



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447· PRETORIA · 0001· Environment House · 473 Steve Biko Road, Arcadia · PRETORIA

DEA Reference: 14/12/16/3/3/2/1123

Enquiries: Mr Thando Boo

Telephone: (012) 399 9387 **E-mail:** TBooi@environment.gov.za

Ms Deidre Herbst
ESKOM HOLDINGS SOC LTD
P.O. Box 1091
SUNNINGHILL
2000

Telephone number: (011) 800 3501
Email address: Deidre.herbst@eskom.co.za

PER E-MAIL / MAIL

Dear Ms Herbst

ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT NO. 107 OF 1998, GN R982, GN R983, GN R984 AND GN R985 AS AMENDED, FOR THE PROPOSED CONSTRUCTION OF RICHARDS BAY COMBINED CYCLE POWER PLANT AND ASSOCIATED INFRASTRUCTURE WITHIN THE CITY OF UMHLATHUZE LOCAL MUNICIPALITY IN KWAZULU NATAL PROVINCE

With reference to the above application, please be advised that the Department has decided to grant authorisation. The Environmental Authorisation (EA) and reasons for the decision are attached herewith.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014, as amended (the EIA Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the EA, of the Department's decision as well as the provisions regarding the submission of appeals that are contained in the Regulations.

In terms of the Promotion of Administrative Justice Act, Act No. 3 of 2000, you are entitled to the right to fair, lawful and reasonable administrative action; and to written reasons for administrative action that affects you negatively. Further your attention is drawn to the provisions of the Protection of Personal Information Act, Act No. 4 of 2013 which stipulates that the Department should conduct itself in a responsible manner when collecting, processing, storing and sharing an individual or another entity's personal information by holding the Department accountable should the Department abuses or compromises your personal information in any way.

Your attention is drawn to Chapter 2 of National Environmental Management Act, Act No. 107 of 1998 National Appeal Regulations published under Government Notice R993 in Government Gazette No. 38303 dated 08 December 2014 (National Appeal Regulations, 2014), which prescribe the appeal procedure to be followed. Kindly include a copy of this document (National Appeal Regulations, 2014) with the letter of notification to interested and affected parties in this matter.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable.

Appeals must be submitted in writing in the prescribed form to:

The Director: Appeals and Legal Review of this Department at the below mentioned addresses.

By email: appeals@environment.gov.za

By hand: Environment House
473 Steve Biko
Arcadia
Pretoria
0083; or

By post: Private Bag X447
Pretoria
0001

Please note that in terms of Section 43(7) of the National Environmental Management Act, Act No. 107 of 1998, as amended, the lodging of an appeal will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.environment.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appeals@environment.gov.za.

Yours faithfully



Ms Milicent Solomons

Acting Chief Director: Integrated Environmental Authorisations

Department of Environmental Affairs

Date: 23/12/2019.

cc:	Ms. J Thomas	Savannah Environmental (Pty) Ltd	Tel: (011) 656 3237	Email: joanne@savannahsa.com
	Mr. S Sibande	KZN DEDTEA	Tel: (033) 264 2500	Email: siza.sibande@kznedtea.gov.za
	Ms. S Govender	City of uMhlatuze Local Municipality	Tel: (035) 907 5033	Email: Sharin.Govender@umhlathuze.gov.za



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

In terms of Regulation 25 of the Environmental Impact Assessment Regulations, 2014
as amended

Construction of the Richards Bay Combined Cycle Power Plant and associated infrastructure
within the City of uMhlatuze Local Municipality in KwaZulu Natal Province

King Cetshwayo District Municipality

Authorisation register number:	14/12/16/3/3/2/1123
Last amended:	First issue
Holder of authorisation:	Eskom Holdings SOC Ltd
Location of activity:	Within Ward 26 of the City of uMhlatuze Local Municipality, King Cetshwayo District Municipality, KwaZulu Natal Province

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this environmental authorisation, that the applicant should be authorised to undertake the activities specified below.

Non-compliance with a condition of this environmental authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the EIA regulations.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2014 as amended the Department hereby authorises –

ESKOM HOLDINGS SOC LTD

with the following contact details –

Deidre Herbst

ESKOM HOLDINGS SOC LTD

P.O. Box 1091

JOHANNESBURG

2000

Telephone number: (011) 800 3501

Email address: Deidre.herbst@eskom.co.za

to undertake the following activities (hereafter referred to as "the activity") indicated in Listing Notice 1, 2 and Listing Notice 3 as amended (GN R. 983, 984 and 985 as amended):

<p><u>GN R. 983 Item 9(i) and (ii):</u></p> <p><i>"The development of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water</i></p> <p><i>(i) with an internal diameter of 0,36 metres or more;</i></p> <p><i>or</i></p> <p><i>(ii) with a peak throughput of 120 litres per second or more"</i></p>	<p>The development of the Richards Bay CCPP will require the construction of a water pipeline exceeding 1000 metres in length. The pipeline will have an internal diameter of more than 0.36 metres and will have a peak throughput exceeding 120 litre per second.</p>
<p><u>GN R. 983 Item 12(ii)(a)(c):</u></p> <p><i>"The development of -</i></p> <p><i>(ii) infrastructure or structures with a physical footprint of 100m² or more;</i></p> <p><i>where such development occurs -</i></p> <p><i>(a) within a watercourse;</i></p> <p><i>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse"</i></p>	<p>Wetlands occur within the project site which will be affected by the development of the Richards Bay CCPP. The development will be located within watercourses, as well as within 32 metres of a watercourse.</p>
<p><u>GN R. 983 Item 19:</u></p> <p><i>"The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse"</i></p>	<p>The development of the Richards Bay CCPP will require the infilling or the depositing of material and the excavation, removal or moving of soils of more than 10 cubic metres from the wetlands located within the project site.</p>
<p><u>GN R. 983 Item 25:</u></p> <p><i>"The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput</i></p>	<p>A water treatment plant will be developed as part of the Richards Bay CCCP for the treatment of the process water to be used in the power plant operations. The daily</p>

<p>capacity of more than 2000 cubic metres but less than 15 000 cubic metres”</p>	<p>throughput capacity will be approximately 2000m³.</p>
<p><u>GN R. 984 Item 2:</u> “The development and related operation of facilities or infrastructure for the generation of electricity from a non-renewable resource where the electricity output is 20 megawatts or more”</p>	<p>The Richards Bay CCPP will have an installed generating capacity of up to 3000MW and will use natural gas as a fuel source (and diesel as a back-up) an alternative, both of which are non-renewable resources.</p>
<p><u>GN R. 984 Item 4:</u> “The development and related operation of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres”</p>	<p>Storage containers will be required for the development of the Richards Bay CCPP to store dangerous goods such as lubricant oils and diesel. Two (2) tanks of 5.2 million litre (5.200m³) capacity each will be required for the storage of the back-up diesel. Additionally, four (4) Liquid petroleum gas (LPG) tanks with a storage capacity of up to 6.5m³ each will be required for the storage of other dangerous goods (cleaning agents, lubricating and hydraulic oils, jacking oils, seal oils, chemicals for the water treatment plant). The storage capacity required for other dangerous goods is 26m³.</p>
<p><u>GN R. 984 Item 6:</u> “The development of facilities or infrastructure for any process or activity which requires a permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent”</p>	<p>The air emission license is required to be obtained for the development of the Richards Bay CCPP in terms of NEM: Air Quality Act. A water use license will also be required for the development of the RB CCPP in terms of the National Water Act, (Act No. 36 of 1998).</p>

<p><u>GN R. 984 Item 7(i):</u> <i>"The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods -</i> <i>(i) in gas form, outside an industrial complex, using pipelines, exceeding 1000m in length, with a throughput capacity of more than 700tons per day"</i></p>	<p>The development of the CCPP requires the construction of a gas pipeline of more than 1000 metres in length for the transportation of natural gas from gas supply pipeline to the project site. The daily throughput of capacity will be more than 89000 and 95000 tons per day.</p>
<p><u>GN R. 984 Item 15:</u> <i>"The clearance of an area of 20 hectares or more of indigenous vegetation"</i></p>	<p>The development of the CCPP will require the entire extent of the project site, of which over 20 hectares or more of indigenous vegetation, will be cleared.</p>
<p><u>GN R. 984 Item 25:</u> <i>"The development and related operation of facilities or infrastructure for treatment of effluent, wastewater or sewage with a daily throughput capacity of 15000 cubic metres or more"</i></p>	<p>A condensate polishing plant will also be required to treat the main condensate from the Richards Bay CCPP. The daily throughput will be more than 15000m³.</p>
<p><u>GN R. 985 Item 2(d)(viii):</u> <i>"The development of reservoirs, excluding dams with a capacity of more than 250m³.</i> <i>(d) KwaZulu Natal</i> <i>(viii) Critical biodiversity areas identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans"</i></p>	<p>The development of the Richards Bay CCPP will require clean and dirty water retention dams that will exceed 250m³ with a Critical Biodiversity Area (CBA) as per the KwaZulu Natal Biodiversity Sector Plan, 2014.</p>
<p><u>GN R. 985 Item 4(d)(viii):</u> <i>"The development of a road wider than 4 metres with a reserve less than 13,5 metres</i> <i>(d) KwaZulu Natal in</i> <i>(viii) Critical biodiversity areas as identified in systematic biodiversity plans as adopted by the competent authority or in bioregional plans"</i></p>	<p>The development of Richards Bay CCPP will require the development of internal roads wider than 4 metres. The project site is located within a Critical Biodiversity Area (CBA) as per the KwaZulu Natal Biodiversity Plan, 2014.</p>

<p><u>GN R. 985 Item 12(d)(iv)(v):</u></p> <p><i>"The clearance of an area of 300 square metres or more of indigenous vegetation:</i></p> <p><i>(d) KwaZulu Natal:</i></p> <p><i>(iv) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; and</i></p> <p><i>(v) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans"</i></p>	<p>The development of Richards Bay CCPP will require the clearance of 300 square metres or more of indigenous vegetation. The project site is located within a Critical Biodiversity Area as per the KwaZulu Natal Biodiversity Plan, 2014 and is located within a critically endangered ecosystem due to the presence of the KwaMbonambi Hygrophilous Grassland.</p>
<p><u>GN R. 985 Item 14(ii)(a)(c)(d)(vii):</u></p> <p><i>"The development of</i></p> <p><i>(ii) infrastructure or structures with a physical footprint of 10 square metres or more;</i></p> <p><i>where such development occurs-</i></p> <p><i>(a) within a watercourse or;</i></p> <p><i>(c) If no development setback has been adopted, within 32 metres of a watercourse measured from the edge of a watercourse</i></p> <p><i>(d) KwaZulu Natal</i></p> <p><i>(vii) Critical biodiversity areas or ecological support areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans"</i></p>	<p>Wetlands occur within the project site which will be affected by the development of the Richards Bay CCPP. The development will be located within a watercourse as well as within 32 metres of a watercourse. The project site is also located within a Critical Biodiversity Area (CBA) as per the KwaZulu Natal Biodiversity Sector Plan, 2014.</p>
<p><u>GN R. 985 Item 18(d)(viii)</u></p> <p><i>"The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre</i></p> <p><i>(d) KwaZulu Natal:</i></p>	<p>The existing dirt road network surrounding the project site will be widened by more than 4 metres. The new proposed access roads will be approximately 7.4m wide. The project site is also located within a Critical Biodiversity Area</p>

(viii) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans"	as per the KwaZulu Natal Biodiversity Sector Plan, 2014.
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as described in the final Environmental Impact Assessment Reports (EIAr) dated August 2019 at:

Richards Bay Combined Cycle Power Plant:

Portion 2 and Portion 4 of Erf 11376

21 SG Code:

N	0	G	V	0	4	2	1	0	0	0	1	1	3	7	6	0	0	0	0	2
N	0	G	V	0	4	2	1	0	0	0	1	1	3	7	6	0	0	0	0	2

Development Area Co-ordinates

	Latitude (S)	Longitude (E)
01 - most northern point moving clockwise	28° 45' 50,325" S	31° 59' 10,693" E
02	28° 46' 8,737" S	31° 59' 23,113" E
03	28° 46' 10,955" S	31° 59' 25,450" E
04	28° 46' 10,135" S	31° 59' 28,643" E
05	28° 46' 12,583" S	31° 59' 31,333" E
06	28° 46' 14,063" S	31° 59' 31,865" E
07	28° 46' 13,278" S	31° 59' 27,145" E
08	28° 46' 13,148" S	31° 59' 26,796" E
09	28° 46' 18,209" S	31° 59' 24,930" E
10	28° 46' 19,855" S	31° 59' 19,269" E
11	28° 46' 23,856" S	31° 59' 18,252" E
12	28° 46' 17,141" S	31° 58' 38,071" E
13	28° 45' 58,868" S	31° 58' 59,204" E
14	28° 45' 58,018" S	31° 59' 2,767" E
15	28° 45' 52,167" S	31° 59' 7,176" E

- for the construction of the proposed Richards Bay Combined Cycle Power Plant and associated infrastructure within the City of uMhlatuze Local Municipality in KwaZulu Natal Province hereafter referred to as "the property".

Project Description

The Richards Bay Combined Cycle Power Plant involves the construction of a gas-fired power station which will provide mid-merit power supply to the electricity grid. The mid-merit power supply will be between a range of 20% to 70% of the total electricity supply produced by the Richards Bay CCPP. The power station will have an installed capacity of up to 3 000MW, to be operated on natural gas as the primary fuel source and diesel as a back-up fuel (not as primary fuel source). Diesel is only proposed as a back-up fuel during emergency situations and a maximum operation time of 8 hours is expected for diesel during the emergency situations.

The project will comprise the following:

- Gas turbines for the generation of electricity through the use of natural gas or diesel (back-up resource);
- Heat recovery steam generators (HRSG) to capture heat from high temperature exhaust gases to produce high temperature and high pressure dry steam to be utilised in the steam turbines;
- Steam turbines for the generation of additional electricity through the use of dry steam generated by the HRSG;
- By pass stacks associated with each gas turbine;
- Dirty Water Retention Dams and Clean Water Dams;
- Storm water channels;
- Waste (general and hazardous) storage facilities;
- Exhaust stacks for the discharge of combustion gases into the atmosphere;
- A water treatment plant for the treatment of potable water and the production of demineralised water (for steam generation);
- Water pipelines and water tanks to transport and store water of both industrial quality and potable quality (potable water is to be supplied by the Local Municipality);
- Dry-cooled system consisting of air-cooled condenser fans situated in fan banks;
- Closed fin-fan coolers to cool lubrication oil for the gas and steam turbines;
- A gas pipeline and a gas pipeline supply conditioning process facility for the conditioning and measuring of the natural gas prior to being supplied to the gas turbines. This process covers the gas pipeline from the power station to perimeter fence.

- Diesel off-loading facility and storage tanks; and
- Ancillary infrastructure including internal access roads, warehousing, buildings, access control facilities; and workshop area, storage facilities, emergency back-up generators, fire fighting systems, laydown areas and 132kV and 400kV switchyards.

Technical details of the Richards Bay CCPP development

Location of the site	Portion 2 and Portion 4 of Erf 11376 located within the Richards Bay IDZ Phase 1D, KwaZulu-Natal.
Landowner	The affected properties are owned by the City of uMhlatuze Local Municipality
Municipal Jurisdiction	King Cetshwayo District Municipality and the City of uMhlatuze Local Municipality.
Electricity Generating capacity	Up to 3000MW (installed).
Proposed technology	Combined Cycle Gas Turbines (CCGT) Power Plant with an anticipated configuration of 2:2:1 (Gas Turbine: HRSG: Steam Turbine).
Extent of preferred project site	71ha.
Extent of the Richards Bay CCPP development footprint (power plant only)	Up to 60ha.
Extent of the associated infrastructure development footprint	Approximately 11ha.
Gas turbine	The footprint of each gas turbine, including auxiliary equipment, is expected to have an extent of 50m x 100m.
Stack dimensions	Exhaust and bypass stack heights will be a minimum of 40m (one exhaust stack per Heat Recovery Steam Generator (HRSG) and one additional bypass stack for each gas turbine) and a diameter of approximately 7.2m.
Condenser Fans	Air cooled condenser fans will be approximately 40m in height.
Fuel and dangerous goods storage	- Storage tanks will be required for diesel to be used as a back-up fuel which will have capacity for an 8-hour operation. Two

	<p>tanks of 5.2 million litre capacity will be required. Diesel will be transported via road.</p> <ul style="list-style-type: none"> - Natural gas will not be stored on site. - Welded steel tanks will be constructed for diesel storage. The tanks will be bunded. - Four Liquid petroleum gas (LPG) tanks with a storage capacity of up to 6.5m³ each will be required for the storage of dangerous goods. The total storage capacity required for dangerous goods is 26m³. - The following dangerous goods will be stored on site: <ul style="list-style-type: none"> * Cleaning agent for the gas turbine blade washing; * New and used lubricating and hydraulic oils; * Lubrication oils required for turbine rotating equipment and bearings; * Hydraulic oil for the main machine set control valve systems; * Jacking oil for the turbine bearings (this is a high-pressure lubrication oil); * Seal oil for the generator; * Chemicals for the water treatment plant.
Site access	<ul style="list-style-type: none"> - Direct access to the site is possible via the use of existing dirt roads surrounding the project site. - The new main access to the project site will be via the Western Arterial which leads from the John Ross Highway into the industrial area. - The new access roads to the Richards Bay CCPP will be approximately 3.7m in width per lane and will include two lanes, which will be tarred. - The perimeter security road will be gravel.
Laydown areas	<ul style="list-style-type: none"> - Approximately 5-10ha, in total, will be required for laydown areas. Of this, 8-9ha/80% of the total area allocated for laydown areas will be temporary and progressively used for construction. The remaining 1-2 ha/20% of the total area allocated for laydown areas, will be landscaped following construction.

Grid connection	<ul style="list-style-type: none"> - The CCPP will be connected to the national grid via a High Voltage yard and a 400kV power line. - The CCPP will have a maximum of 12 generator transformers.
Pipelines and water storage	<ul style="list-style-type: none"> - Internal water (potable water and industrial quality), air, diesel, gas and sewerage pipelines. - All pipelines within the site will have a diameter of between 1.27cm and 60.96cm. - The natural gas pipeline throughput capacity is expected to be between 8900 and 9500 tons per day at maximum operation of the CCPP. - The gas pipeline from the station to the boundary will have a maximum diameter up to 60.96cm in diameter. - From the site boundary, natural gas will be transported via the main supply pipeline to the gas processing plant. From the processing plant the gas will be distributed to each individual gas turbine. - Water tanks and pipelines will be installed for water of industrial and potable water quality.
Associated infrastructure	<ul style="list-style-type: none"> - Internal roads and external road to connect to the local/provincial road. - Control and electrical buildings, including a central control room. - Warehousing and administrative buildings with a height between 5-10m. - Fire fighting systems. - Storage facilities for fuel, gas, diesel and chemicals. - Emergency back-up generators.
Buildings sizes	<ul style="list-style-type: none"> - Access Building. - Guard hut. - Administration Building. - Rest Room. - Main Workshop. - Main Store. - Chemical and Oil Store.

	<ul style="list-style-type: none"> - Fuel Offloading Canopy. - Fuel Treatment and Forwarding Facility. - Fuel Sampling Room. - Fire Pumphouse. - Air Compressor Building. - Motor control center (MCC) Room. - Station Control Building. - Turbine Hall. - Water Treatment Plant Lab. - Water Treatment Plant. - Hydrogen Plant Room.
<p>Services required</p>	<ul style="list-style-type: none"> - Waste disposal - all waste material generated from the development will be collected by a contractor and the waste will be disposed of at a licensed waste disposal facility off site. Eskom has confirmed capacity for the provision of waste disposal services with the local municipality. There will be storage for general and hazardous waste on site. - Sanitation – during construction and operation of the Richards Bay CCPP a connection to the municipal sewer pipeline will be established for sanitation purposes at the plant. It is expected that approximately 20m³ of sewage will be discharged to this system per day during construction and operation. Eskom has received confirmation of capacity of the sewage system from the local municipality. Temporary chemical toilets will however also be used if and where required. - Water – Potable water is to be sourced from the uMhlathuze Municipality Water Works. The construction phase of the Richards Bay CCPP will require 37 290m³ of water for a period of 36-48 months. The average consumption will be approximately 800 -1 000 m³/month. Water volumes of approximately 1 825 000m³ per annum are expected to be required for the operation of the plant. This amounts to between 2000 - 5000m³ provided by the municipality per day. Eskom has

	<p>received confirmation of capacity from the Local Municipality to provide the required water.</p> <ul style="list-style-type: none"> - Wastewater from the plant will be discharged to the municipal system. It is estimated that the boiler blow down system will discharge ~1555m³ per day, the demineralised treatment plant effluent will discharge ~523.99m³ per day, condensate polishing plant effluent will discharge ~197m³ and ~370.6m³ of oily water prior to treatment will be discharged per day. Eskom has received confirmation of capacity from the municipal system with the Local Municipality. - Electricity: the electricity requirements for this facility are to be obtained from the municipality during the construction phase. Eskom has received confirmation of capacity for the provision of electricity by the Local Municipality. The Richards Bay CCPP will generate its own electricity from the facility during operation.
Groundwork Spoil heaps	<ul style="list-style-type: none"> - Temporary groundwork spoil heaps will be required for the duration of the construction phase (~36-48 months). All groundwork temporary spoil heaps will be used for landscaping purposes following construction. Any excess material will be removed from site by a contractor and disposed of.
Water Storage Reservoir	<p>Water storage facilities for both process water and fire-fighting purposes will be located on site. The Local Municipality will supply the potable water.</p>
Water Treatment Plant	<ul style="list-style-type: none"> - Water of industrial quality will be provided by the local municipality which will be treated for potable water purposes and for demineralised water for the CCPP. As a back-up the Local Municipality will also provide potable water for situations where industrial quality water is not available. - The industrial water supplied by the Municipality to be treated in the water treatment plant will not have heavy metals, dyes and constituents, as per the requirements of Eskom. - Wastewater produced from the CCPP will be generated from the demineralised water treatment system, Boiler Blow down

	<p>Recovery System and the Condensate Polisher System. The wastewater will be neutralised at the Effluent Neutralisation System (NES) (i.e. water treatment plan) before discharge to the municipality.</p> <ul style="list-style-type: none"> - Wastewater containing oil will include wastewater from ground-run-offs, and therefore the effluent is expected to contain grit and silt. An oil-water separator will be installed for the removal of the grit, silt and other foreign particulate matter prior to the water being put through the Primary Oil-Water Separator. The oil removed from this process will be stored in a tank and collected by a licensed sub-contractor to dispose of the oil off-site. A secondary oil-water separator will be required to refine the wastewater prior to discharging it to the local municipality sewage treatment plant. - Potable water from the pre-treatment system will be treated through the demineralised water treatment system. Ion Exchange will be used in the process. The ion exchange treatment system will consist of three trains, each with a hydraulic capacity of 2 403m³ per day. The system will include the following process units: i) strong acid cation vessel, CO₂ de-gasifier, weak base anion vessel, strong base anion vessel and a mixed bed vessel. The demineralised water produced can be sent to the power station directly or it can be stored in a demineralised water storage tanks. After some time, the vessels will become exhausted and will need to go through a process of regeneration. Regeneration of the resins will take place <i>in-situ</i> through the use of specific valves and internal distribution piping and nozzles.
<p>Condensate Polishing Plant</p>	<ul style="list-style-type: none"> - Condensate Polishing Plant (CPP) will treat the main condensate from the CCPP in order to achieve the feed water quality required for the steam-water cycle and will include pre-polishing filters and an ion exchange system. The CPP serves to prevent contaminants (ionic and corrosion) from entering the

	<p>boiler and turbine, thereby increasing the unit's availability, reliability and performance. Each turbine unit at the plant will have an independent CPP. The capacity will be 791m³ per hour per unitised CPP. Regeneration of both the cation and anion resins is required to be undertaken after a period of operation of the power plant due to resin exhaustion. This process is undertaken to minimise the possibility of intrusion of residual chemicals into the steam/water cycle. When resins become exhausted it will be removed from service at the unitised CPP facility and hydraulically transferred to the regeneration facility.</p>
<p>Water re-use /recycling</p>	<ul style="list-style-type: none"> - The CCPP will recover boiler blow down waste water and storm water for re-use. - The demineralised water inlet at the water treatment plant will reduce the use of raw water from the municipality. However, the quenching water requirements are too high to justify re-use at the water treatment plant, unless quenching is undertaken via an air-cooled heat exchanger. - The recovery of the blow down vessel flash steam can be cooled and re-used as part of the CCPP. - The use of the steam in the de-aerator for efficiency improvement purposes can also be implemented for water re-use.
<p>Storm water</p>	<ul style="list-style-type: none"> - All storm water will be collected separately from areas designated as clean and dirty areas. - Where storm water is potentially contaminated, the dirty water will be transported via pipelines to a dirty water retention dam. - The dirty storm water will be sent to the water treatment plant for processing prior to it being used in the power plant processes. - It is expected that the storm water from clean areas will contain clean water.

	<ul style="list-style-type: none"> - Clean water will therefore be transported via pipelines, natural drainage (where possible) and storm water channels to a clean water retention dam. - There is a possibility that the clean stormwater will be re-used directly by the plant. Additional details regarding the dirty water retention dams and clean water dams: - Capacity of the dams - Dirty water dams are usually designed as a temporary storage dam. The dam is sized for a 1:50 storm. The dams act as a collection point for all polluted stormwater and washdown water. It is estimated at 130m x 130m x 4m. The clean water dam can receive water from either the municipality or the cleaned dirty water from the dirty water dam. If received from the municipality, it will be stored before being processed for usage in the plant. If received from the dirty water dam, it will be stored before being disposed into the sea via the Mhlathuze Water pipeline. - The composition of the dirty water - The composition of the dirty water will mainly be water with some oils e.g. diesel, lubrication, etc. - Type of liners to be used - Dirty water dam will be high-density polyethylene (HDPE) lined. - The location of the storage facility - Storage will be in bunded tanks and sumps. - The duration of storage of the waste - When the tanks or sumps containing hazardous waste are almost full, an authorised waste removal company will be called to remove the waste. - The design of the storage facility - All hazardous waste storage facilities will be properly designed according to a design code. - Types of waste to be stored - Mixture of water and cleaning fluids and oils.
Generation and Storage of waste	<ul style="list-style-type: none"> - Construction waste (e.g. spoil, packaging materials, rubble, plastics etc.).

	<ul style="list-style-type: none"> - General waste will be generated by operation and maintenance staff during the operation of the power station. - General waste and hazardous storage facilities are to be constructed to store wastes as required during both operation and construction. - » No solid waste will be generated through the power generation process; only liquid effluent from operations and other liquid wastes (such as oils) arising from maintenance activities will be generated. - An effluent neutralisation sump for the storage and neutralisation of regeneration waste from anion and cation resin regeneration will be required. - The expected volume of waste from the Condensate Polishing Plant (CPP) will be 197m³ (for cation and anion of a single train). - The expected volume of demineralised waste will be 21.8m³ per hour. - Temporary storage of the demineralised water treatment plant waste may be required. The temporary storage will be on site within the water treatment plant area. The expected storage volume for the storage is 1 569m³ (21.8m³ per hour, assuming a three-day storage capacity). - The expected volume of blow down recovery waste is 102.8m³ per hour. - The waste generated from the washing of the gas turbine blades will be stored in a closed sump, collected and disposed of at a licensed disposal facility by an appointed contractor. - Resin regeneration waste will be sent to the effluent neutralisation sump and thereafter the municipal system.
Handling of waste on site	Waste water to be discharged will be combined and disposed of via a pipeline into the municipal system.

Conditions of this Environmental Authorisation

Scope of authorisation

1. Construction of the proposed Richards Bay Combined Cycle Power Plant and associated infrastructure within the City of uMhlatuze Local Municipality in KwaZulu Natal Province is approved as per the geographic coordinates indicated above.
2. Authorisation of the activity is subject to the conditions contained in this environmental authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.
3. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.
4. The activities authorised may only be carried out at the property as described above.
5. Any changes to, or deviations from, the project description set out in this environmental authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further environmental authorisation in terms of the regulations.
6. The holder of an environmental authorisation must apply for an amendment of the environmental authorisation with the competent authority for any alienation, transfer or change of ownership rights in the property on which the activity is to take place.
7. This activity must commence within a period of five (05) years from the date of issue of this environmental authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.
8. Commencement with one activity listed in terms of this environmental authorisation constitutes commencement of all authorised activities.

Notification of authorisation and right to appeal

9. The holder of the authorisation must notify every registered interested and affected party, in writing and within 14 (fourteen) calendar days of the date of this Environmental Authorisation, of the decision to authorise the activity.
10. The notification referred to must –
 - 10.1. specify the date on which the authorisation was issued;
 - 10.2. inform the interested and affected party of the appeal procedure provided for in the National Appeal Regulations, 2014;
 - 10.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and
 - 10.4. give the reasons of the Competent Authority for the decision.

Commencement of the activity

11. The authorised activity shall not commence until the period for the submission of appeals has lapsed as per the National Appeal Regulations, 2014, and no appeal has been lodged against the decision. In terms of Section 43(7), an appeal under Section 43 of the National Environmental Management Act, Act No. 107 of 1998, as amended will suspend the Environmental Authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged you may not commence with the activity until such time that the appeal has been finalised.

Management of the activity

12. A copy of the final site layout map must be made available for comments by registered Interested and Affected Parties and the holder of this environmental authorisation must consider such comments. Once amended, the final development layout map must be submitted to the Department for written approval prior to commencement of the activity.
13. The Environmental Management Programme (EMPr) submitted as part of the EIAr is not approved and must be amended. The EMPr must be made available for comments by registered Interested and Affected Parties and the holder of this environmental authorisation must consider such comments. Once amended, the final EMPr must be submitted to the Department for written approval prior to commencement of the activity. Once approved the EMPr must be implemented and adhered to.

14. The amended EMPr must include the following:
 - 14.1 Air quality monitoring plan.
 - 14.2 The approved wetland offset plan.
 - 14.3 Carbon emissions management plan.
 - 14.4 Groundwater monitoring plan.
 - 14.5 Major hazardous installation (MHI) risk Assessment.
15. The final amended EMPr (once approved) must be implemented and strictly enforced during all phases of the project. It shall be seen as a dynamic document and shall be included in all contract documentation for all phases of the development when approved.

Frequency and process of updating the EMPr

16. Changes to the approved EMPr must be submitted in accordance to the EIA Regulations applicable at the time.
17. The Department reserves the right to amend the approved EMPr should any impacts that were not anticipated or covered in the EIAr be discovered.
18. The EMPr must be updated where the findings of the environmental audit reports, contemplated in Condition 25 below, indicate insufficient mitigation of environmental impacts associated with the undertaking of the activity, or insufficient levels of compliance with the environmental authorisation or EMPr.
19. The updated EMPr must contain recommendations to rectify the shortcomings identified in the environmental audit report.
20. The updated EMPr must be submitted to the Department for approval together with the environmental audit report, as per Regulation 34 of GN R. 982. The updated EMPr must have been subjected to a public participation process, which process has been agreed to by the Department, prior to submission of the updated EMPr to the Department for approval.
21. In assessing whether to grant approval of an EMPr which has been updated as a result of an audit, the Department will consider the processes prescribed in Regulation 35 of GN R.982. Prior to approving an amended EMPr, the Department may request such amendments to the EMPr as it deems appropriate to ensure that the EMPr sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.
22. The holder of the authorisation may apply for an amendment of an EMPr, if such amendment is required before an audit is required. The amendment process is prescribed in Regulation 37 of GN R.982. The holder of the authorisation must request comments on the proposed amendments to the impact management outcomes of the EMPr or amendments to the closure objectives of the

closure plan from potentially interested and affected parties, including the competent authority, by using any of the methods provided for in the Act for a period of at least 30 days.

Monitoring

23. The holder of the authorisation must appoint an experienced Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this environmental authorisation are implemented and to ensure compliance with the provisions of the approved EMPr.
- 23.1. The ECO must be appointed before commencement of any authorised activities.
- 23.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.
- 23.3. The ECO must keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.
- 23.4. The ECO must remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.

Recording and reporting to the Department

24. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this environmental authorisation, must be submitted to the *Director: Compliance Monitoring* of the Department.
25. The holder of the environmental authorisation must, for the period during which the environmental authorisation and EMPr remain valid, ensure that project compliance with the conditions of the environmental authorisation and the EMPr are audited, and that the audit reports are submitted to the *Director: Compliance Monitoring* of the Department.
26. The frequency of auditing and of submission of the environmental audit reports must be as per the frequency indicated in the EMPr, taking into account the processes for such auditing as prescribed in Regulation 34 of GN R. 982.
27. The holder of the authorisation must, in addition, submit environmental audit reports to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and a final environmental audit report within 30 days of completion of rehabilitation activities.

28. The environmental audit reports must be compiled in accordance with Appendix 7 of the EIA Regulations, 2014, as amended and must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the approved EMPr.
29. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.

Notification to authorities

30. A written notification of commencement must be given to the Department no later than fourteen (14) days prior to the commencement of the activity. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number.

Operation of the activity

31. A written notification of operation must be given to the Department no later than fourteen (14) days prior to the commencement of the activity operational phase.

Site closure and decommissioning

32. Should the activity ever cease or become redundant, the holder of the authorisation must undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.

Specific conditions

33. Proof of the availability of liquid natural gas to supply the Richards Bay Combined Cycle Power Plant must be submitted to the Department, the Chief Directorate: Integrated Environmental Authorisations prior to commencement of construction.
34. Proof of Transnet SOC Ltd taking responsibility for the construction of liquid natural gas (LNG) facility and gas pipeline must be submitted to the Department, the Chief Directorate: Integrated Environmental Authorisations prior to commencement of construction.

35. The preliminary Wetland Offset Plan dated January 2018 (Updated February 2019) with Option 2 indicated as the preferred option must be finalised in consultation with City of uMhlathuze Local Municipality and Ezemvelo (KwaZulu Natal Wildlife), prior to commencement.
36. The final Wetland Offset Plan must be submitted to the Department: Chief Directorate: Integrated Environmental Authorisations for written approval prior to commencement of the activity.
37. The biodiversity offset area, conservation area and Critical Biodiversity Area (CBA) and the irreplaceable areas surrounding the project site must be considered as no-go areas.
38. The development footprint and 200m of adjoining areas must be scanned for the presence of protected and threatened species, by a suitably qualified Botanist/Ecologist prior to clearing the vegetation.
39. A search and rescue operation must be undertaken to translocate protected species within the development footprint. Affected plant specimens must be translocated to a similar habitat outside of the development footprint and marked for monitoring purposes. All plants requiring translocations must be translocated by following the plant rescue and translocation guidelines provided in the Ecological Impact Assessment Report.
40. Prior to construction and vegetation clearance a suitably qualified Zoologist must closely examine the project site for the presence of any animal burrows, rock crevices, under logs/stumps and in trees, and relocate any affected non-Red Listed/Protected animals to appropriate habitat away from the project site.
41. A qualified Zoologist must conduct a pre-construction survey of all potential special-status bird nesting habitat in the vicinity of the project site, and on the project site.
42. Prior to vegetation clearance and construction, all trees must be subject to assessment by means of walkthrough surveys for the location of potential bat roosts by a bat specialist and/or the Bat Interest Group of KwaZulu-Natal.
43. The necessary permits for the removal or destruction of protected species must be obtained from Ezemvelo KwaZulu Natal Wildlife or the Department of Agriculture Forestry and Fisheries (DAFF), before vegetation clearance starts.
44. The proposed Richards Bay Combined Cycle Power Plant access and parking layout must be submitted to the local authority for approval.
45. Signature of all terminal designs must be undertaken by a professional engineer registered in South Africa in accordance with the Professional Engineers Act.
46. A Major Hazardous Installation (MHI) Risk Assessment must be compiled in accordance with MHI regulations and submitted to the Department for approval.
47. The footprint of the development must be limited to the areas required for actual construction works and operational activities.

48. No activities will be allowed to encroach into a water resource without a water use authorisation being in place from the Department of Human Settlement, Water and Sanitation.
49. An air emission license must be obtained from the appropriate authority before commencement of the development.
50. Diesel must be only be used as a back-up fuel during emergency situations and for a maximum operation time of 8 hours.
51. Only low sulphur (50 ppm) diesel must be used, when diesel is used as energy source.
52. The facility must operate as a mid-merit, as this is the chosen operating mode.
53. Appropriate dust suppression techniques must be implemented on all exposed surfaces during periods of high wind.
54. Should any archaeological sites, artefacts, paleontological fossils or graves be exposed during construction work, work in the immediate vicinity of the find must be stopped, the South African Heritage Resources Agency (SAHRA) must be informed and the services of an accredited heritage professional obtained for an assessment of the heritage resources must be made.
55. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling and re-use options. Where solid waste is disposed of, such disposal shall only occur at a landfill licensed in terms of section 20(b) of the National Environment Management Waste Act, 2008 (Act 59 of 2008).

General

56. The recommendations of the EAP in the EIAR dated August 2019 and the specialist studies attached must be adhered to. In the event of any conflicting mitigation measures and conditions of the Environmental Authorisation, the specific condition of this Environmental Authorisation will take preference.
57. A copy of this environmental authorisation, the audit and compliance monitoring reports, and the approved EMP, must be made available for inspection and copying-
 - 57.1. at the site of the authorised activity;
 - 57.2. to anyone on request; and
 - 57.3. where the holder of the environmental authorisation has a website, on such publicly accessible website.

58. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the holder of the authorisation or his/her successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the holder of the authorisation with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Date of environmental authorisation: 23/12/2019



Ms Milicent Solomons

Acting Chief Director: Integrated Environmental Authorisations

Department of Environmental Affairs

Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

- a) The listed activities as applied for in the application forms received on 22 August 2017 and 22 March 2019 respectively.
- b) The information contained in the final EIAr dated August 2019.
- c) The comments received from interested and affected parties as included in the final EIAr dated August 2019.
- d) Mitigation measures as proposed in the final EIAr and the EMPr dated August 2019.
- e) The information contained in the specialist studies contained within the appendices of the final EIAr dated August 2019.

2. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

- a) The findings of all the specialist studies conducted and their recommended mitigation measures.
- b) The development of the Richards Bay CCPP will reduce Eskom's resource use and carbon footprint per Megawatt produced supporting South Africa's commitment towards a reduction in carbon emissions.
- c) The final EIAr dated August 2019 identified all legislations and guidelines that have been considered in the preparation of the EIAr.
- d) The methodology used in assessing the potential impacts identified in the final EIAr dated August 2019 and the specialist studies have been adequately indicated.
- e) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2014, as amended for public involvement.

3. Findings

After consideration of the information and factors listed above, the Department made the following findings -

- a) The identification and assessment of impacts are detailed in the EIAr dated August 2019 and sufficient assessment of the key identified issues and impacts have been completed.
- b) The procedure followed for impact assessment is adequate for the decision-making process.
- c) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.
- d) The EMPr proposed mitigation measures for the pre-construction, construction and rehabilitation phases of the development and were included in the EIAr. The EMPr will be implemented to manage the identified environmental impacts during the construction phase.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the authorised activities will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the authorised activities can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447- PRETORIA · 0001· Environment House · Cnr Soutpansberg & Steve Biko Roads · Pretoria Tel (+27 12) 389 9000

Enquiries: Ishaam Abader

Tel: 012 399 9330

Email: iabader@environment.gov.za

Ms. Milicent Solomons
Director: Strategic Infrastructure Development

Dear Ms Solomons

APPOINTMENT AS ACTING CHIEF DIRECTOR: INTEGRATED ENVIRONMENTAL AUTHORISATIONS FOR THE PERIOD OF 17 – 24 DECEMBER 2019

I hereby inform you that I have decided to appoint you as Acting Chief Director: Integrated Environmental Authorisations, for the period 17 – 24 December 2019, whilst Mr Sabelo Malaza is on annual leave.

All the correspondence and other documents that are usually signed by the Chief Director: Integrated Environmental Authorisations, must be signed under the Acting Chief Director: Integrated Environmental Authorisations during the above period.

Your appointment in the above acting position remains subject to the provisions of the Public Service Act, 1994 (Proclamation No. 103 of 1994), as amended, the Government Employees Pension Fund Act, 1996 (Proclamation No. 21 of 1996), the regulations promulgated under these Acts and relevant circulars.

In the execution of your duties and the exercising of the powers delegated to you, you will furthermore be subjected to the provisions of the Public Finance Management Act, compliance with the promotion of Access to Information Act, Promotion of Administrative Justice Act, the Minimum Information Security Standards, Departmental Policies and other applicable legislations with the Republic of South Africa. You are therefore advised to make yourself familiar with the provisions of the legislations and policies and the amendments thereof. (Copies of departmental policies can be obtained from the Human Resource Office).

Yours Sincerely

Mr. Ishaam Abader
Deputy Director-General: LACE
Date: 12/12/2019

<p>ACKNOWLEDGEMENT I ACCEPT / DO NOT ACCEPT appointment as Acting Chief Director: Integrated Environmental Authorisations</p> <p>Signed: <u></u></p> <p>Date: <u>12/12/2019</u></p>
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