



UPDATE ON THE POWER SUPPLY SITUATION AND PROGRESS OF NAMPOWER PROJECTS AND INITIATIVES AIMED AT ADDRESSING THE POWER SUPPLY SITUATION IN NAMIBIA

15 April 2014

**Members of the Media
Ladies and Gentlemen**

A very warm welcome to you all this morning and thank you for responding to our invitation.

As has become our practice we convened this press conference this morning to update you on the power supply situation in the country, the progress we are making on our projects and specifically those aimed at addressing the power supply challenges before the commissioning of the Kudu Power Project in 2018.

A. CURRENT POWER SUPPLY CHALLENGES

The local electricity supply industry is currently facing many challenges, including, amongst others, the following:

1. Over-reliance on imports, averaging 60 percent per year and up to 80 percent during dry season. As such, until 2017, Namibia will continue to be vulnerable in terms of power supply as any negative development in neighbouring states will have a corresponding negative effect on electricity supply in Namibia;
2. Seasonality of Ruacana power generation, with full load generation experienced during rainy seasons and less than 50 percent during dry seasons. We are pleased to inform you that it was only recently that the Kunene River flow picked up allowing us to generate at full capacity at Ruacana. Ruacana's operation has a direct impact on the

average cost of energy supply to Namibia, and the more we are able to generate from this plant the better for Namibia;

3. The unavailability of Van Eck Power Station that has been taken out of operation due to the ongoing rehabilitation programme since 2012;
4. Eskom's Supply Challenges: High rainfalls in the Limpopo and Mpumalanga area resulted in coal collieries that provide coal to Eskom's power stations being flooded, and if not flooded then the coal was very wet. This resulted in a reduced availability of supplies and consequently Eskom was forced to load shed some of its customers. We were fortunate in that we had alternative supplies available, especially during peak demand periods. Therefore Namibia was not affected by supply constraints experienced by our neighbours. Again this highlighted how vulnerable the current demand/ supply balance is within the SAPP region;
5. Expiry of the current Power Purchase Agreements (PPA's) with our neighbouring power utilities with the combined capacity of up to 750MW within the next 15 months. These include the expiry of the ZESA Agreement in October 2014, the Supplementary Eskom Agreement in April 2015, the Aggreko Agreement in August 2015 and Eskom Off-peak Agreement in April 2016. Re-negotiation of these Agreements have proved to be challenging;
6. Accommodation of Independent Power Producers (IPP's) without Government support through Implementation Agreements. This matter is currently under consideration by Government. NamPower will have to find a way to manage the situation alone if this matter remains unresolved.

Despite all these and many other challenges we want to assure our stakeholders that we shall continue to work day and night to ensure that we continue to deliver on our national mandate of powering the nation and beyond at all times.

Director of Ceremonies, Members of the Media, Ladies and Gentlemen:

To balance demand and supply in a country like Namibia which is not self-sufficient in power supply is not an easy task, as new power stations need to be built or PPA's to be entered into to address current and future supply deficiencies. Power stations are expensive to build, irrespective in which country, and take a long time to implement. Lead times for base-load plants vary between 2.5 and 6 years, depending on the type of power station. Investment decisions are based on demand projections available at the point in time, and one thing is for sure: These predictions are never 100 percent. New step loads come on stream, mainly mines, others close down because of low commodity prices. Therefore proper studies need to be done and sensitivity runs conducted to determine the exposure of these power supply options to the Namibian customers at large. In the end new developments will over time be paid for by all customers. Namibian power demand has long surpassed supply, a situation that has necessitated NamPower to put such short, medium and long term measures in place to ensure security of supply.

The nature of the power supply situation in Namibia may be divided into three main periods, namely:

- 1. The period 2014 to 2015:** Although the power supply situation will remain challenging during this period, the situation will be manageable. NamPower has put adequate measures in place to address the situation and, therefore, no serious power supply disruptions will be expected during this period;
- 2. The period 2016 to 2017:** During this period serious power supply deficits will be experienced mainly because of the new step loads and expiry of a number of existing PPA's, referred to earlier, that will be difficult to re-negotiate or to extend. I am pleased to inform you that NamPower has adopted a new strategy to address this deficit, and this strategy will be explained to you during the next few minutes;

3. The period 2018 and beyond: During this period the Kudu base-load power station will be operational and Namibia will be a net exporter of electricity. During this period we shall also experience power tariff stability, compared to the current period where electricity tariffs will be expected to rise sharply at an average rate of approximately 15 percent per year.

Let me now take this opportunity to provide you with an update on the projects that we have embarked upon to address the power supply situation in the short, medium and long term.

B. SHORT TO MEDIUM TERM PROJECTS

The following programs are at various stages of implementation as part of the Short Term Critical Supply (STCS) project:

- Demand Side Management (DSM);
- Van Eck Refurbishment;
- Runners replacement at Ruacana;
- Negotiation of PPA's with regional utilities and IPP's;
- Development of a 250MW power plant

1. Implementation of the DSM program

NamPower will continue with the effective implementation of the DSM project, which includes specific DSM campaigns, Time of Use Tariffs and a Public Awareness Campaign under the theme "Power of Knowing", advocating energy saving initiatives.

It gives me great pleasure to announce that a Cabinet Resolution was passed on 19 December 2013 in support of the DSM campaigns which includes the import and free installation of one million LED bulbs in residential houses throughout the country, the installation of 20-thousand solar water heaters in residential houses through a rebate initiative, and negotiations with large customers for access to their standby generators to support electricity demand during peak and emergency periods. The program is expected to cost approximately N\$ 350 million and to yield a combined saving of approximately 110 MW over a period of five years.

✓ **The 1 million LED Campaign**

This program entails the replacement of critical incandescent bulbs in the residential sector which are most likely to be switched on during peak demand times with LED light bulbs. The campaign will be executed by contracting Energy Service Companies (called LED Champions) who will recruit local individuals to perform house to house replacements. The free installation of LED lights will be implemented in two phases.

The first phase is the Pilot phase which will involve the installation of LEDs in the towns of Mariental, Otjiwarongo and Walvis Bay. If the pilot phase is successful the installation of the LEDs will proceed in the remaining towns in Namibia. The 1 million LED campaign is expected to reduce the peak demand by up to 30MW.

✓ **The 20,000 Solar Water Heater Campaign**

The objective of this campaign is to achieve the installation of 20,000 solar water heaters (SWHs) over the next five years. The intention is for NamPower to incentivise the installation of SWHs by providing a rebate of 10 percent of the installation cost for each SWH installed. NamPower will provide a list of approved SWH products as well as a list of pre-qualified Installers. Only SWH products which have been approved by NamPower and installed by pre-qualified installers will be eligible for the rebate. The process to approve SWH products for this campaign was launched on 31 March 2014 and is open for all manufacturers and suppliers of SWHs. The process to prequalify installers for this campaign will be launched at the end of April 2014 and is open for all installers of SWHs. The campaign is to be implemented in close collaboration with the local banking fraternity as well as the Solar Revolving Fund under the MME.

The campaign is also expected to stimulate the local SWH market and supplier/installer sector, and will also be of benefit to financial institutions participating in its implementation. Such an exchange will contribute to reducing the national peak demand by about 10MW.

Both the 1 million LEDs and 20,000 SHW projects will reach implementation phase by August/ September 2014 and will create opportunities for Namibians, both in providing services and products. It is further foreseen that the SWH campaign will actually initiate a process which will be taken over by financial institutions once NamPower has exited the campaign.

✓ **The Virtual Power Station (VPS) and Demand Reduction (DR) campaign**

Both the VPS and DR campaigns are not truly DSM processes, but will assist NamPower to better manage the demand/ supply balance.

The objective of the campaign is to engage electricity users who have their own standby generators and/or potential to reduce significant loads on demand or to provide additional generation to the grid and/or effect load reductions on notification. During the execution of this campaign, the participants will respond to requests from NamPower for additional generation or load reduction and benefit from payment in accordance with the respective agreements.

The major benefit of this campaign is that it will allow NamPower to access installed capacity in a cost effective manner to supplement its STCS solutions. Should there be a requirement for load shedding, the campaign allows for a more gradual and structured load shedding, which is likely to limit the scale and scope of such power interruptions.

Since the last media briefing, NamPower has engaged extensively with its customers regarding the details and implementation of this campaign. The VPS and DR campaign is expected to reduce the peak demand by up to 70MW.

I would like to reiterate that the success of the DSM campaign will largely depend on the support and cooperation from all stakeholders. A comprehensive public awareness campaign will be rolled out soon to provide the public with more detailed information.

2. Rehabilitation of Van Eck Power Station

The Van Eck Power Station has been out of service since 2012 for rehabilitation to extend its life span by 10 years. The first unit is expected to be commissioned by end of May 2014, with the last unit expected for commissioning by end of August 2014. This will result in a much more reliable power station, meeting its original design output of 120MW and a guaranteed base-load output of at least 90MW. The project will cost approximately N\$330 million.

3. Replacement of turbine runners at Ruacana

With the investment of approximately N\$ 55 million which includes the replacement of the turbine runners and major parts as well as refurbishing of some turbine component have various contributing factors. The newly designed runners will improve the current turbine efficiency levels from 81 to 94 percent and increase the maximum output with 15 MW from the current 322 MW to 347 MW. With improved efficiency more output will be realised at the Ruacana power station with less water.

The installation of the first runner is expected to start the second week in May 2014, with the last runner to be commissioned by February 2015. During this project period Ruacana will only have 3 units available for Generation which means once a unit has been taken out of service all project works on that unit must be completed before the next unit is taken out again.

4. Power Purchase Agreements with Regional Power Utilities

NamPower continues to negotiate new PPA's with neighbouring power utilities, especially with Eskom, EDM, ZESCO and ZESA. Negotiations are currently at an advanced stage for the import of additional 100MW from ZESCO, 100MW from EDM and 80MW from ZESA.

As previously reported NamPower concluded a due-diligence study on the refurbishment of the Bulawayo and Harare coal-fired power plants in Zimbabwe. Results are promising and discussions have commenced with ZESA in this regard. Irrespective of what was reported in the media and what the sentiments were, the current Zimbabwe deal

(linked to NamPower's Hwange investment) has been a huge advantage for Namibia, and I am confident that customers would already have been loadshed if we would not had this agreement signed. So be assured that NamPower will only sign up to another deal if it is beneficial to the Namibian customers.

5. PPA negotiations with Independent Power Producers

As previously reported Omburu Sun Energy (Pty) Ltd is wrapping up its final work, such as transmission connections and financing, for the setting up of the 4,5MW solar PV power plant at Omburu, near Omaruru. PPA negotiations are almost completed with other IPPs, such as Diaz, Arandis Power and Greenam, but cannot be concluded until Government has pronounced itself about their request for protection against political risks through the Implementation Agreements.

6. The new 250 MW Thermal Power Station

As explained previously serious power supply deficits will be experienced in Namibia during the period 2016 and 2017. The concept of a new generation facility to address this deficit is not new. We have indicated on a number of occasions in the past that emergency diesel generators will be the solution in this regard. However, upon further investigation with the assistance of the consultant, KPMG, the short term solution through emergency diesels was found to be a more expensive option to the national economy. On the basis of professional advice from our consultant and on recommendation by the NamPower Executive Management a decision was therefore made by our Board of Directors, and endorsed by Government through MME, to rather develop a 250MW long term generation facility at the Coast (Erongo region). The plant to be procured through a transparent bidding process will operate in a base-load mode till 2017 and in mid-merit/peaking or stand-by mode after 2018. A Special Purpose Vehicle (SPV) in which NamPower will have up to 30 percent equity will be created to develop the Project in order to tap into the private sector's capital, innovation and expertise to achieve its goal. The plant is expected to cost approximately N\$3 billion and to be operational by mid 2016. NamPower has recently issued an Expression of Interest (EOI) to solicit interest from the market, to be followed by a pre-qualification process

and finally by a Request for Proposals (RFP).The technology has not been identified, but will be determined by the market through the RFP process. The Final Investment Decision (FID) on the project is expected by December 2014.

Contrary to media reports last week that the project is competing against Kudu and will make Kudu redundant we totally disagree and would like to take this opportunity to emphasise that this report is misleading and factually incorrect. The truth is that after 2018 this power station will complement Kudu by serving some peaks especially during dry seasons, and to operate when one or both of the Kudu 450MW blocks are out of service for planned or unplanned maintenance. This plant will therefore enable us to continue serving our customers even if one block from Kudu is not available. I therefore request our stakeholders to support this important national project to ensure that it is delivered on time in the best interest of our customers.

C. MEDIUM AND LONG TERM GENERATION PROJECTS

1. Kudu Power Station

a) **Update on the Joint Development Agreement (JDA):** The JDA between NamPower, KuduPower and CEC Africa was signed in February 2014 which marked officially, CEC Africa's participation in the joint development of the Kudu Power Project. At the same occasion, CEC Plc signed a Power Export Agreement (PXA) Termsheet with NamPower for the off-take of up to 300MW of power from the Kudu Power Station to be built outside Oranjemund. In accordance with the JDA the parties has set up a four member JDA Steering Committee whose main function is to oversee the development of the project.

The first JDA Steering Committee took place in Windhoek, on Friday, 4 April 2014, and resolved on a number of issues that requires

attention amongst others expediting the project's equity and debt funding program; addressing the transmission infrastructure in Namibia and Zambia for the evacuation of power from the Kudu Power Station through either the Caprivi Link or South African network into Zambia, as well as the preparation and submission of the application for a Generation License with the Electricity Control Board. The Steering Committee, which will act as the Management Committee of the Kudu Power Project will meet once a month, and is being chaired by a NamPower representative as majority shareholder in the project.

- b) **Update on the Gas Sales Agreement (GSA):** GSA negotiations between NamPower and the Kudu Gas Field developers (Namcor, Tullow Oil and Itochu), which started in December 2013 are at an advanced stage, and to date four sessions were held in Cape Town and Windhoek respectively, and the final negotiation sessions are scheduled for end April and early May 2014 respectively. The GSA is expected to be completed by the end of May 2014 or early June 2014.
- c) **GRN support and Power Export Agreement discussions with Eskom:** The Ministry of Finance (MOF) announced in March 2014 the allocation of N\$1.6 billion as part of the Governments contribution to the development of the Kudu Project. The MME as project champion of the Kudu gas to Power Project is in the process of consulting both NamPower and Namcor with regards to apportioning the aforementioned funds to the two institutions based on the needs of their respective projects. The MOF in consultation with MME has engaged the services of the African Development Bank (ADB) to assist the Government in determining and structuring the strategic support and the requisite guarantees that Government will be required to provide to the Kudu Project.

With regards to the discussions between the MME and its South African counterparts, the Department of Energy (DOE) in November 2013 gave the project the required impetus as NamPower and Eskom have now finalised and agreed on the transmission interconnection required for the evacuation of the power from the Kudu Power Station into the South African network. The Power

Export Agreement negotiations is expected to be resumed in due course.

- d) **Kudu tenders:** The evaluation of the four tenders that were issued during the course of 2013 are all at final stages of evaluation, and the outcome thereof will be presented to the NamPower governance structures for approval during the course of April and May 2014 respectively. The Board of Directors, accompanied by the Kudu Project Team members, has undertaken a trip to Europe (Spain), Middle-East (Qatar) and (China and South Korea) as from 7 April to 18 April 2014 as part of the EPC tender requirements of visiting one power station per bidding consortium. This trip had nothing to do with the visit to Brazil that was undertaken earlier in March 2014 by a different NamPower Project Team that is working on the 250MW project.

Once all the evaluation of all the four Kudu tenders have been completed during April and May 2014, it is anticipated that the EPC contract, O&M contract, Coordinating Bank contract and the Strategic Equity Partner Joint Development Agreement negotiations will be concluded and signed off by June 2014, when the Final Investment Decision (FID) is expected to be taken by NamPower and CEC Africa as current project developers.

- e) **Discussions with NamDeb** for the power station site fencing off as well as the availing of all the necessary ancillary infrastructure within the restricted mining area such as power supply, water, sewerage connection, the hostel accommodation at Uubvlei and other amenities are at an advanced stage of finalization. NamDeb has to date been very supportive to the project. Discussion with the MME for the de-proclamation of the power station from being classified as a restricted mining area has commenced, and the Ministry has given its assurance that this matter shall receive immediate and speedy attention.

2. **Baynes Hydro Power Project**

Significant progress has been made on this project. The reports by the consultants involved with the project were approved by the Permanent

Joint Technical Commission (PJTC) between Angola and Namibia in November 2013. The PJTC has found the project to be financially and technically viable, and robust with regards to different sensitivities tested. In this regard the PJTC has resolved to submit the report and recommendations to the governments of Angola and Namibia for final approval before the commencement of the next phase of the project. The outstanding work to be completed before the commencement of the implementation phase include the setting up of the permanent Project Office, drafting of the Bilateral Agreement for water abstraction and determination as well as planning of associated supporting infrastructure such as transmission lines, roads, runways and telecommunications.

Should it be agreed between the governments of Namibia and Angola for the project to go ahead, the appointment of responsible institutions from both countries to set up a project office and to undertake the work and the search for appropriate funding, will be a logical next step.

D. RENEWABLE ENERGY PROJECTS

1. Biomass Power Plant

Regarding the implementation of renewable energy projects, NamPower has completed the pre-feasibility study into the use of invader bush and the report is available on NamPower's website. Results look promising and NamPower has resolved to proceed with the full scale feasibility study. The feasibility study will consider options for hybridisation with solar.

2. The 30 MW Solar PV Plants

As reported last year an Invitation to Tender for the Pre-qualification of IPPs and Request for information was put out into the market by NamPower on behalf of the Government in August 2013. The purpose was to solicit information from prospective IPPs for the development of the three Solar PV Power Stations, with the combined capacity of 30MW, to be constructed in the Erongo, Otjozondjupa and Hardap Regions. A total of 50 responses were received, of which 9

respondents were short listed for prequalification. As soon as Government pronounces itself on their final position regarding Implementation Agreements these respondents will be invited to participate in the second round of the procurement process which involves detailed bidding as potential IPP project developers. Our conditions of contracting will include that a minimum percentage of the total project value will be local content through ownership, sub-contracting and creating employment opportunities for Namibians.

Details of the pre-qualified companies are posted on the websites of the MME, ECB and NamPower. NamPower is also conducting an EIA since January 2014 on behalf of Government.

3. Concentrated Solar Power Plant (CSP) with Storage

NamPower and MME are working together on the CSP project, earlier approved by Cabinet and partially funded by the UNDP. The key objective of the proposed project is to increase the share of renewable energy resources in the Namibian energy mix by developing the necessary technological framework and conditions for the successful transfer and deployment of CSP technology for on-grid power generation, thereby reducing greenhouse gas emissions. NamPower is the implementing agent for the execution of the feasibility study for this project.

E. TRANSMISSION PROJECTS

To ensure that electricity is reliably delivered to all parts of Namibia, NamPower is embarking on an extensive transmission expansion plan as outlined in the recently approved transmission master plan. Over the next 5 to 7 years, N\$7 billion will be spend on the expansion program. As part of this program a number of transmission projects are currently under implementartion, including the EIA for the Kunene/ Omatando and Rundu/ Quito projects as well as construction of the Otjikoto/ Gerus line and upgrading of the West Coast transmission infrastructure.

F. CONCLUSION

Director of ceremonies, esteemed members of the media, Ladies and Gentlemen

As I have indicated on a number of occasions, the power supply situation in Namibia will remain critical until the commissioning of a base load power station in 2018. This will be particularly so as one of our key suppliers, Eskom, has been experiencing serious challenges in managing the power supply situation in their own country. In the absence of a guaranteed import from Eskom it will indeed be challenging for NamPower to keep the lights on. I would therefore, once more, like to appeal to all our customers, small and large, to meet us half way by reducing their electricity usage by a minimum of 10 percent, especially during peak hours - from 06h00 to 09h00 in the morning and from 18h00 to 21h00 in the evenings. The possibility of load shedding can only be avoided if we all work together as a country, with each player including customers playing their part in contributing to the solution.

I thank you