

MINISTRY OF MINES AND ENERGY

Response by the Honourable Deputy Minister, Kornelia Shilunga, to questions posed by Hon. M. Venaani in the National Assembly

18 June 2015

Hon. Speaker

The Right Honourable Prime Minister, Sara Kuugongelwa-Amadhila

Deputy Prime Minister, Honourable. Netumbo Nandi- Ndaitwah

Hon. Members of Parliament

Before I provide the answers to the questions, this being the first time that I speak in this August House, allow me first and foremost to thank His Excellency, Dr. Hage Geingob the President of the Republic of Namibia for having trust and confidence in me in appointing me as the Deputy Minister of Mines and Energy in the Republic of Namibia. I feel very much privileged and humbled to join the growing number of members of Parliament for the next five years. I consider it a privilege because I am given an opportunity to serve our country at a national level, and I do not take lightly the great responsibility and expectation from me to deliver quality services to our people. I believe that the Namibian people deserve nothing less than the best.

QUESTION 4: (2015-03-31)

In view of the fact that we import high volumes of electricity from our neighbouring Republic of South Africa, having notice that there is a current power crisis with their power utility Eskom, and the current periodic load shedding in many of their cities, may the Minister answer the following:

1. What capacity of electricity do we import from South Africa and how are we influenced by their current power crisis?

NamPower and ESKOM have two agreements, the Bilateral Agreement and the Supplemental Agreement. Both these agreements are functional and they can provide a capacity of 300 MW and 300 MW respectively and they will both come to an end in April 2017.

In the latter agreement, Eskom has introduced the right to terminate should NamPower exceeds the allowable import energy value. This agreement also introduced curtailing the supply capacity to the same percentage level of reduced supply experienced in the Republic of South Africa, Eskom will curtail all exports to NamPower. This means that if Eskom is reducing supply to South Africa by 10% then the supply to Namibia should also be reduced by 10%. In cases where Eskom is unable to supply Namibia, NamPower is notified to start up local generation and to procure emergency energy on the market.

The energy supply sources for 2013/2014 financial year indicate that the reliance on Eskom has decreased as follows;

- from 27% to 12% for the total supply mix, and
- from 45% to 21% for the imports.

The total energy supply for the country in 2013/2014 reflects as follows;

- Ruacana 40%
- Van Eck 0%
- Paratus 0%
- Anixas 0%
- ESKOM (South Africa) 12%
- ZESCO (Zambia) 11%
- ZESA (Zimbabwe) 26%
- Aggreko (Mozambique) 12%

(The total energy supply is 101% due to a 1% of energy that was sold into the region from Namibia)

NamPower optimises its supply sources to ease the burden from the Eskom system by dispatching its own sources and buying from the region during the times when Eskom system is constrained. 2. May the Minister further appraise this House to the current general picture of our electricity generation capacity and the demand we have to keep up economic demand?

2.1 Background information

The Ministry of Mines and Energy identified the need to develop a National Integrated Resource Plan (NIRP) for the Namibian electricity supply industry (ESI), mandating the Electricity Control Board (ECB) to lead and manage the NIRP project.

The NIRP project officially commenced in July 2011as a prerequisite to addressing the security of supply and also given the rapid pace of the power sector reform and the strong interest shown by the investors to enter Namibia's power generation market.

The National Integrated Resource Plan (NIRP) is a 20-year development plan for Namibia's electricity supply industry, spanning from 2012 and to 2031. It provides a projection of Namibia's expected future electricity demand, and then identifies a mix of resources required to meet the country's electricity energy needs in an efficient and reliable manner at the lowest reasonable cost.

The demand as per the NIRP is expected to grow from an observed 544 MW recorded in 2014, to close to 900 MW in 2021, and 1,124 MW by 2031. The average annual demand growth for the first ten years, i.e. between 2011 and 2021, is expected to be 5.8% and 4% thereafter.

The energy demand is expected to grow at 4.3% from 3,200 GWh in 2014 to 6,000 GWh and 7,500 GWh in 2012 and 2031 respectively.

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Namibia is considering demand side management initiatives including:

- A program to replacement domestic inefficient (incandescent bulbs) with energy efficient type such as Light Emitting Diode (LED) bulbs.
- Demand Management Participation Reducing supply Load of Large Power user on agreed terms.
- A program to roll out Solar Water Heater

2.2 Current Generation Facilities

a) Ruacana Hydropower Station

The largest electricity generating facility in Namibia is the Ruacana hydroelectric plant located on the Kunene River along the border with Angola. The station was commissioned in 1978 and consists of three 80 MW hydro generators and a fourth unit of 92 MW commissioned in May 2012 for a total installed capacity of 332 MW.

The output capability of this plant is highly seasonal, and dependent on the Kunene's water supply.

b) Van Eck Coal Power Plant

The other main generating facilities in the country use fossil fuels. The Van Eck coal-fired power plant was commissioned in 1973 and is located near Windhoek. It has an installed capacity of 120 MW, using four, 30 MW generators.

A refurbishment program plans is underway to extend its life and to increase the operational capability to 108 MW after refurbishment.

c) Paratus Diesel Power Station

The Paratus diesel power station is located in Walvis Bay, and has a total rating of 24 MW. The station has a black start-up diesel generator, and was commissioned in 1976. It is used mainly as a standby and peaking power station. Paratus runs at very high marginal cost, therefore it is only utilised in emergency situations.

d) Anixas Power Station

The Anixas power station is located adjacent to the Paratus diesel power station in Walvis Bay. This station benefits from new and proven technology, having a higher efficiency and reliability, and less emissions and noise than older power stations of its type. There are 3 Caterpillar V16 diesel generator sets, each with a net electrical capacity of 7.5 MW, giving a total of 22.5 MW. The power station started operations at the end of July 2011, and was officially inaugurated in November 2011.

e) Imports

Namibia has relied on power imports for a significant portion of its national requirements. Currently, Namibia is a net importer – importing between 50% and 70% of its energy requirements from the region depending on the availability of water at Ruacana Power Station.

Eskom has traditionally been the largest source of such supplies. In late 2008, Namibia entered into a five-year agreement with ZESA in Zimbabwe, for the supply of 150 MW of base load which contract ended in March 2015.

The current import contracts with end dates are as follows;

- South Africa (ESKOM) March 2017
 - o (Off-Peak) 300MW and
- Supplementary 300 MW, June
 Zambia (ZESCO) 50MW January 2020,
- Zimbabwe (ZPC) March 2025 80MW and
- Mozambique (Aggreko) 115MW August 2015.

Negotiations with regional national utilities (Mozambique, South Africa, Zambia, and Zimbabwe) are currently underway for the replacement of the 115MW Aggreko contract and for other short to medium term supply options. Should NamPower experience any supply shortages in the short run, Namibia will have to buy this energy on the Day Ahead Market (DAM) from the region at emergency prices which are normally higher. The situation is expected to improve once Kudu Power is commissioned.

		Contract
	Size MW	end date
Eskom		
Eskom - Firm	0	
Eskom - Off Peak	300	Mar-17
Eskom - Supplementary	300	Mar-17
Zesco (50 MW)	50	Jan-20
ZPC (80MW)	80	Mar-25
Aggreko	115	Aug-15

Table: 1 Current Import Contracts

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2.3 Future Generation Facilities

Throughout the Southern Africa Development Community (SADC) region substantial shortage of energy is being

experienced at this stage and this situation will prevail over the next couple of years until enough new generation has been built.

Although a number of generation plants are planned, most of these plants will start generating only after 2017. The current Aggreko (115MW) contract will expire in August 2015 leaving Namibia with a capacity gap of approximately 115MW. NamPower has since secured an 80MW contract with Zimbabwe Power Company (ZPC).

The effective generation capacity outlook in Namibia contains the following generators (excluding imports referred to above):

1. Temporary Generation

The system would need a further temporary 70 MW - 260 MW of generation capacity in the year 2016, prior to commissioning of the Kudu plant.

2. Renewable Power Stations - 2016

- Concentrated Solar Power (CSP): 50 MW
- PV Solar: 30 MW (3 x 10MW solar PV)REFIT:
- 70MW solar PV and other renewables; numerous small installations with capacities of up to 5 MW each.

3. Gas Power Stations - 2019

- Kudu Gas: 884 MW, 484MW Local and 400MW regional off take.

4. Hydro Power Stations - 2022

- Baynes Hydro: 300 MW

5. Other

Demand Side Management

Namibia is considering the following demand side management initiatives including:

- LED replacement programme
- o Demand Management Participation
- Solar Water Heater roll out.
- 3. A few years ago our power utility, Nampower loaned their Zimbabwe counterparts millions of dollars to help our sister Republic to jump start one of their power plants. How much of these funds were loan and how much was repaid back? If no repayment was paid when do we expect payment from them?

The Power Supply Agreement between ZESA and NamPower started in 2008 and continued to supply a Firm Energy of 150MW until February 2015. This agreement has been reliable and the supply has been met. The amount of loan that was granted by NamPower to ZESA for the purpose of rehabilitating the Hwange Power Station amounted to USD 40 000 000.00 (Forty Million) at interest rate of Libor+1%. This money was repaid back within 5 years as initially planned and the total amount was repaid in 2014. The total value of the energy supplied to Namibia during the period is N\$ 1,422 billion.

The deal was favourable for the country due to the following benefits;

- Reliable source of supply from Zimbabwe
- Low energy tariff compared to the rest of the region.

Honorable Speaker,

Honourable Members,

I hope that I have sufficiently answered the questions posed to the Minister of Mines and Energy by Honourable McHenry Venaani.

l thank you.