# PARLIAMENT OF THE PROVINCE OF THE WESTERN CAPE

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# ANNOUNCEMENTS, TABLINGS AND COMMITTEE REPORTS

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FRIDAY, 19 FEBRUARY 2021

## COMMITTEE REPORT

Report of the Standing Committee on Finance, Economic Opportunities and Tourism on its oversight visit to Eskom's Ankerlig Power Station and the Atlantis Special Economic Zone establishment, 15 October 2020, as follows:

**Delegation**

**Members**

Baartman, DM (DA) (Chairperson)
Van der Westhuizen, AP (DA)
Nkondlo, ND (ANC)
Makamba-Botya, N (EFF)

**Staff Members**

Barends, A (Driver: Security and Facilities)
Cloete, L (Senior Procedural Officer)
Jones, S (Procedural Officer)

**Apology**

Mitchell, DG (DA)

### 1. Introduction

The Standing Committee on Finance, Economic Opportunities and Tourism (SCFEOT) embarked on an oversight visit to Eskom's Ankerlig Power Station and the Atlantis Special Economic Zone (ASEZ) on 15 October 2020. The visit enabled Members of the Committee to interact with stakeholders from Eskom and the ASEZ in order to assess the needs and challenges they have experienced so far.

This report highlights the Committee's findings and recommendations stemming from the visit.

## 2. Visit to the Eskom's Ankerlig Power Station

### 2.1 Overview and background

The day commence with a visit to Eskom's Ankerlig Power Station (Hereinafter the Power Station) to receive an overview of the Power Station, an update on the maintenance of the plant and a briefing on the proposed Liquefied Natural Gas infrastructure project at the Power Station.

The Committee was met by Mr Arnold Swart, Human Resources Manager, Ms Pamela Mrubata, Plant Manager, and Mr Patrick Mulenga, Senior Manager Projects, Mr A Singh, General Manager: Peaking.

### 2.2 Mandate of the Ankerlig Power Station

The mandate of the Power Station is to supply/generate electrical power to the National Grid to optimally meet electricity demands during "peak" periods or when required. A peak in power supply is generally experienced between 06h00 – 08h00 and 17h00 – 20h00. Provision has to be made for the shortfall caused by the excessive utilisation of power from the national grid.

The lack of gas infrastructure, including pipelines and storage facilities, has made it difficult for gas to feature as a major energy carrier. However, the Gas Utilisation Master Plan (GUMP) seeks to anticipate the infrastructure necessary to open up the gas market for the residential, commercial and industrial sectors. Small Projects like the Renewable Energy Independent Power Producer Programme seek to procure energy from small-scale from independent power producers (IPPs), with projects that produce between 1 megawatts (MW) and 5 MW in size.

The Department of Energy (DoE) seeks to buy 200 MW in total from Small, Medium and Micro-sized enterprises (SMMEs), generating energy from solar, wind, biomass and landfill gas projects. One of the biggest challenges regarding the small-scale projects is that of providing equity. The DoE has taken the initiative to develop standard documents for these projects to reduce transaction costs and proposed a dedicated fund to assist small IPPs with transaction costs.

#### 2.2.1 Construction of Ankerlig Power Station

The Power Station is one of five gas turbine power plants in South Africa that has the capacity to produce 1 338 MW. It has a total of nine Open Cycle Gas Turbines (OCGT) each approximately 60 meters tall and has eight fuel storage tanks with a combined storage capacity of 43 million liters. The OCGT units are powered by natural gas or liquid fuel, kerosene or diesel.

The Power Station was constructed at the same time as the Gourikwa Power Station at a combined cost of R3,5 billion and became operational on 1 October 2007. Phase one of the Ankerlig Power Station was constructed in January 2006 and comprised of 4x148 MW units.

Phase two comprised of 5x147 MW units and was handed over for commercial operation in February 2009, thereby bringing the total capacity installed to 1 327 MW.

2.2.2 Selection of service providers

The contract for the Ankerlig Power Station was awarded to Siemens, of Germany, and the civil construction contract was awarded to Roshcon. Lesedi Nuclear was awarded the remainder of work of the Power Station. This includes design, procurement, construction and commissioning of the balance of the plant equipment, mechanical erection of the power-plant equipment and associated buildings, as well as fuel unloading and forwarding systems. The contracts also include fire protection and detection systems, demineralised and potable water distribution systems, compressed-air systems, electrical power distribution systems, and control and instrumentation systems.

Subcontractors include Ankile Engineering, M&M Rigging, Pioneer Mechanical Contractors and RH Mechanicals, TMS and JEV. The Committee was informed that Siemens takes up approximately 86% of the total contracts and 70% of the remaining contracts were provided to broad-based black economic-empowerment agencies. Eskom adapted their contract strategy to include local suppliers which are local to South Africa and then local to the location/area.

2.2.3 Safety and evacuation procedure

Ankerlig was reported to be a public space and it therefore adheres to the public health guidelines. Strict access control procedures are adhered to by visitors to gain access to the site and on-site rules apply prior to the guided site tour. Specific safety protocols are adhered to with strict emergency evacuation process for staff and visitors alike to evacuate the Power Station in the event of an emergency. Emergency assembly points have been demarcated and personal protective gear were provided to staff. The lost time injury reported took place 7 years and 8 months ago. There was no lost time injury recorded for this year.

Threats and risks such as snakes that enter the premises, fires, protest action and accidental trips and slips were reported.

2.2.4 Purchase approvals

The Eskom Board is the accounting authority of Eskom in terms of the Public Finance Management Act, (Act 1 of 1999, as amended by Act 29 of 1999) (PFMA). The Board is responsible for providing strategic direction and leadership, ensuring good corporate governance and ethics, determining policy, agreeing on performance criteria and delegating the detailed planning and implementation of policy to the Executive Management Committee (EXCO).

Compliance in terms of relevant government codes are a priority. As a State Owned Enterprise, Eskom is guided by Protocols of Corporate Governance in the Public Sector 2002. Furthermore, the statutory duties, responsibilities and liabilities imposed on the directors of Eskom by the Companies Act, 71 of 2008, as amended, are augmented by those contained in the PFMA.

## 3. Observations

The Committee embarked on a tour of the facility and was able to access structures, and observe and interact with the staff on duty.

3.1 Fuel storage tanks

Ankerlig Power Station's fuel consumption amounts to approximately 40 tons when the plant is running at full capacity. Power outages are introduced when reserves are running low to

ensure the stability of the grid. The fuel is sourced from overseas markets and has to be transported by truck from the harbour to fuel storage tanks. The fuel storage tanks are situated on the north side of Ankerlig and can store approximately 27 million liters of diesel. An additional fuel tank was constructed in the Ankerlig Phase two project. The storage tanks are equipped with high level and low level alarms which prevent the tanks from over-filling and notifies when the tanks are running low.

### 3.2 Gas turbines

OCGTs are environmentally friendly and emits no particulates. Further hereto, minimal toxic gasses which contributes to global warming are emitted. Nitrogen Oxide (NOx) gases are emitted in small quantities and is monitored in terms of the International Organisation for Standardisation (ISO) environmental standards to minimise pollutants.

The OCGT is manufactured to function like an internal combustion engine. Gas is utilised to drive the turbine in the following manner:

Air enters the system through the filter housing above the unit into the intake. This is fed directly into the compressor blades. A suction effect is created by the compression section of the unit. Air is compressed and moves forward. This creates a low pressure area. Additional air moves into the compression zone. The air that has passed through the compressor blades have increased in pressure and temperature. Air is passed through the combustion zone where the air/fuel mixture is ignited. The gas that is propelled into the turbine then turns the blades. The gas is emitted into the atmosphere, which will later revert to the same sate as the ambient environment. This process is also known as the “suck-squeeze-bang-blow”.

The Siemens V94.2 turbine was selected for the Power Station. The selection process was conducted through a tender process for the following reasons:

3.2.1 The technology utilises a dry-NOx (nitrous oxide) system, which means that minimal water is utilised by the turbine to keep the NOx levels within the statutory requirements. (Due to water shortages in the Western Cape this feature was imperative); and

3.2.2 The units were designed to absorb the pressures of frequent start-ups. This was an important factor as the power station was expected to operate during morning and evening peaks which would result in numerous start-ups.

## 4. Maintenance strategy

Maintenance is conducted by international companies and limited local teams. Siemens equipment is utilised and all equipment upgrades are provided by Siemens as the main service provider. The lifespan of the power station is 40 years.

### 4.1 Minor inspections

Inspections are conducted on components that are visible and not removable. These components include the compressor inlet, combustion chamber components, burners, ceramic heat shields, first and last stage of the turbine and the exhaust section. When the unit is not operating dehumidified air is circulated through both the turbine and the generator to ensure that any corrosion is kept to a minimum. The inspections are only carried out after 250 starts or the equivalent of 4000 operating hours.

4.2 Major inspections

Comprehensive inspections are conducted on all items including the minor and hot gas path sections. Inspections are carried out after every 1500 starts or the equivalent of 33 000 operating hours. Inspections include the removal of the compressor upper casing, the dismantling of the combustion chamber, removal and dismantling of the compressor and turbine chambers and finally the removal of the first two stages on the turbine for blade and heat protective coating renewal.

A number of training sessions have also been convened with Eskom, to ensure operating personnel are familiar with all the aspects of the plant and the equipment, before handover from construction to production. Commissioning activities from Siemens are in themselves an excellent training opportunity for the Eskom operators and relevant commissioning crews to gain knowledge of the equipment and the technical work.

## 5. Liquefied Natural Gas Infrastructure Project

In the 2015 State of the Nation Address, Eskom was directed to convert all the diesel fired OCGT's to gas. Eskom subsequently embarked on a programme to implement this and completed the conversion of Ankerlig and the Gourikwa Power Stations in Mossel Bay to duel fuel burners. These Power Stations were modified to utilise both diesel and natural gas as fuel. This process formed part of phase 1.

Designs of regasification plants include extensive systems to store and process LNG Safely. The infrastructure to transport gas to the power stations have not been installed. The remaining scope of the work for phase 1B will include the modification of the plant, which will include gas transportation infrastructure e.g. piping and fuel skids to the gas turbine area of each unit. A total of 13 proposals for project infrastructure and sourcing of gas were received.

To transport the natural gas it has to be converted into LNG, a process known as liquefaction. LNG is a natural gas that has been cooled to 162 degrees changing it from a gas into a liquid that is $1/600^{th}$ of its original volume. This dramatic reduction allows it to be transported safely and efficiently in specially designed LNG containers. After arriving at its destination, LNG is warmed and returned to natural gas through local pipelines.

5.1 The Power Station is in the process of finalising the following:

5.1.1 The gas contracting strategy;
5.1.2 The investment proposals; and
5.1.3 The gas supply agreements.

Construction of the LNG Project is reported to commence in July 2022 when the above matters have been finalised and should go online in September 2024. The conversion should bring about a cost saving of R270 billion over the 2024-2050 financial years and should provide the Power Station with the means to meet the electricity demands in the Western Cape. LNG has lower CO2 emissions when compared to coal and petroleum liquids. Natural gas plants have some of the lowest consumption of water per unit of electricity generated, because of its high thermal efficiency. This can be used for cooking, heating homes and generating electricity, manufacturing products such as fertilisers, paints and medicines.

5.2 Power saving tips

Studies have shown that energy demands reaches its peak in the morning between 6am and 9am. The afternoon peak transpires between 6pm and 9pm. This demand shows that people utilise more energy as they prepare for work or school in the morning and when they return home from work or school in the afternoon. Implementing the following energy saving techniques reduces the demand for electricity from the electrical grid as follows:

5.2.1 Switching off unnecessary lights, geysers, pool pumps and non-essential appliances;
5.2.2 Utilise power saving lights; and
5.2.3 Where possible try to cook and do laundry during off peak periods.

## 6. Concerns

Concern was raised regarding the influx of illegal electrical connections and the sale of electricity from illegal vendors at greatly reduced rates. Illegal connectivity does not register on Eskom's database, therefore it transitions into a loss of revenue. Eskom advised that through joint collaboration with the City of Cape Town and the South African Police Service perpetrators were arrested but that a resurgence would inevitably occur.

Eskom advised that electricity supplied to neighborhoods are done in accordance with the quantity of homes and the ratio per person in a home for a specific area. When illegal connectivity occurs, the equipment which was meant to cater for a certain number of households, become overloaded and system failing/tripping occurs. All illegal connectivity should therefore be reported as the resultant effects affects everyone.

## 7. Red tape challenges

7.1 Eskom advised the Committee that approval in terms of the PFMA was required to finalise the business case. Appropriation approvals takes up to six months to finalise. To ensure that all deadlines are met, Eskom fast tracked its plan by two weeks. The Committee was requested to assist Eskom to gain approval for appropriation orders which exceeds the PFMA limit of R1 billion as informed by Eskom's business case.

7.2 The Department of Public Enterprises provides oversight over Eskom on behalf of the State. The limited revenue available to Eskom affects its financial position significantly, as the State owned company is expected to fund its current operational and expansion activities from its own balance sheets. The Committee was requested to intervene with the fast tracking of approvals.

7.3 The National Treasury adheres to strict supply chain regulations in terms of single sourcing. Supply chain regulations do not always allow for the acquisition of goods and services from a single service provider. Due to the highly technical nature of the commodities required by Eskom, single sourcing is a requirement to ensure the quality and engineering excellence. Once again the Committee was requested to intervene regarding these requisitions.

## 8. Engagement with Atlantis Special Economic Zone, Department of Economic Development and Tourism and Atlantis Community Stakeholders

### 8.1 Overview and background

The day was concluded with an oversight visit to the Atlantis SEZ (ASEZ), where the Committee received a briefing from the Department of Economic Development and Tourism and the ASEZ Team on:

8.1.1 The establishment of the Atlantis SEZ;
8.1.2 Attracting investment in the Western Cape in the renewable energy sector; and
8.1.3 The Eskom Gas to Power RFP Process.

The Committee was met by the Department as well as the ASEZ Team, ward councillors, and relevant stakeholders.

## 8.2 Establishment of Atlantis Special Economic Zone

The ASEZ was officially launched on 6 December 2018. The Atlantis SEZ Company was established in accordance with the Governance and Management Regulations that were issued in terms of the Special Economic Zones Act, (Act 16 of 2014). The Act sets out the structure, functions and the term of appointment for board members. The Board consists of 10 members who were appointed by the Minister. The Chairperson of the Board is selected by the board members. In accordance with the Act, the appointments must include the SEZ entity of Schedule 3D (S3D); ASEZ must comply with the requirements, including those provided by the Minister of the Department of Trade and Industry (DTI); and ASEZ must have an Atlantis community representative and labour representative on its Board.

Founder directors on the Board were approved in November 2019. The Board held three meetings since its inception. Key staff members have been appointed and offices were allocated and furbished. Target company papers were approved and a memorandum of incorporation was approved by Provincial Cabinet in November 2019. The Department of Economic Development and Tourism (DEDAT) is in the process of registering the Atlantis SEZ as a S3D with National Treasury.

Wesgro was appointed by the Western Cape Provincial Government to establish the registration of a provincial entity to meet the requirements of the SEZ Act, and the capacitation of the entity to be able to transact and fulfill the aspirations set in the application for designation. GreenCape was appointed as the Atlantis SEZ project management unit, and was responsible for coordinating the application for designation.

The objective of establishing the Atlantis SEZ was to unlock the underlying economic value of existing and underutilised infrastructure through the creation of a greentech manufacturing hub. 93 hectares of zoned City of Cape Town land is available for leasing to investors. Bulk infrastructure is in place and Atlantis has new public transport, fibre connectivity and shipping links. Atlantis is also close to major ports, roads, universities and greentech markets.

## 8.3 Investment opportunities in the renewable energy sector

Through these combined investment promotion efforts, R700-million has already been invested in the Atlantis SEZ, including manufacturers of wind turbine towers, geotextiles, double-glazed windows, wind tower internals and acetylene gas. More than 332 new jobs have been created in the zone to date, with the majority of the positions filled by Atlantis residents.

The combined work of Wesgro, City of Cape Town (InvestCT), InvestSA and GreenCape in promoting and landing investors is a uniquely effective approach that has yielded results recognised by Unctad (the United Nations Conference on Trade and Development) on more than one occasion.

It is expected that the zone will attract a further R3.7-billion of investment by manufacturers of wind blades, smart meters, batteries, electric vehicles, wind turbines, solar PV, and by other

players in the waste, agri-processing, gas and chemicals value chains. The goal is to create nearly 3 000 direct jobs in the zone by 2030.

In addition to jobs and investments, skills development has been prioritised to ensure local skills meet the needs of industry located in the area. To this end, the youth has benefited from training and mentoring, exposure to greentech, and participation in the annual Atlantis Renewable Energy Challenge and career expo, all of which will potentially help them tap into greentech job opportunities emerging from the Atlantis SEZ. In 2018, 88 learners received tutoring through the Atlantis Ikamva Youth Programme; 81% of grade 12 learners passed their matric exams, with 68% achieving bachelor's and diploma passes.

Skills development and training for adults have taken the form of training sessions on solar PV for people from Atlantis and surrounds, and the recruitment of three female interns from Atlantis to work in the SEZ project office. The women successfully transitioned into permanent appointments with the SEZ project office in 2016. Other benefits for Atlantis include the upgrade of the power supply, fibre connectivity and MyCiti transport links.

### 8.4 Eskom gas to power RFP process

The aim of the Eskom gas to power RFP process was to diversify the energy mix through alternative low carbon supply and energy-efficiency measures, as well as to provide enough power for growth in the Western Cape that was sustainable. This would be achieved by:

8.4.1 Enhancing the uptake of Solar Photovoltaic;
8.4.2 Reduced energy consumption in both public and private buildings;
8.4.3 The development of a grid management system that facilitates wheeling and manages peak demand;
8.4.4 Importation of Liquefied Natural Gas; and
8.4.5 The roll out of Independent Power Producers.

Independent market research illustrated a strong demand for renewable energy and green technologies. Government recognised the need to evolve its energy landscape by creating opportunities for investors, financiers, project developers, component manufacturers and suppliers wanting to invest in the energy services market. The SEZ programme was identified as one of the critical economic policy instruments for promoting industrialisation.

Greentech refers to green technologies that reduce or reverse the impact of people on the planet. Wind turbines, solar panels, insulation, biofuels, electric vehicles, materials recycling and green building materials are all examples of green technology.

## 9. Engagement with Atlantis SEZ investors/companies

A total of 50 investors were engaged locally to sign up for the SEZ programme and presently only one investor was signed up. Planning approval for the investor is in progress with the City of Cape Town. In the event that the application is successful the investor will be the first recipient to receive funding for a top structure within the ASEZ programme.

The combined work of Wesgro, City of Cape Town (InvestCT), InvestSA and GreenCape in promoting and obtaining investors is a uniquely effective approach that has yielded results recognised by the United Nations Conference on Trade and Development on more than one occasion. Wesgro attended two international Trade and Industry Investment conferences to promote the SEZ programme.

Investors have access to extensive investment support through the One Stop Shop and the rest of the investor support ecosystem, which includes InvestSA, GreenCape, the City of Cape Town and Wesgro. The ecosystem provides information and advocacy; market intelligence; facilitated access to permits and licences, planning and development approval; and skills training.

The SEZs focus mainly on a specific industry, encouraging the development of clusters of suppliers and service providers. SEZs attract foreign and domestic direct investment into the productive economy through the provision of a range of benefits. Through these combined investment promotion efforts, R700 million has already been invested in the Atlantis SEZ, including manufacturers of wind turbine towers, geotextiles, double-glazed windows, wind tower internals and acetylene gas. More than 332 new jobs have been created in the zone to date; most of the positions are filled by Atlantis residents.

By concentrating industrial value chains in these areas, collaboration is encouraged and costs are significantly reduced. The SEZ programme is supported by a competitive incentive package, which includes, among others, a 15% corporate tax incentive, employment tax incentive, accelerated depreciation allowance, VAT and customs exemption, and infrastructure support.

The Atlantis SEZ, plays an integral part to boost and unlock economic growth by attracting investment opportunities and creating jobs in the Western Cape. Its proximity to two ports, in Cape Town and Saldanha, provides advantages for exporters. SEZ programmes are established close to poverty stricken communities, where there is a great demand for jobs. Atlantis is strategically located close to major national roads.

## 9.1 Process to join ASEZ

Businesses or investors with ventures in green technologies can apply to invest and establish operations in the ASEZ. Green technology businesses include, but are not limited to, solar panel component manufacturers, waste recyclers, manufacturers and/or suppliers of green building materials, and manufacturers and/or suppliers of water efficiency technologies.

If a business or investor qualifies following the initial screening process, it will be provided with an application form. The completed application form must be submitted with supporting documentation, including a business plan. The application will be evaluated through a process which includes representatives of the Western Cape Government's Department of Economic Development and Tourism DEDAT), the City of Cape Town, Wesgro and GreenCape.

If the application is successful, the land area will be confirmed and the investment promotion team will support the investor in moving forward and setting up operations in the ASEZ. The SEZ project team will support the selection of an appropriate piece of land, based on the spatial plan for the ASEZ. Investors will lease land from the ASEZ and will pay rates based on the services and infrastructure made available.

## 9.2 Impact of provincial and national legislation on business operations

9.2.1 The ASEZ advised that government policy uncertainty was hampering development due to continuous changes that were made to the policies.

9.2.2 Improving financing conditions post COVID-19 is proving to be challenging as there are no available revenue streams. Funding models should be devised that assist small business with capital to compete with overseas service providers for local tenders.

9.2.3 Single sourcing to procure specific merchandise with complex assessment criteria should be reviewed. Contracts awarded to international companies should contain a

clause that local content and local services, as well as job creation, enterprise development and social responsibility be utilised.

**9.3 Oral presentation**

9.3.1 Mr Matthew Cullinan, Director: Energy for Prosperity (E4P) Pact, advised the Committee that a freight rail system should be considered as a cost effective mode of transportation of commodities between Atlantis and Cape Town. He advised that the rail system is currently not operational and should be fully utilised.

9.3.2 Ms Lydia Botha, a CSN representative, advised that South Africa has a robust Constitution and Bill of Rights protecting all citizens, as well as a land reform programme aimed at redressing the legacy of centuries of land dispossession. She advised that there are ongoing discussions regarding land being awarded to the ASEZ by the City of Cape Town that must still be resolved. The 2018/19 Human Rights Commission Report provides clear directives on issues pertaining to the land and that cognizance should be taken regarding those directives prior to the land being handed to the ASEZ. In addition to the aforementioned, she indicated that concern was raised regarding the intended benefits extended to the Atlantis community e.g. Land development, job creation and skills development earmarked would not reach her constituency.

9.3.3 An ASEZ Entrepreneur advised the Committee that he had worked for a Danish company for a period of five years, which specialised in renewable energy, specifically wind turbine mechanisms. The company was contracted to implement a project for Siemens in which local material and labourers from the area were utilised. He impressed upon the Committee that local suppliers are capable of doing the work and that local supply and demand in certain instances can be met but is underutilised. Government should enforce the utilisation of local merchandise and local talent to ensure a balanced distribution of wealth. Funding models should be devised that assist small business with capital to compete with overseas service providers for local tenders.

**10. Recommendations/Actions**

10.1 The Committee RESOLVED to:

10.1.1 Invite Eskom to join it on its oversight visit week, where members will engage with various stakeholders on the Gas Master Implementation Plan, key strategic issues in terms of best practice and the Department of Public Enterprises approvals; and

10.1.2 Request a joint meeting with the Standing Committee on Transport and Public Works and invite the Department of Transport and Public Works to brief the Committees on the cost structures, efficiency and feasibility of the utilisation of freight rail to transport gas and other commodities to Atlantis.

10.2 The Committee REQUESTED that the ASEZ Team:

10.2.1 Provide it with a report/submission which details the issues pertaining to the Koi San land and directives contained in the 2018/19 Human Rights Commission Report, which outlines the legal framework on the historical land; and

10.2.2 Facilitate a debriefing session between the ASEZ, the CSN and Ms Botha to deliberate on issues pertaining to the Koi San historical land currently in the possession of the City of Cape Town and then to provide the Committee with a report on the outcome of the deliberations.

10.3 The Committee RECOMMENDED that the Standing Committee on Education engage with Western Cape Education Department to ascertain whether the West Coast FET Colleges are equipped to provide engineering and technical training to locals, to ensure that local skills meet the needs of industry located in the area.

## 11. Acknowledgements

The Chairperson thanked the Eskom officials, ASEZ management, departmental officials, stakeholders and ward councillors for their willingness to meet with the Committee and to share information.