, capturing the residual heat to convert water into steam. The HRSG typically consists of multiple sections—economizer, evaporator, and superheater—which allow the gradual heating of water until it turns into high-pressure steam suitable for driving the steam turbine.

4.1.1.3 Steam Turbine Cycle

The high-pressure steam generated in the HRSG is directed to a steam turbine. As the steam expands and flows through the turbine stages, it loses pressure and temperature, transferring its thermal energy to the turbine rotor. Similar to the gas turbine, the steam turbine is connected to a generator, allowing it to produce additional electricity. This two-stage electricity generation (from both gas and steam turbines) is what gives the combined cycle its name.

4.1.1.4 Condensation and Cooling System

After passing through the steam turbine, the steam is cooled and condensed back into water in a condenser. The condenser typically utilizes a cooling system (such as water from a cooling tower or air-cooled condensers) to facilitate this phase change. The condensed water is then returned to the HRSG, completing the steam cycle and allowing for continuous operation in a closed-loop system.

4.1.1.5 Emission Control and Efficiency

CCGT plants are known for their efficiency and lower emissions compared to other fossil-fuel-based plants. Advanced CCGT plants incorporate emission control technologies to reduce nitrogen oxides (NOx) and carbon dioxide (CO_2) emissions. The closed-loop cycle and efficient fuel combustion result in lower greenhouse gas output and a smaller environmental footprint.

4.1.1.6 Summary of Combined Cycle Operation

In a CCGT power plant, the gas turbine and steam turbine cycles operate in tandem to extract maximum energy from the fuel. The high efficiency of the combined cycle results from the effective utilization of the gas turbine's exhaust heat to generate steam for the steam power generation cycle. This two-stage process not only enhances the electricity output but also reduces fuel consumption per megawatt-hour generated, making CCGT plants a favourable option for modern power generation.

4.1.2 The Kelvin CCGT

- The main structures at the plant would consist of:
- Gas turbine building;
- Steam turbine building;
- Heat Recovery Steam Generator (HRSG);
- Mechanical draft cooling tower;
- Extra High Voltage (EHV) substation;
- Auxiliary buildings;
- Administration buildings; and,
- Exhaust stacks (primary and bypass).

The site allocated to the new plant is in the area of the redundant A Station auxiliary plant, formerly occupied by the A Station dry coal store, coal tipplers, coal stockpile and cooling towers. In addition to the construction area of the permanent plant, other construction facilities such as laydown areas, fabrication shops, warehousing, construction and offices would be required. The A Station auxiliary plant area is large enough to accommodate both the permanent plant and the construction facilities outlined above.

Cooling water would be sourced from the existing Kelvin water supply pipelines. Treated sewage wastewater (grey water) would be supplied to the power plant from Diepsloot (~37 km away) for use as cooling water. Approximately 52 033 m³ per day of such water has previously been supplied to the Kelvin power plant and as such, quantity would be available for the new plant. The new plant is expected to consume approximately 11 000 m³ per day of water per day when operating as a mid-merit plant with a capacity factor of 50%. The Diepsloot pump house and water pipeline to the plant is the responsibility of, and is maintained by, Kelvin Power. The grey water is dosed with biocides, algaecides, and a corrosion inhibitor.

In addition to the new plant that would be constructed on the Kelvin site, an electrical connection to an Eskom / City Power substation and a gas pipeline from the Sasol gas pipeline system would be required. Should the new plant be connected to the City Power Sebenza substation, a transmission line of approximately 1 km would be required. Alternatively, if the connection was to the Eskom North Rand substation, a transmission line of approximately 5 km would be required. Construction of this transmission line would be the responsibility of Kelvin.

A new 25 km gas supply pipeline connecting the new plant to the Sasol high pressure gas transmission system would be required. Construction of this gas supply pipeline would be the responsibility of Sasol.

Figure 4-1: CCGT layout

From an air quality perspective, the CCGT involves the installation and operation of gas turbine units, heat recovery steam generators (HRSGs) and steam turbines for a total installed generating capacity of 600 MW. The operation of the power station will include the following:

- Gas Turbines using natural gas as fuel to generate electricity, where compressed air is mixed with combustion fuel to produce very high temperature combustion gases. The hot combustion gases pass through the gas turbine blades, making the turbine spin. The fast-spinning turbines drive a generator that converts the spinning energy into electricity. Each gas turbine is proposed to have a 60-metre-high by-pass stack for use during emergency events.
- During normal operations a Heat Recovery Steam Generator (HRSG) will capture heat from the combustion gas stream to produce high temperature and high-pressure dry steam, which is then supplied to a steam turbine. The combustion gases will be discharged into the atmosphere via the main exhaust stacks (60 metres high).

- The Steam turbine uses the dry steam to drive its turbine to generate electrical power. The condenser will convert exhaust steam from the steam turbine back into water through a cooling process.

Diesel, for the black start/ emergency power generators, will be off-loaded by truck and stored in on-site storage tanks which will hold sufficient capacity for 8 hours of operation. Two storage tanks, each with a capacity of 5 200 m³, are planned.

Primary pollutants from gas turbines will be oxides of nitrogen (NOx), carbon monoxide (CO), and, to a lesser extent, volatile organic compounds (VOCs). PM is also a primary pollutant for gas turbines using liquid fuels. NOx formation is strongly dependent on the high temperatures developed in the combustor. CO, VOC, hazardous air pollutants (HAP), and PM is primarily the result of incomplete combustion. Trace to low quantities of VOC, HAP and SO_2 are emitted from gas turbines. SO_2 emissions are directly related to the sulfur content of the fuel (US EPA, 2000). In addition to the above, VOC emissions will also be released from diesel storage tanks vents as well as the delivery, off-loading and handling of diesel fuel. Similarly, VOCs could be released from the natural gas should leaks develop along the length of the gas pipeline.

4.2 Listed activities

List all Listed Activities, as published in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), proposed to be conducted at the premises in terms of this application:

Listed Activity Number	Category of Listed Activity	Sub-category of the Listed Activity	Name of the Listed Activity	Description of the Listed Activity
1	Combustion Installations	1.4	Gas combustion installations	Gas combustion (including gas turbines burning natural gas) used primarily for steam raising or electricity generation.
1	Combustion Installations	1.5	Reciprocating Engines	Liquid and gas fuel stationary engines used for electricity generation.

4.3 Environmental Authorisations/Licenses Issued

List all listed activity related environmental license/authorisations/rights/permits issued to the facility by competent authorities. (e.g. EIA environmental authorisations, Waste Licenses, Mining Rights, etc)

Authorisation	Brief description of the authorisation	Date of Issue	Issuing Competent Authority
Not applicable	Not applicable	Not applicable	Not applicable

4.4 Emission Units (EU)

List all emission units associated with the listed activities in operation at the premises by the atmospheric emission licence holder, highlighting unit processes proposed in respect of this application:

For Area Source Emission units such as stockpiles, gravel roads or any other fugitive emission sources, please complete section 5.4.5

EU Code	Emission Unit Name	Emission Unit Process Function	Batch or Continuous Process
EU1	**Power Station Gas Turbines**	**Gas combustion to generate electricity**	**Batch**
EU2	**Power Station HRSGs**	**Combustion off-gas heat recovery**	**Batch**
EU3	**Power Station Steam turbines**	**Steam turbine uses recovered heat from HRSG to generate electricity**	**Batch**
EU4	**Diesel storage**	**Storage of diesel for emergency periods and monthly diesel generator testing (1 hour per month)**	**Continuous**
EU5	**Diesel generators**	**Diesel generators used during black start emergency conditions**	**Batch**

***Emission Unit** means a single component (equipment) with identifiable inputs and outputs within a process flow. A series of unit processes make up the full manufacturing process, for example, boiler, furnace, distillation column, etc.

Please provide any other unit processes currently conducted at the site of works.

Name of the Unit Process	Description of the Unit Process
Not applicable	Not applicable

4.5 Graphical process information

Attach the following for the entire operation being undertaken at the site of the works:

- Simplified block diagram with the name of each unit process in a block; showing links between all unit processes or blocks (refer to Figure 4-2).
- Process flow chart(s) clearly indicating inputs, outputs and emissions at the site of works, including points of potential fugitive emissions and emergency releases (refer to Figure 4-3 and Figure 4-4).
- Site layout diagram (plan view and to scale) indicating location of unit processes, plants, buildings, stacks, stockpiles and roads (include true north arrow and scale) (refer to Figure 4-5).

NB: Indicate clearly on the above graphics the listed activity or activities applied for in this application. Alternatively, provide additional graphics for the listed activity or activities applied for.

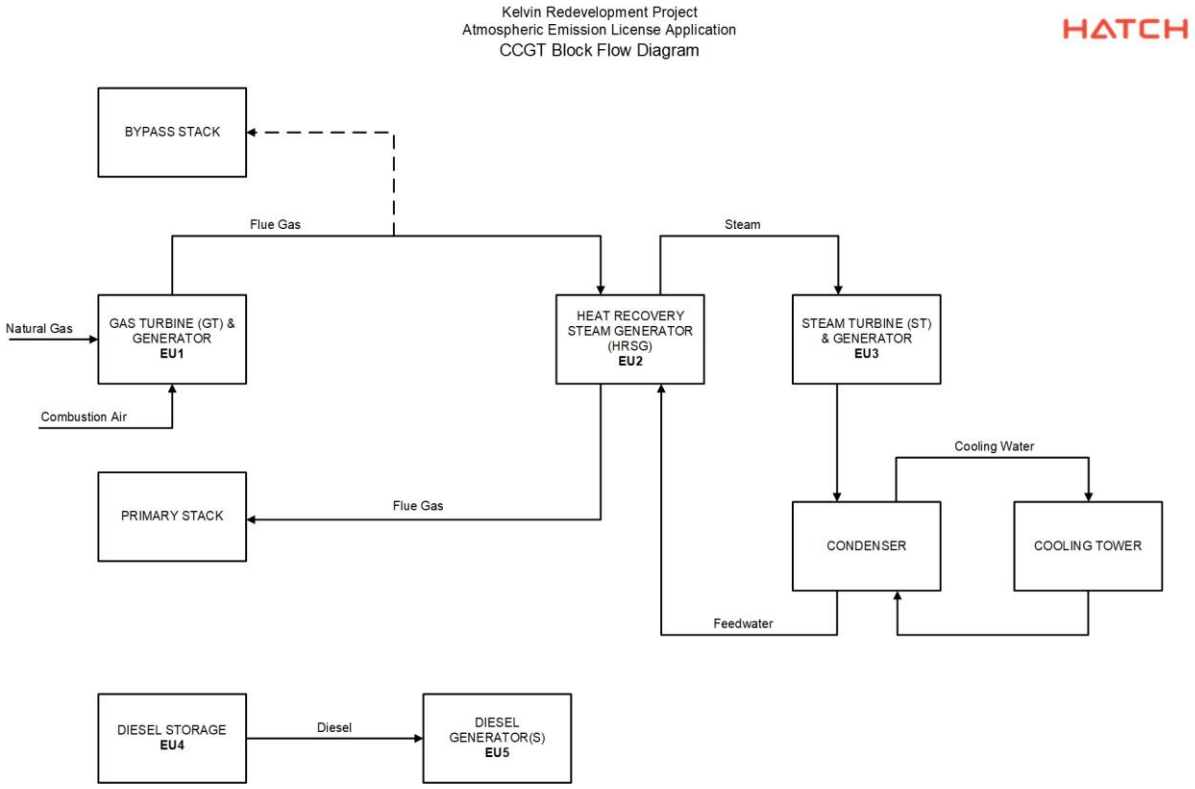

Figure 4-2: Block flow diagram for the CCGT Power Plant

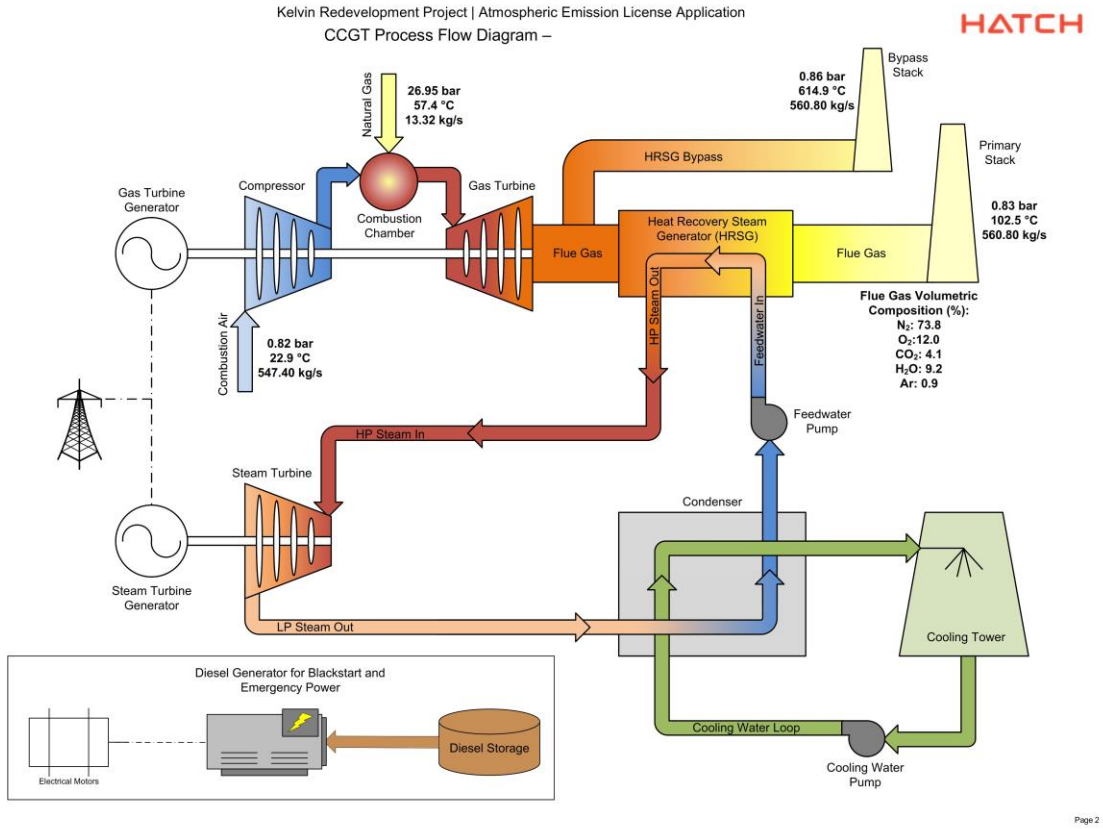

Figure 4-3: Flow diagram for CCGT Power Plant (large GT configuration)

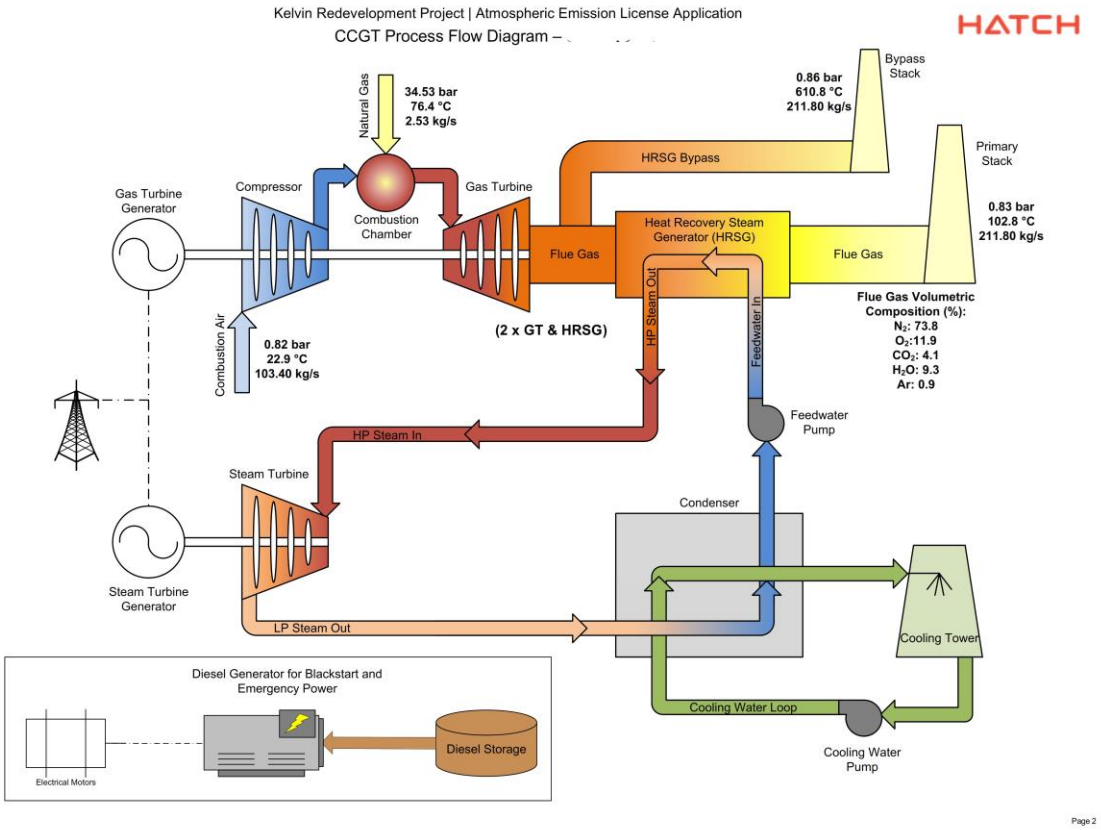

Figure 4-4: Flow diagram for CCGT Power Plant (small GT configuration)

Figure 4-5: Proposed site layout for the Kelvin Redevelopment Project

5 RAW MATERIALS AND PRODUCTS

Provide raw material information, production and by-production rates and emissions information.

5.1 Raw materials used

Raw Material Type	Design Consumption Rate (Quantity)	Actual Consumption Rate (Quantity)	Units (Tons/annum)
Natural gas	1 320 000	TBD	m^3 per day
Diesel fuel	60 000	TBD	litres per year

5.2 Production rates

Production Name	Design Production Capacity (Quantity)	Actual Production Capacity (Quantity)	Units (Tons/Annum)
Electricity	600	600	MW

By-Product Name	Design Production Capacity (Quantity)	Actual Production Capacity (Quantity)	Units (Tons/Annum)
None			

5.3 Materials used in energy sources

The applicant must specify the materials used in energy sources, namely, coal, oil, gas or wood.

Materials for Energy	Sulphur Content of the Material (%)	Ash Content of Material (%)	Design Consumption Rate (Quantity)	Actual Consumption Rate (Quantity)	Units (Quantity/ Period)
LNG	10 ppm	NA	1 320 000	TBD	m^3/day

5.4 Sources of atmospheric emission (including all tiers of greenhouse gas)

Provide emissions averaging periods that correspond to the averaging periods as set out in the national ambient air quality standards published under Government Notice No. 1210, Gazette No. 32816 dated 24 December 2009, and/or the minimum averaging periods of the relevant pollutant in relation to its health impact.

5.4.1 Point source parameters

Unique Stack ID (SV)	Stack Name	Latitude (decimal degrees)	Longitude (decimal degrees)	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)
STACK1	Main stack 1	-26.11271	28.19184	60	TBD	8	87	929.9	18.5
STACK2	Main stack 2	-26.11274	28.19263	60	TBD	4	72	149.5	11.9
STACK3	Main stack 3	-26.11268	28.19288	60	TBD	4	72	149.5	11.9
BY1	Bypass stack 1	-26.11311	28.19171	60	TBD	8	623	2372.5	47.2
BY2	Bypass stack 2	-26.11296	28.19254	60	TBD	4	595	377.0	30.0
BY3	Bypass stack 3	-26.11283	28.19309	60	TBD	4	595	377.0	30.0
DST	Diesel Genset Exhaust	-26.11348	28.19181	TBD	TBD	TBD	350 - 400	TBD	TBD

***Point source** means a single identifiable source and fixed location of atmospheric pollution, e.g. stack, chimney, etc.
TBD: to be determined

5.4.2 Point Source Emissions

Provide emission values as being measured under normal conditions of 273 K, 101. 3 kPa, specific oxygen percentage and dry gas.

As per 5.4.1 Stack ID	Pollutant Name	Maximum Release Rate				Emissions Hours	Type of Emissions (Continuous / Routine but Intermittent / Emergency Only)
		(mg/Nm^3)	(mg/Am^3)	g/s	Averaging period		
STACK1	Particulates	10	6	3.1	Hourly	6 am – 9 am and 5 pm – 7 pm	Routine but intermittent
	Sulfur dioxide (SO_2)	400	254	122.6	Hourly	6 am – 9 am and 5 pm – 7 pm	Routine but intermittent
	Oxides of nitrogen (NOx)	50	32	15.3	Hourly	6 am – 9 am and 5 pm – 7 pm	Routine but intermittent
STACK2	Particulates	10	7	0.5	Hourly	6 am – 9 am and 5 pm – 7 pm	Routine but intermittent
	Sulfur dioxide (SO_2)	400	265	19.6	Hourly	6 am – 9 am and 5 pm – 7 pm	Routine but intermittent
	Oxides of nitrogen (NOx)	50	33	2.5	Hourly	6 am – 9 am and 5 pm – 7 pm	Routine but intermittent
STACK3	Particulates	10	7	0.5	Hourly	6 am – 9 am and 5 pm – 7 pm	Routine but intermittent
	Sulfur dioxide (SO_2)	400	265	19.6	Hourly	6 am – 9 am and 5 pm – 7 pm	Routine but intermittent
	Oxides of nitrogen (NOx)	50	33	2.5	Hourly	6 am – 9 am and 5 pm – 7 pm	Routine but intermittent

As per 5.4.1 Stack ID	Pollutant Name	Maximum Release Rate				Emissions Hours	Type of Emissions (Continuous / Routine but Intermittent / Emergency Only)
		(mg/Nm^3)	(mg/Am^3)	g/s	Averaging period		
BY1	Particulates	10	2.6	23.7	Hourly	During every start-up and shut down	Emergency only
	Sulfur dioxide (SO_2)	400	102	948.8	Hourly		Emergency only
	Oxides of nitrogen (NOx)	50	13	118.6	Hourly		Emergency only
BY2	Particulates	10	2.6	3.8	Hourly	During every start-up and shut down	Emergency only
	Sulfur dioxide (SO_2)	400	106	150.8	Hourly		Emergency only
	Oxides of nitrogen (NOx)	50	13	18.9	Hourly		Emergency only
BY3	Particulates	10	2.6	1.2	Hourly	During every start-up and shut down	Emergency only
	Sulfur dioxide (SO_2)	400	106	49.7	Hourly		Emergency only
	Oxides of nitrogen (NOx)	50	13	6.2	Hourly		Emergency only
DST[(a)]	Particulates	50	TBD	TBD	Hourly	Plant designed for 5 black starts per year and will run for 4 hours per event and during the monthly 1 hour's tests	Emergency and testing only
	Sulfur dioxide (SO_2)	1170	TBD	TBD	Hourly		Emergency and testing only
	Oxides of nitrogen (NOx)	2000	TBD	TBD	Hourly		Emergency and testing only

(a) The diesel generators are tested once a month for an hour. This stack is also used for black starts.

5.4.3 Point source current emissions monitoring

Provide information on emission monitoring requirements.

As per 5.4.1 Stack ID	Emission Sampling / Monitoring Method	Sampling Frequency	Sampling Duration	Measured Parameters
To be determined by the licencing authority				

5.4.4 Point source emission estimation information

As per 5.4.1 Stack ID	Basis for Emission Rates
STACK1-3	Minimum Emission Standards for Subcategory 1.4 – Gas Combustion Installations (as per Section 21 NEM:AQA)
DST[(a)]	Minimum Emission Standards for Subcategory 1.5 – Reciprocating Engine Installations (as per Section 21 NEM:AQA)

(a) The diesel generators are tested once a month for an hour.

5.4.5 Emission Unit: Area and/or line source parameters

Unique Area Source EU ID	Source Name	Source Description	Latitude (decimal degrees) of SW corner	Longitude (decimal degrees) of SW corner	Height of Release Above Ground (m)	Length of Area (m)	Width of Area (m)	Angle of Rotation from True North (°)
No significant area or line sources								

***Area source** means air pollution source from a specified area, e.g., pollution from a landfill site, fugitive dust from a process.
***Line source** means a moving source of pollutants, e.g., motor vehicles.

5.4.6 Area and/or line source emissions

As per 5.4.5 EU ID	Pollutant Name	Maximum Release Rate (quantity per period)	Average Annual Release Rate (quantity per period)	Emission Hours	Type of Emission (Continuous / Intermittent)	Wind Dependent (Yes / No)
No significant area or line sources						

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

Provide information on management and mitigation measures.

As per 5.4.5 EU ID	Description of Specific Measures	Timeframe for Implementation of Specific Measures	Method of Monitoring Measure Effectiveness	Contingency Measure
No significant area or line sources				

5.4.8 Area and/or line source emission estimation information

As per 5.4.5 EU ID	Basis for Emission Rates
No significant area or line sources	

6 APPLIANCES AND MEASURES TO PREVENT AIR POLLUTION

6.1 Appliances and control measures

Provide information on appliances and measures implemented to prevent air pollution for the entire operation at the site of the works, highlighting information for listed activity or activities proposed in respect of this application.

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 Name and Model	Abatement Equipment Technology Type	Commission Date	Date of Significant Modification / Upgrade	Design Capacity	Minimum Control Efficiency (%)	Minimum Utilization (%)
STACK1	TBD	Low NOx Burner	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
STACK2	TBD	Low NOx Burner	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
STACK3	TBD	Low NOx Burner	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
BY1	TBD	Low NOx Burner	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
BY2	TBD	Low NOx Burner	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
BY3	TBD	Low NOx Burner	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

6.2 Start-up, maintenance and shut-down conditions

List potential start up, maintenance, shut down, upset conditions and associated responses related to the operations at the site of the works, highlight possible releases and responses for the proposed listed activity or activities in respect of the current application.

Emission Unit	Description of Occurrence of Potential Releases	Pollutants and associated amount of emissions	Briefly Outline Back Up Plan
EU1	On start-up of gas turbines	NOx=50 ppm	Only in the event that the plant is required to start-up quickly (unplanned start-up). LNG will be used for the start-up.
EU5	During testing of diesel generators	*Emissions at MES:* PM = 50 mg/Nm³; SO_2 = 1170 mg/Nm³; NOx = 2000 mg/Nm³	Diesel generators are tested for 1hr every month
EU5	Black start-ups	*Emissions at MES:* PM = 50 mg/Nm³; SO_2 = 1170 mg/Nm³; NOx = 2000 mg/Nm³	In the event that there is no grid power the diesel generators will be used for start-up conditions. Plant designed for 5 black starts per year and will run for 4 hours per event.

6.3 Routine reporting and record-keeping

6.3.1 Complaints register

Is there a complaints register maintained on site?

	Yes	
	No	
X	To be initiated, by date: once operations commence	

Please provide a copy of complaints received and corrective actions taken over the past two years.

7. DISPOSAL OF WASTE AND EFFLUENTS ARISING FROM ABATEMENT EQUIPMENT CONTROL TECHNOLOGY

Provide the following information for any waste and effluent arising from abatement equipment control technology that are currently in place at the site of the works:

Unique Stack or Area ID (As per 5.4.1 or 5.4.5 above)	Waste / Effluent Type	Hazardous Components Present	Method of Disposal
No waste			