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ATMOSPHERIC EMISSION LICENCE HOLDER: ESKOM HOLDING SOC LIMITED ARNOT POWER STATION

ATMOSPHERIC EMISSION LICENCE NO.: 17/4/AEL/MP312/11/15

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

I, ET Zulu, in my capacity as the General Manager: Community Development Services of Nkangala District Municipality (hereinafter referred to as "the Licensing Authority", in terms of Section 36(1) of the National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004, hereinafter referred to as the "Act"), and as provided for in Section 40 (1) (a) of the Act, hereby grant the authorisation of the above-mentioned Atmospheric Emission Licence subject to Section 43 of the Act to the conditions specified herein.

This Atmospheric Emission Licence is issued to **Eskom Holding SOC Limited Arnot Power Station** in terms of Section 42 of the Act as amended, in respect of 21 Listed Activity **Subcategory 1.1; 2.4 and 5.1**. The Atmospheric Emission Licence is issued on the basis of information provided in the company's application dated **19 March 2024** and information that became available during processing of the application, as well as the site visit conducted on **15 April 2024**.

The Atmospheric Emission Licence is valid for five (05) years, until **10 June 2029**. This Atmospheric Emission Licence is a renewal initiated by the facility according to Section 47 (1) of the Act and is issued subject to the conditions and requirements set out below which form part of the Atmospheric Emission Licence, and which are binding on **Eskom Holding SOC Limited Arnot Power Station**, (hereinafter referred to as "the Licence Holder").

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1. ATMOSPHERIC EMISSION LICENCE ADMINISTRATION

Name of the Licensing Authority	Nkangala District Municipality
Atmospheric Emission Licence Number	17/4/AEL/MP312/11/15
Previous Atmospheric Emission Licence Issue Date	15 April 2019
Atmospheric Emission Licence Issue Date (Renewal incorporated with National Air Quality Officer's postponement decision dated 30 October 2021 and the Minister's appeal decision dated 22 May 2024)	June 2024
Atmospheric Emission Licence Type	Atmospheric Emission Licence
Atmospheric Emission Licence Review Date	As advised by Licensing Authority
Atmospheric Emission Licence Renewal Date	(Submit renewal application six months before expiry date) December 2028

2. ATMOSPHERIC EMISSION LICENCE HOLDER DETAILS

Enterprise Name	Eskom Holding SOC limited
Trading As	Arnot Power Station
Type of Enterprise	State Owned Company
Enterprise Registration Number (Registration Numbers if Joint Venture)	2002/015527/30
Registered Address	Megawatt Park Maxwell Drive Sunninghill Sandton
Postal Address	Private Bag X02 Rietkuil 1097
Telephone Number (General)	013 297 9005
Fax Number (General)	N/a
Industry Sector	Power Generation (Electricity Generation)
Contact Name (General Manager)	Marcus Nemadodzi
Telephone number	013 693 9112
Cell Phone Number	082 924 5782
Fax Number	N/A
E-mail Address	Nemadonm@eskom.co.za

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After hours Contact Details	082 924 5782
Land Use Zoning as per Town Planning Scheme	Agricultural Zone
Land Use Rights if outside Town Planning Scheme	Agricultural/Heavy Industry

3. SITUATION AND EXTENT OF THE PLANT

3.1. Location and extent of the plant

Physical Address of the Plant	Rietkuil No. 491 JS
Description of Site (Erf)	Anrot Power Station is located on N4 Nelspruit Road and surrounded by the following: a residential-Rietkuil Property, mining, residential area and farming households from the surrounding farms, coal mining and agricultural activities (livestock and crops-maize farm). All of these are situated approximately 5 km away from the power station.
Coordinates of Approximate Centre of Operations	Latitude: -25,942270 Longitude: 29,79023
Extent (km ²)	3.5 (km ²)
Elevation Above Mean Sea Level (m)	1680
Province	Mpumalanga
Metropolitan/District Municipality	Nkangala District Municipality
Local Municipality	Steve Tshwete Local Municipality
Designated Priority Area	Highveld Priority Area

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

Anrot Power Station is located on N4 Nelspruit Road and surrounded by the following: a residential area - Rietkuil Property, mining, residential area and farming households from the surrounding farms, coal mining and agricultural activities (livestock and crops-maize farm). All of these are situated approximately 5 km away from the power station.

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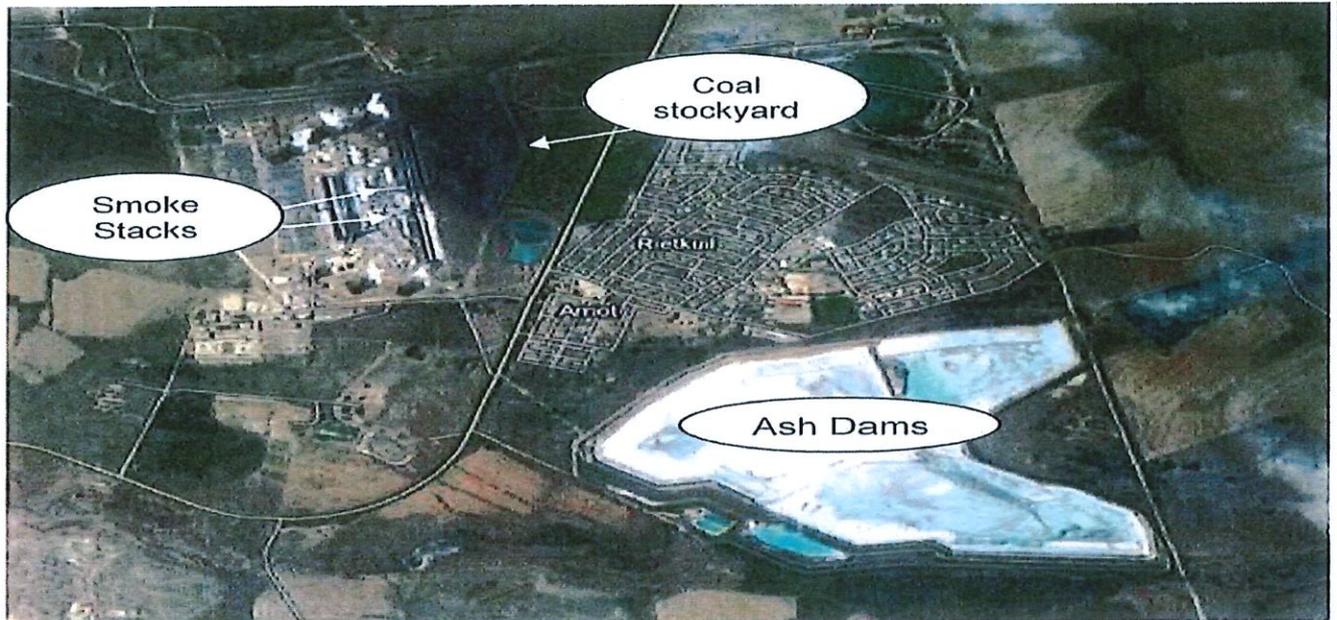


Figure 1: Locality Map of Eskom Holding SOC Limited Arnot Power Station

4. GENERAL CONDITIONS

4.1. Process and ownership changes

- (a) The holder of the atmospheric emission licence 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.
- (b) No building, plant or site of works related to the listed activity or activities used by the licence holder shall be extended, altered, or added to the listed activity without an environmental authorisation from the competent authority. The investigation, assessment, and communication of potential impact of such an activity must follow the assessment procedure as prescribed in the Environmental Impact Assessment Regulations published in terms of Section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended.
- (c) Any changes in processes or production increases, by the licence holder, will require prior approval by the licensing authority.
- (d) 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.
- (e) The licence holder must, in writing, inform the licensing authority of any change of ownership of the enterprise. The licensing authority must be informed within thirty (30) working days after the change of ownership.
- (f) The licence holder must immediately on cessation or decommissioning of the listed activity inform in writing the licensing authority.

4.2. General duty of care

- (a) The holder of the Licence must, when undertaking the listed activity, adhere to the duty of care obligations as set out in section 28 of the NEMA.

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- (b) The Licence 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 as amended.
- (c) Failure to comply with the above condition is a breach of the duty of care, and the Licence holder will be subject to the sanctions set out in section 28 of the NEMA as amended.

4.3. Sampling and/or analysis requirements

- (a) Measurement, calculation and/or sampling and analysis shall be carried out in accordance with any nationally or internationally acceptable standard. 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.
- (b) The licence holder is responsible for quality assurance of methods and performance. Where the holder of the licence uses internal or external laboratories for sampling or analysis, accredited laboratories and personnel shall be used. The certified copy of accreditation of the internal or external laboratory must be submitted to the license authority annually including its external audits certification.
- (c) The licence holder must provide the licensing authority on request with raw data obtained during sampling and /or analysis including methodology used to reach to the final results submitted to the Licensing Authority.

4.4. General requirements for licence holder

- (a) The licence holder is responsible for ensuring compliance with the conditions of this licence 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 licence.
- (b) The licence does not relieve the licence holder to comply with any other statutory requirements that may be applicable to the carrying on of the listed activity.
- (c) A copy of the licence must be kept at the premises where the listed activity is undertaken. The licence must be made available to the Environmental Management Inspector representing the licensing authority who requests to see it.
- (d) The licence holder must inform, in writing, the licensing authority of any change to its details including the name of the contact person, postal address and/or telephonic details within fourteen (14) working days after such change has been effected.

Special Conditions

- (e) The licence holder must attend and participate quarterly in the Highveld Priority Area Implementation Task Team and Air Quality Stakeholder Forum Meetings for the implementation of the Highveld Priority Air Quality Management Plan.
- (f) The licence holder must annually report atmospheric emissions on the National Atmospheric Emission Inventory System (NAEIS) <https://saaelip.environment.gov.za> for the preceding year in terms of GNR 283 in Government Gazette 38633 of 02 April 2015.

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4.5. Statutory obligations

The licence holder must comply with the obligations as set out in Chapter 5 of NEMAQA (Act no. 39 of 2004) as amended.

5. NATURE OF PROCESS

5.1. Process Description

Arnot Power Station receives coal from the surrounding mines through road transportation (coal trucks) and from nearby mines via a conveyor belt, and stockpiled at the coal stockyards and coal staithes. The power station employs the Rankine Cycle (which requires burning of high quantities of coal to achieve efficiency) to generate power and burns approximately 750 000 tons of coal per month to produce superheated steam from six (06) units, each operating at full load (350 MW) and six (06) cooling systems (towers). The North Stack consists of Unit 1 to 3 and the South Stack consists of Unit 4 to 6. There are two (02) draughts groups per unit for air control and the efficiency of the draught groups is important for controlling the efficiency of the facility's abatement technology, i.e. Pulse Jet Fabric Filter Plant (PJFFP). The coal is grinded into pulverized fuel (Chemical energy) and introduced into the boiler where combustion takes place (Heat energy). Water is converted into superheated steam (Kinetic energy) inside the boiler after which the superheated steam drives the turbine (Mechanical energy) which is coupled to the generator and in turn produces electrical energy.

Coal burned from the boiler results in about 195 000 tons of ash per month as well as in flue gas. The ash consists of fly and coarse (heavy) ash which is disposed at the Ash Dam via Ash Water Return (AWR). The flue gas includes fly ash, Particulate Matter (PM), Carbon Dioxide (CO₂), Sulphur Dioxide (SO₂), Nitrogen Dioxide/Oxides of Nitrogen (NO_x). The PJFFP is important for controlling PM emissions (it does not control gaseous emissions) with an optimal operational differential pressure of 2 kPa. The pulsing system of the PJFFP sends a shock wave to the fabric filter bag if the differential pressure is more than 2 kPa. The PJFFP will not be efficient in controlling PM emissions if there is a challenge with AWR. Fly ash is collected using fabric filter bags of the PJFFP and cleaner flue gas is released to the atmosphere through the stack. Dust hoppers are manually agitated in order for dust to fall with the aim to avoid blockages.

Inputs into the process of electricity generation include coal, fuel oil and water. Outputs involve potable water and electrical energy. Emissions generated are carbon dioxide, sulphur dioxide, nitrogen dioxide and dust particulates. The facility's operators are able to monitor PM and gaseous emissions in real-time at the Distributed Control System (DCS).

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5.2. Facility Wide Listed Activities with Regulatory Applicability

Category	Subcategory	Description of the Listed Activity
Category 1: Combustion Installations	Subcategory 1.1: Solid Fuel Combustion Installation	Solid fuels combustion installations used primarily for steam raising or electricity generation.
Category 2: Petroleum Industry, the production of gaseous and liquid fuels as well as petrochemicals from crude oil, coal, gas or biomass	Subcategory 2.4: storage and Handling of Petroleum Products	Petroleum products storage tanks and product transfer facilities.
Category 5: Mineral Processing, Storage and Handling	Subcategory 5.1: Storage and Handling of Ore and Coal	Storage and handling of ore and coal not situated on the premises of a mine or works as defined in the Mines Health and Safety Act 29/1996.

5.3. Unit Process or Processes

Unit Process	Process function	Batch or Continuous Process
Coal Stockpile	Storage of coal	Continuous
Fuel Oil Storage Tanks	Storage and handling of fuel oil	Continuous
Coal Conveyor	Conveying of coal	Continuous
Boilers (Unit 1 to 6)	Burning of coal to generate electricity	Continuous
Pulse Jet Fabric Filter Plant (PJFFP)	Abatement technology to control PM emissions	Continuous
Dust Handling and Ash Plant	Handling of ash	Continuous
Ash Dam	Disposal and storage of ash	Continuous

5.4. Hours of operations

Unit Process	Operating Hours	Days of Operation per Year
Coal Stockpile	24	365
Fuel Oil Storage Tanks	24	365
Coal Conveyor	24	365
Boilers (Unit 1 to 6)	24	365

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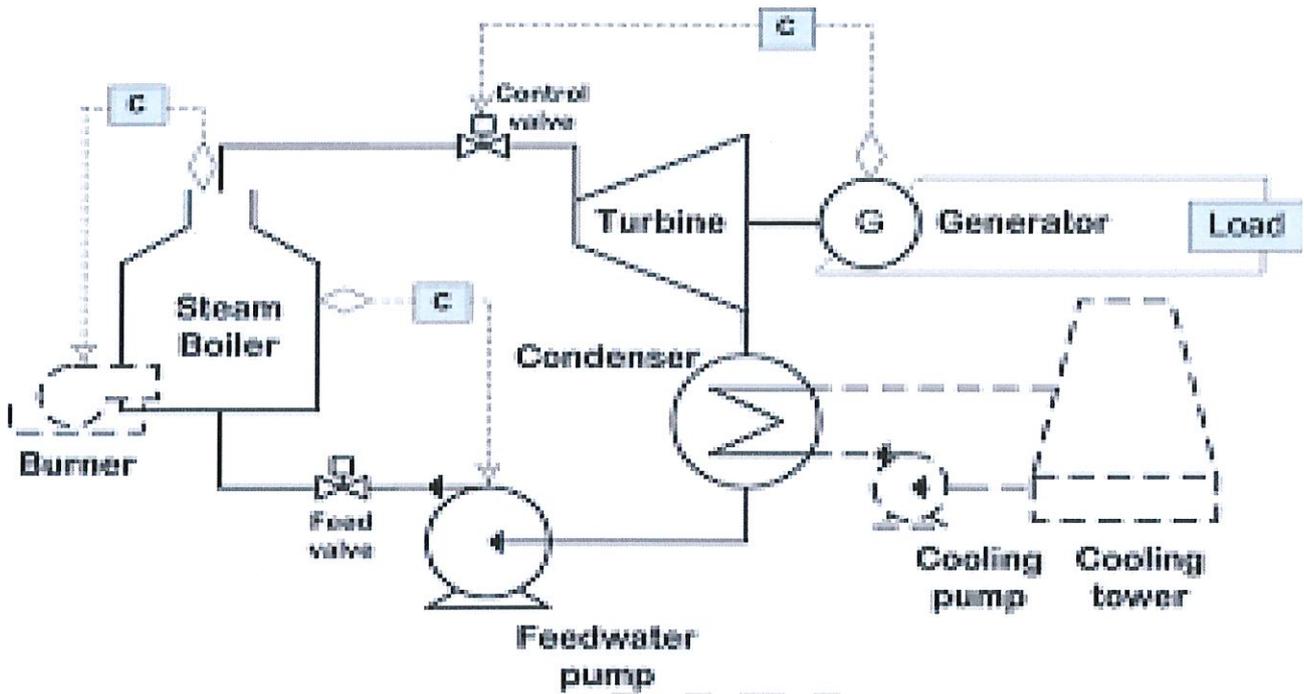


Figure 4: The Rankine Cycle for the generation of power. Power Generation = Energy Conversion (Chemical Energy) → Heat Energy → Kinetic Energy (Mechanical Energy) → Electrical Energy

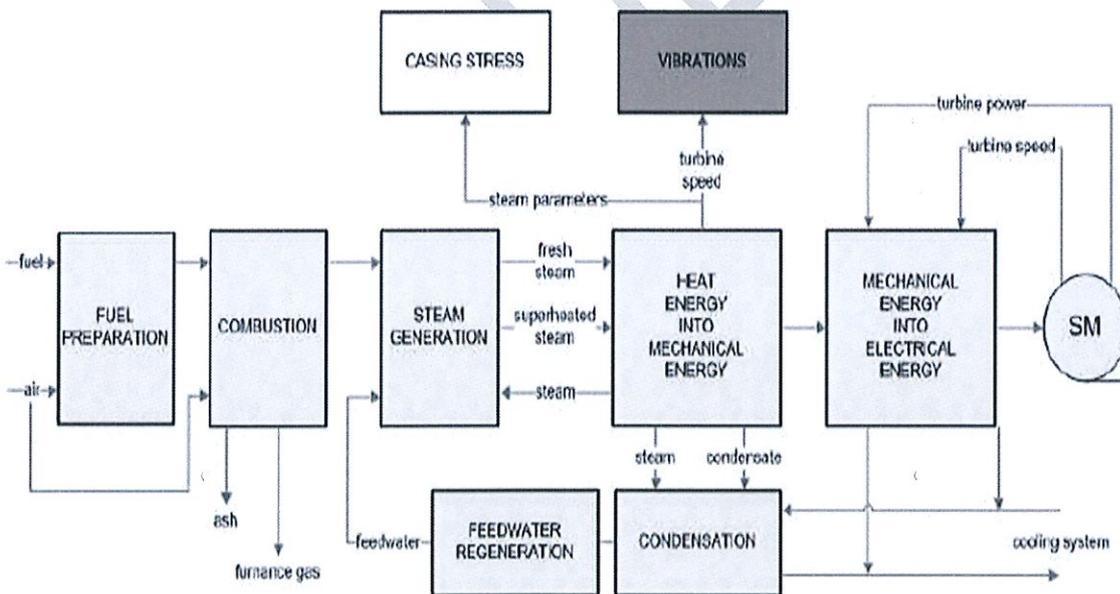


Figure 5: Combustion Products (Emissions) – PM, NO_x, SO_x, CO₂ and SO₂

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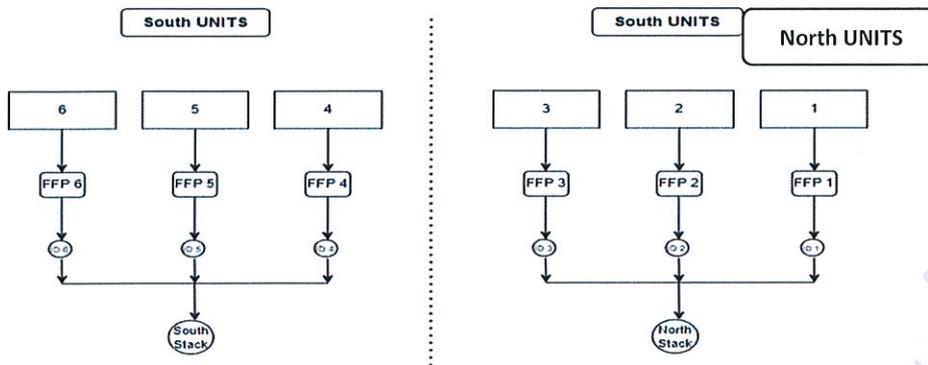


Figure 6: Layout of Pulse Jet Fabric Filter Plant.

6. RAW MATERIALS AND PRODUCTS

6.1. Raw Materials used

Raw Material Type	Maximum Permitted (Design) Consumption Rate (Quantity)	Units (quantity/period)
Coal	1 050 330	tons/month
Fuel oil	10 000	tons/month

6.2. Production Rates

Product Name	Maximum Permitted Production Capacity (Quantity)	Units (quantity/period)
Electricity	1 562 400 MWh/month	Megawatts Hour Per Month

6.3. By Product Rates

By-Product Name	Maximum Permitted Production Capacity (Quantity)	Actual Production Rate (Quantity)	Units (quantity/period)
Ash	195 000	125 564	tons/month

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6.4. Materials used in energy sources

Materials for Energy Source	Maximum Permitted Consumption Rate	Designed Consumption Rate	Actual Consumption Rate	Sulphur Content (%)	Ash Content (%)
Coal	1 050 330	1 050 330	750 000	0.6 – 1.15	20 – 35
Fuel oil	10 000	10 000	6000	N/A	N/A

6.5. Emission Units

6.5.1. Emission Unit - Stack Parameters (Point Source)

EU Code	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)	Emission Hours	Type of Emission (Continuous / Batch)
SV0001	North Stack (Unit 1 – 3)	-25.94285	29.79183	193	173	11	145	3269	34	24	Continuous
SV0002	South Stack (Unit 4 – 6)	-25.94463	29.79212	193	173	11	145	3269	34	24	Continuous

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6.5.2. Emission Unit - Area/Line Source

EU Code	Source Name	Source Description	Latitude (decimal degrees)	Longitude (decimal degrees)	Height of release Above Ground (m)	Length of Area (m)	Width of Area (m)	Emission Hours	Type of Emissions
EU0001	Coal stockyard	Emission Unit Type: Storage of coal Description: Fugitive dust emissions from coal stockpile	-25.938885	29.79468	10	825	505	24	Continuous
EU0002	Fuel Oil Storage North Tanks	Emission Unit Type: Storage and handling of fuel oil Description: VOC (BTEX) emissions from fuel storage and handling	-25.94450	29.79221	12.3	8.05	8.05	24	Continuous
EU0003	Fuel Oil Storage South Tanks	Emission Unit Type: Storage and handling of fuel oil Description: VOC (BTEX) emissions from fuel storage and handling	-25.94584	29.79310	12.3	8.05	8.05	24	Continuous
EU0004	Coal Conveyor	Emission Unit Type: Coal conveyor transfer points Description: Fugitive dust emissions from the conveyor	-25.944326	29.791891	45	3057	1.2	24	Continuous
EU0005	Pulse Jet Fabric Filter Plant (PJFFP)	Emission Unit Type: Abatement technology for control of PM emissions	N/A	N/A	N/A	N/A	N/A	24	Continuous

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EU0006	Dust Handling and Ash Plant	Description: Fugitive emissions from the fabric filter bags	-25.56435	29.47300	N/A	N/A	N/A	24	Continuous
EU0007	Ash Dam	Emission Unit Type: Handling of ash Description: Fugitive dust emissions from the dust hoppers Emission Unit Type: Ash disposal and storage Description: Fugitive emissions arising from ash transportation and storage	-25.95695	29.80954	45	1586	2265	24	Continuous
EU0008	Unpaved roads	Emission Unit Type: Transportation of raw materials – Road used to transport coal and ash to and from the coal stockyard and ash dam Description: Fugitive dust emission from unpaved roads at Arnot Power Station including roads around the coal stockyard, ash dams, wastewater treatment plant and around the station	N/A	N/A	N/A	N/A	N/A	24	Continuous

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7. CONTROL DEVICES, EMISSION UNITS, AND REPORTING GROUPS

7.1. Control Devices

Emission Unit				Control Device							
Associated Source Code	Appliance / Process Equipment Number	Appliance Serial Number	Appliance Type / Description	Control devices Name and Model	Control Devices Manufacture Date	Commission Date	Date of Significant Modification / Upgrade	Device Type	Design Capacity (Am ³ /s)	Minimum Control Efficiency (%)	Minimum Utilisation (%)
SV0001 (North Stack)	Boiler Unit 1 - 3	10-30HPA	Fabric Filter Bags	Pulse Jet Fabric Filter - Actom built	1971	2005	Units 1-3 in 2004-2005	Filter, Fabric	3268	99	100
SV0002 (South Stack)	Boiler Unit 4 - 6	40-60HPA	Fabric Filter Bags	Pulse Jet Fabric Filter - Actom built	1975	1999	Units 4-6 in 1997-1999	Filter, Fabric	3268	99	100

7.2. Reporting / Emission Unit – Maximum Emission Rates (Under Normal Working Conditions)

RG/EU Code	Listed Activity	Pollutant Name	Maximum Release Rate (mg/Nm ³)	Date to be Achieved By	Average Period (Drop-down: Instantaneous, Hourly, Daily, Monthly, Annually)	Duration of Emissions (Hours)
SV0001	Subcategory 1.1	Particulate Matter (PM)	50	Immediately	Daily	24 hours
		Sulphur Dioxide (SO ₂)	2500	01 April 2020 to 31 March 2025	Daily	24 hours

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		Oxides of Nitrogen (NO _x expressed as NO ₂)	1000	01 April 2020 to 31 March 2030	Daily	24 hours
SV0002	Subcategory 1.1	Particulate Matter (PM)	50	Immediately	Daily	24 hours
		Sulphur Dioxide (SO ₂)	2500	01 April 2020 to 31 March 2025	Daily	24 hours
		Oxides of Nitrogen (NO _x expressed as NO ₂)	1000	01 April 2020 to 31 March 2030	Daily	24 hours

Note: All minimum emission standards are expressed on a daily average basis, under normal conditions of 273K, 101.3 kPa, 10% oxygen and dry gas

Point source – Operating Requirements

- 7.2.1. Eskom Arnot Power Station must report all non – compliance with the conditions stipulated in this Atmospheric Emission Licence.
- 7.2.2. A copy of this AEL shall be retained at a place convenient to be produced in case the authorities would like to view it.
- 7.2.3. The Licence holder shall notify the Licensing Authority in writing pertaining to any upgrades or building alterations associated with the listed activity, prior taking the action.
- 7.2.4. The Licence holder must comply with the National Greenhouse Gas Emission Reporting Regulations No. 40762 Government Gazette 03 April 2017.
- 7.2.5. All units must be fitted with continuous emission monitoring equipment for PM; SO₂ and NO_x.
- 7.2.6. Any abnormalities experienced shall be part of the normal monthly reporting and be forwarded to the Licensing Authority.
- 7.2.7. In the event where there is an equipment failure, malfunction or break down, the responsible person/licence holder shall reduce the load to the extent that non-compliance to the licence conditions are avoided and if it still continues, the operation shall be halted.
- 7.2.8. The number of hours for which emissions exceeded the limit shall be reported immediately to the Licensing Authority.
- 7.2.9. Emissions must be measured and reported to Licensing Authority as per condition 7.4 of the Atmospheric Emission Licence.
- 7.2.10. The licence holder must at all times prevent any deviation from the normal conditions of operations that may result in emission exceedances from the specified limit values. In case there is potential of such, the loading shall be scaled down or operations shall be halted completely if there is a likelihood that continued operation may result in harm to human health and well-being or otherwise be detrimental to the environment.

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7.2.11. The licence holder shall be liable to prevent and mitigate against the risk of harm to human health and the environment and shall put in place measures necessary to prevent and/ or mitigate against such risks.

7.2.12. Where continuous emission monitoring is required for a listed activity-

- (a) The averaging period for the purpose of compliance monitoring shall be expressed on a daily average basis or as prescribed in the Atmospheric Emission License.
- (b) The emission monitoring system must be maintained to yield a minimum of 80% valid hourly average values during the reporting period.
- (c) The emission monitoring system must be maintained and calibrated as per the original equipment manufacture's specifications.
- (d) Continuous emission monitoring systems must be calibrated by a SANAS accredited laboratory at least every two (2) years.

7.2.13. The coal specifications shall not be lowered in regards to Service Level Agreements with coal supply contractors and has to undergo pre-qualification, i.e. has to be tested by an accredited laboratory in order to ascertain that it complies with the sulphur and ash content specified in condition 6.4, prior it being used by the facility.

7.2.14. The licence holder must ensure that the rehabilitation of the ash dam is in effect in order to manage and minimise dust emanating from the ash dam. The licence holder must submit an annual progress report on the implementation of the Ash Dam Rehabilitation Plan to the National Air Quality Officer and Licensing Authority.

7. 2.15. Special Minimum Emission Standards Suspension of Compliance time-frames relating to the National Environmental Management: Air Quality Act 39 of 2004 Conditions of 30 October 2021.

- (a) The licence holder must submit a quarterly progress report on the implementation of the facility's compliance road map and commitments made in support of the suspension application for Eskom Arnot Power Station to the National Air Quality Officer and Licensing Authority.
- (b) The licence holder must provide a progress report on the implementation of offset projects which must be submitted annually to the National Air Quality Officer and the Licensing Authority.
- (c) The licence holder must implement an offset programme to reduce PM pollution in the ambient/receiving environment and submit an annual report on the implementation of the offset programme to reduce PM pollution to the National Air Quality Officer and Licensing Authority.

7.2.15. Special Appeal Minister's Decision Conditions dated 22 May 2024

- (a) The licence holder must submit a decommission plan to the National Air Quality Officer and Licensing Authority within twelve (12) months of the appeal decision and the plan must include the following:
 - 1. General information about the power plant;
 - 2. Engineering/activity plan;

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3. Cost of decommissioning and fully funded financing plan;
4. Rehabilitation and / or repurposing plan;
5. Public consultation and stakeholder engagement strategy / plan – A part of this needs to be specific to directly affected parties (employees, contractors, suppliers, service providers, etc.). Organised labour needs to be engaged noting that Eskom is not alone in ending the life of projects and dealing with the consequences, workforce downscaling, etc. There are lessons to be learned from other sectors and operations, two of which are: (i) how to avoid genuine efforts at finding resolutions being hijacked by special interest groups (ii) how to moderate expectations, especially because Eskom is an SOE, with many citizens viewing SOEs as having an infinite pool of resources (money) to meet every need, demand, etc. The point is that this is not 'ordinary'/'run-of-the-mill' stakeholder engagement (it is tailored, specific, focused, and extremely complex because there will be many competing needs and desires);
6. A socio-economic conditions and impact assessment report (local economic development; employment, health; diversification plan);
7. Health and safety risk assessment;
8. Air quality impact assessment;
9. Geotechnical assessment (restoration of land; water waste);
10. Local economic development and diversification plan; and
11. Alternatives to decommissioning

7.2.16. The licence holder's failure to comply with these conditions may result in the licensing authority revoking or suspending the licence in terms of Section 47A of NEM: AQA.

7.3. Reporting Group / Emission Unit – maximum emission rates (under start-up, maintenance and shut-down conditions) there are no abnormal limit, therefore exceedance above maximum release rate shall be reported to the licensing authority.

RG/EU Code	Listed Activity	Pollutant Name	Maximum Release Rate (mg/Nm ³)	Average Period (Drop-down: Instantaneous, Hourly, Daily, Monthly, Annually)	Maximum Gas Volumetric Flow (m ³ /hr)	Maximum Gas Exit Velocity (m/s)	Emission Hours	Permitted Duration of Emissions
SV0001	Subcategory 1.1	PM	50	Daily	3269	34	24	Continuous
		SO ₂	2500					
		NO _x	1000					

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SV0002	Subcategory 1.1	PM	50	Daily	3269	34	24	Continuous
		SO ₂	2500					
		NO _x	1000					

The following conditions must be adhered to at a minimum during start-up, maintenance and shutdown conditions:

- 7.3.1. The Licence Holder must take all reasonable measures to control atmospheric emissions during start-up, maintenance and shutdown operations.
- 7.3.2. Normal start-up, break-down/maintenance/upset and shut-down conditions shall not exceed a period of 48 hours. Should normal start-up, breakdown/maintenance and shut down conditions exceed a period of 48 hours, Section 30 of National Environmental Management Act, 107 of 1998 (as amended) shall apply.
- 7.3.3. In order to put into effect section 42 of the Act, the licence holder shall, on receipt of the Atmospheric Emission Licence, undertake an investigation to measure, monitor and report on point source emissions released during start-up, maintenance, and shut-down conditions.
- 7.3.4. In order to put into effect the provision of section 42 of the Act, the licensing Authority may from time to time review the conditions set herein and may set maximum emission limits to be adhered to by the licence holder during start-up, maintenance, and shutdown conditions.
- 7.3.5. The licence holder shall be liable to prevent and mitigate against the risk of harm to human health and the environment and shall put in place measures necessary to prevent and/ or mitigate against such risks.
- 7.3.6. PM, SO₂ and NO_x emissions should be below the limit value within 24 hours of synchronizing with the grid.
- 7.3.7. Reporting on particulate emissions to commence 24 hours after the unit has synchronized with the grid during start-up.
- 7.3.8. During start-up, maintenance and shut-down, or in the event where there is an indication of adverse impacts to human health and/ or the environment the licence holder must take appropriate measures to avoid such adverse impacts from occurring and/ or recurring.
- 7.3.9. The licence holder must report on abatement utilization and efficiency monthly.
- 7.3.10. Abatement equipment must be maintained to ensure that is operational when the associated boiler is under normal operating conditions. The utilization values stated in Table 7.1 are applicable when the associated boiler is under normal operating conditions.

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7.4. Reporting Group / Emission Unit – emission monitoring and reporting requirements

RG/EU Code	Listed Activity	Pollutant	Emission Sampling/ Monitoring Method	Sampling Testing Frequency	Monitoring Duration)	Parameters to be Measured	Parameters to be Reported	Reporting Frequency
SV0001 & SV0002	Subcategory 1.1	PM	Isokinetic sampling (Correlation and parallel tests) as per Annexure A of GN893 of 22 November 2013	Every two years	As per Annexure A of GN893 of 22 November 2013	PM, SO ₂ , NO _x	PM, SO ₂ , NO _x	Annual
		SO ₂						
		NO _x						
SV0001 & SV0002	Subcategory 1.1	PM	Continuous Emissions Monitoring as per Annexure A of GN893 of 22 November 2013	Continuous Emissions Monitoring	Continuous, min. 80% valid daily averages.	PM, SO ₂ , NO _x	PM, SO ₂ , NO _x	Monthly
		SO ₂						
		NO _x						

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7.5. Reporting Group / Emission Unit (Area and/or line source) – management and mitigation measures

RG/EU Code	Area and/or Line Source Description	Description of Measures	Specific	Timeframe for Achieving Required Control Efficiency	Method of Monitoring Measures Effectiveness	Contingency Measures
EU0001	Coal stockyard	<ul style="list-style-type: none"> • Compaction of coal stockpiles to minimise dust fall out • Dust suppression by spraying water at the coal stock yard area and associated access routes • Adherence to speed limits to minimise dust fall out 	coal	Immediately	<ul style="list-style-type: none"> • Visual inspections • Monthly Fall Out Dust Monitoring and report on or before 30th of every month to the licensing authority 	<ul style="list-style-type: none"> • In line with the facility's approved Fugitive and Atmospheric Emission Management Plan • Increase frequency of dust suppression
EU0002	Fuel Oil Storage North Tanks	<ul style="list-style-type: none"> • Enclosed tanks and visual inspection • Daily operator inspection 	and visual	Immediately	<ul style="list-style-type: none"> • Visual inspections • Annual LDAR Reports 	<ul style="list-style-type: none"> • In line with the facility's approved Fugitive and Atmospheric Emission Management Plan
EU0003	Fuel Oil Storage South Tanks	<ul style="list-style-type: none"> • Monthly Engineering inspection • Adherence to plant procedure and philosophies 			<ul style="list-style-type: none"> • Annual TVOC and BTEX Estimates using tanks models • Annual wall thickness test report 	<ul style="list-style-type: none"> • In line with the facility's maintenance plan • In line with the approved Leak Detection and Repair Program.

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EU0004	Coal Conveyor	<ul style="list-style-type: none"> • Ensure that conveyors are covered • Dust suppression by spraying water at the coal conveyors and associated areas 	Immediately	<ul style="list-style-type: none"> • Visual inspections • Monthly Fall Out Dust Monitoring and report on or before 30th of every month to the licensing authority 	<ul style="list-style-type: none"> • In line with the facility's approved Fugitive and Atmospheric Emission Management Plan • Increase frequency of dust suppression
EU0006	Dust Handling and Ash Plant	<ul style="list-style-type: none"> • Dusting once every 24 hours (Manual agitation of dust hoppers) • Adherence to the facility's ash plant emissions recovery actions 	Immediately	<ul style="list-style-type: none"> • Visual inspections • Monthly Fall Out Dust Monitoring and report on or before 30th of every month to the licensing authority 	<ul style="list-style-type: none"> • In line with the facility's approved Fugitive and Atmospheric Emission Management Plan • In line with the facility's maintenance plan
EU0007	Ash Dam	<ul style="list-style-type: none"> • Ash is conditioned with water before disposal at the ash dam • Dust suppression at the ash dam area and associated access routes by watering sufficiently to minimise dust fall out. 	Immediately	<ul style="list-style-type: none"> • Visual Inspections • Monthly Fall Out Dust Monitoring and report on or before 30th of every month to the licensing authority 	<ul style="list-style-type: none"> • In line with the facility's approved Fugitive and Atmospheric Emission Management Plan • Rehabilitation of the Ash Dam slope by means of topsoil and growing of vegetation • Increase frequency of dust suppression

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EU0008	Unpaved roads	<ul style="list-style-type: none"> • Compaction of coal stockpiles to minimise dust fall out • Dust suppression by spraying water at the coal stock yard area and associated access routes • Adherence to speed limits to minimise dust fall out 	Immediately	<ul style="list-style-type: none"> • Visual Inspections • Monthly Fall Out Dust Monitoring and report on or before 30th of every month to the licensing authority 	<ul style="list-style-type: none"> • In line with the facility's approved Fugitive and Atmospheric Emission Management Plan • In line with the facility's Traffic Management Plan. • In line with the facility's maintenance plan • Increase frequency of dust suppression
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- (a) The following special arrangement shall apply for the storage and handling of raw material, intermediate and final products with a vapour pressure greater than 14 kPa at operating temperature: - Leak detection and repair (LDAR) program approved by licensing authority must be instituted.
- (b) The following transitional and special arrangement shall apply for control of TVOC's from storage of raw materials, intermediate and final products with vapour pressure of up to 14kPa at operating temperature, except during loading and offloading. (Alternative control measures that can achieve the same or better results may be used) – (i) storage vessels for liquids must be of the following type:

Application	All permanent immobile liquid storage facilities at a single site with a combined storage capacity of greater than 1 000 cubic metres
True vapour of contents at product storage temperature	type of tank or vessels
Type 1: Up to 14 kPa	Fixed roof tank vented to atmosphere, or as per type 2 and 3
Type 2: Above 14 kPa and up to 91 kPa with a throughput of less than 50 000 m3 per annum	Fixed roof tank with pressure vacuum vents fitted as a minimum to prevent "breathing" losses or as per Type 3

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Type 3: Above 14 kPa and up to 91 kPa with a throughput of greater than 50 000 m3 per annum	(a) External floating roof tank with primary rim seal and secondary rim seal for tank with a diameter greater than 20 m, or (b) Fixed roof tank with internal floating deck/roof fitted with primary seal, or (c) Fixed roof tank with vapour recovery system.
Type 4: Above 91 kPa	Pressure vessel

- (i) The roof legs, slotted pipes and/ or dipping well on floating roof tanks (except for domed floating roof tanks or internal floating roof tanks) shall have sleeves fitted to minimize emissions
- (ii) Relief valves on pressurised storage should undergo periodic checks for internal leaks. This can be carried out using portable acoustic monitors or if venting to atmosphere with an accessible open end tested with a hydrocarbon analyser as part of the LDAR programme.
- (c) The following special arrangement shall apply for the storage and handling of ore and coal not situated on the premises of a mine or works as defined in the Mines Health and Safety Act 29 of 1996:
- (d) Three months running average of dust fall not to exceed limit value for adjacent land use according to Dust Control Regulations promulgated in section 32 of the NEM: AQA, 2004, in eight principal wind directions.

7.6. Routine reporting and record-keeping

Complaints register

The licence holder must maintain a complaints 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.

Furthermore, the licence 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:

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- (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.

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 05 (five) years after the complaint was made.

Annual reporting

The licence holder must complete and submit to the licensing authority an annual report. The report must include information for the year under review (i.e. annual year-end of the company). The report must be submitted to the licensing authority not later than 60 (sixty) days after the end of each reporting period. The annual report must include, amongst others, the following items:

- (a) Pollutant emissions trend;
- (b) Compliance audit report(s);
- (c) Major upgrades projects (i.e. abatement equipment or process equipment);
- (d) Action taken to address complaints received, and
- (e) Annual report on implementation of Highveld Priority Areas Air Quality Management Plan, projects and / or offset programs.

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

Greenhouse gas Reporting

Reporting in terms of Section 43 (1) (l) shall be done in accordance with the National Greenhouse Gas Reporting Regulations.

7.7. Investigation

The following investigations are required:

Investigation	Purpose	Completion Date
Submit an Emission Reduction and Management Plan (ERMP) for approval to the licensing	To ensure that the facility has effective measures to reduce its	Six (06) months after receipt of this licence.

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authority. The ERMP must be implemented immediately upon approval by the licensing authority.	emissions within the High Priority Area (HPA).	
To investigate and submit report on high emission of PM and SO ₂ in order for the facility to be in compliance with Minimum Emission Standards (MES) for new plant to the National Air Quality Officer and Licensing Authority.	To ensure that the facility is in compliance with Minimum Emission Standards (MES) as stipulated in the NEM:AQA	Six (06) months after receipt of this licence.
Submit a quarterly progress report on the implementation of the facility's compliance road map and commitments made in support of the suspension application for Eskom Arnot Power Station to the National Air Quality Officer and Licensing Authority.	To ensure that the facility complies with the National Minimum Emission Standards to reduce pollution in the ambient/ receiving environment.	Three (03) months after receipt of the licence.
Submit the decommission plan to the National Air Quality Officer and Licensing Authority.	To ensure that issues of socio economic and environmental conditions are attended to.	Twelve (12) months after receipt of the licence.

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

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

EU Code	Stack Code	Waste / Effluent Type	Hazardous Components Present	Method of Disposal
SV0001, SV0002	North Stack (Unit 1 – 3) South Stack (Unit 4 – 6)	Fabric Filter bags	Synthetic material	Registered Hazardous Waste Disposal Site
EU0006	Dust Handling and Ash Plant	Ash	Heavy metals	Ash Dam (on-site)

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9. PENALTIES FOR NON-COMPLIANCE WITH LICENCE AND STATUTORY CONDITIONS AND OR REQUIREMENTS

Failure to comply with any of the licence 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 NEM: AQA.

10. APPEAL OF LICENCE

- 10.1 The Licence Holder must notify every registered interested and affected party, in writing and within ten (10) days, of receiving the Municipal decision.
- 10.2 The notification referred to in 10.1. must:
- 10.2.1 Inform the registered interested and affected parties of the appeal procedure provided for in the Municipal Systems Act (Act 32 of 2000);
 - 10.2.2 Advise the interested and affected parties that a copy of the Atmospheric Emission Licence and reasons for the decision will be furnished on request;
 - 10.2.3 An appeal against the decision must be lodged in terms of Section 62 of Municipal Systems Act (Act 32 of 2000), with the Appeal Authority on the following address:

Nkangala District Municipality,
PO Box 437,
Middelburg,
1050

Tel No. 013 249 2000,
Fax No. 013 249 2173

and

- 10.2.4 Specify the date on which the Atmospheric Emission licence was issued.



MS ET ZULU
GENERAL MANAGER: COMMUNITY DEVELOPMENT SERVICES
NKANGALA DISTRICT MUNICIPALITY

Air Quality Officer
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