

# WattsOn

Newsletter of NamPower - Leading Energy Company in Namibia  
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# NamPower to implement Demand Side Management (DSM) extensively

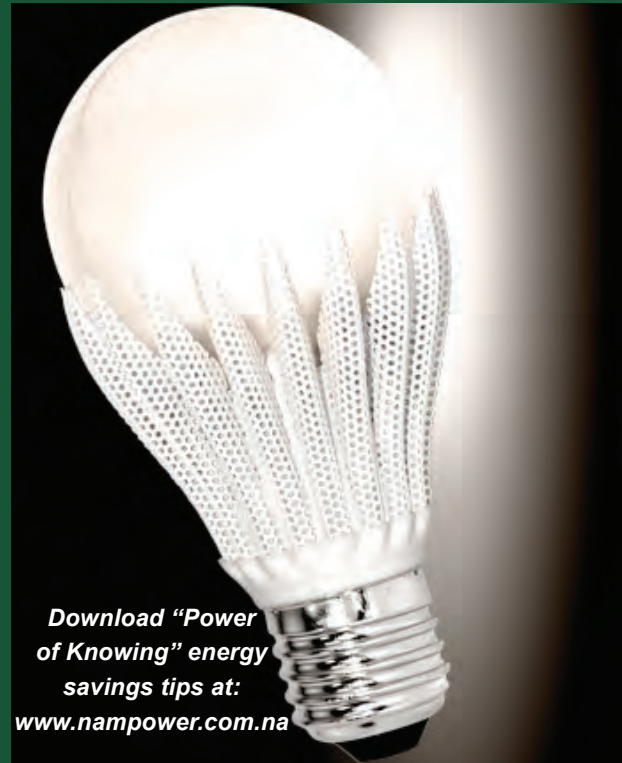
**T**he power supply deficit and associated challenges will continue to prevail until the commissioning of a new base load power station in 2018. Until then, and given the challenges of implementing large scale projects, Namibia will continue to rely on the Short Term Critical Supply Project (STCS), under which a number of short and medium term initiatives will be implemented to address the immediate power supply shortages.

The Demand Side Management (DSM) program is one of the initiatives that NamPower will undertake to curb power shortages during the next five years. While NamPower continues with its energy savings campaign under the theme “Power of Knowing” and implementing time of use tariffs for large customers, the additional DSM initiatives will include:

## **The 1million LED Campaign**

This program entails the free replacement of incandescent bulbs in the residential sector which are most likely to be switched on during peak demand times with LED light bulbs.

The benefit of this campaign is the reduction of the lighting load during peak demand times, as well as the stimulation of the local energy efficient lighting market. The 1 million LED campaign is expected to reduce the peak demand by up to 30MW.



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

In close co-operation with the various banks and funding institutions in Namibia, NamPower want to replace 20-thousand electrical water heaters with solar water heaters in residential houses through a rebate initiative.

The project is aimed at exchanging 20,000 electric water heaters (EWH) with solar water heaters (SWHs) over the next five years. Such an exchange will contribute to reducing the national peak demand by approximately 10MW.

The benefit of this campaign is the reduction of the electric load during peak demand times due to electrical water heaters. 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.

#### **The Virtual Power Station and Demand Reduction Campaign**


The objective of this campaign is to engage electricity users who have their own standby generation capacity (emergency generators) and/or potential to reduce significant loads on demand, to

achieve firm as well as non-firm supplies to the grid and/or effect load reductions upon notification.

The major benefit of this campaign is that it will allow NamPower to access installed capacity in a cost effective manner to supplement its Short Term Critical Supply 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. The Virtual Power Station and Demand Reduction Campaign is expected to reduce the peak demand by up to 70MW.

The success of the DSM program will largely depend on the support and cooperation from all stakeholders. The public will therefore be provided with more detailed information about these programs upon the commencement of the projects in the New Year.



A professional portrait of Paulinus Shilamba, a man with short dark hair and glasses, wearing a dark pinstriped suit, a white shirt, and a patterned tie. He is seated in a modern chair, looking slightly to the right of the camera with a calm expression. The background is a plain, light grey.

*“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.”*

**Paulinus Shilamba**  
**Managing Director**

## Update on Short Term Power Supply



*Repair work being done on the boilers of van Eck power station.*

### 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 early 2014, with the last unit expected for commissioning by mid 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\$300 million.

### Replacement of turbine runners at Ruacana Power Station

With an investment of approximately N\$45 million

to replace the turbine runners of the old three units, and through the resultant efficiency gains, an additional 15 MW will be added to the power station, bringing the total installed capacity of Ruacana to 347 MW. The installation of the first runner is expected in April 2014, with the last runner to be commissioned by October 2014.

### PPAs with Regional Utilities

NamPower continues to negotiate new Power Purchase Agreements (PPAs) with neighbouring power utilities, especially with Eskom (South Africa),

EDM (Mozambique), ZESCO (Zambia) and ZESA (Zimbabwe). Negotiations are currently at an advanced stage for the import of additional 100MW from ZESCO, 100MW from EDM and 50MW from ZESA. The PPA with ZESA, which was coming to an end this year, has now been extended for another year until the end of 2014.

### PPA negotiations with Independent Power Producers

Negotiations with Independent Power Producers (IPPs) are on-going regarding the off-take of power

from the Arandis Diesel Power Station and from renewable energy projects in the form of wind and solar plants. NamPower has recently concluded PPA negotiations with Omburu Sun Energy (Pty) Ltd for the setting up of the 4,5MW solar PV power plant at Omburu, near Omaruru. The PPA was approved by the NamPower Board of Directors in October 2013 and the signing of this historic agreement will take place in due course.

### **Investigation of the acquisition of emergency diesel generators**

Large electricity diesel generators are available on the international markets for lease and can be acquired and installed relatively fast. These do come at a very high cost though, and will only be considered during an envisaged emergency. Due to the uncertainty of the local power supply situation in the near future, particularly with the non-firm supply from Eskom, IPPs delaying or not getting off the ground, the leasing of emergency diesel generators may become a strong possibility.

## **30MW solar power plants on the way**

**G**overnment through the Ministry of Mines and Energy (MME), in support of its policy objectives to ensure security of power supply for the nation, seeks to introduce renewable Solar PV Power Stations to be implemented by Independent Power Producers (IPPs) in Namibia.

The objective by MME, NamPower, Electricity Control Board (ECB) and Renewable Energy and Energy Efficiency Institute (REEEI) is to have at least three, 10MW plants operational before 2016.

The solar plants are planned for the Erongo, Otjozondjupa and Hardap regions.

To this end, 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 to solicit information from prospective IPPs for the development of the

three Solar PV Power Stations, with the combined capacity of 30MW.

A total of 50 responses were received, of which only 9 respondents met the stringent prequalification criteria.

The responses were evaluated on the basis of meeting the necessary financial, legal, technical, management, project references, insurability, compliance, quality assurance, time frame and other requirements as detailed in the Pre-qualification documents.

Renewable energies are an important part of an energy mix for Namibia to provide a secure and affordable supply of electricity. NamPower is targeting to have most of its installed power generation capacity to be sourced from renewable energy.

# THE POWER OF KNOWING

## OUR SHORT-TERM CRITICAL SUPPLY INITIATIVES

### NamPower Generation

Replace runners on Unit 1,2,3 – Ruacana Hydro Power Station

Refurbish Van Eck Thermal Power Station

Install Emergency Diesel Generators (Under consideration)

### Consumers DSM

Energy Savings Initiatives

ToU Tariffs

One-million LED (1mLED) Campaign

Twenty-thousand Solar Water Heater (20kSWH) Campaign

Virtual Power Station (VPS) Campaign

Demand Reduction (DR) Campaign

### IPP Renewable Energy

PPAs with Wind Projects

PPAs with Solar Projects

### SAPP Imports

Extend current import PPAs

Negotiate new import PPAs

Negotiate import PPAs with regional IPPs

#### ABBREVIATIONS

- **SAPP** – Southern Africa Power Pool
- **DSM** – Demand Side Management
- **ToU** – Time of Use
- **IPP** – Independent Power Producer
- **PPA** – Power Purchase Agreement

# Power Pics

## Energy Savings and Safety public education





# Power Pics



# Final Investment Decision on Kudu to be made by mid 2014

**N**amPower expects the Final Investment Decision on the construction of the country's biggest power station to be made by mid 2014 and Financial Close by the end of 2014.

Progress on the 800MW Kudu Power Project is well on track with the commencement of the processes for the procurement of the Engineering, Procurement and Construction (EPC) contractor, the Operations and Management (O&M) contractor, the Strategic Equity Partner (SEP) and the Coordinating Bank.

NamPower has also made considerable progress regarding negotiations with regional off-takers for the 400MW that cannot be consumed in Namibia. Negotiations with the South African Department of Energy as the procurer and Eskom as the buyer are on going.

Copperbelt Energy Corporation (CEC) of Zambia has expressed interest to off-take up to 300MW from the Kudu Power Station through a PPA with NamPower.

In addition to the off-take, they are also keen to take up minority equity shareholding in Kudu Power.

NamPower is also expected to sign the Joint Development Agreement (JDA) with CEC, in due course.

The first 400MW is expected to be commissioned by the last quarter of 2017 with the last 400MW by the first quarter of 2018.

"We call upon all stakeholders in both the public service and private sector to continue to support this national flagship project, as the benefits to be derived thereof are geared towards stimulating the national economy through adequate power supply as well as the commercialization of oil and gas resources in Namibia," says NamPower Managing Director, Paulinus Shilamba.

Follow the development on the Kudu Power Project on the NamPower website at: [www.nampower.com.na](http://www.nampower.com.na)

# //Karas Region should be ready for Kudu Power

“The Kudu Power Station project is taking off and we at NamPower firmly believe that there is no turning back. We can confidently say that the project will this time around go full swing,” the MD, Paulinus Shilamba told the NAMDEB management team during a visit to the //Karas Region recently.

NamPower as the lead developer of the Kudu Gas Power Station project introduced the project officially to stakeholders in the region. The main aim of the visit was to inform the stakeholders to prepare themselves to be able to deliver the required services that the project would need during construction.

Local sub-contractors are being encouraged to take advantage of the various opportunities that the project will be offering through the provision of goods and services, particularly during the three years

construction period of the gas field infrastructure and the power station.

The visit started with a courtesy call to the //Karas Regional Governor, Bernadus Swaartbooi, followed by a visit to Oranjemund to see the NAMDEB, Oranjemund Town Council management teams and town councillors as well as the Oranjemund Chamber of Commerce and Industry. Shilamba presented the current power supply situation to the teams, which he emphasised has prompted the fierce revival of the Kudu Power Project.

“The whole SADC region has been hard hit by power shortages over the past seven years. For Namibia, this situation can only be addressed through the construction of a base load power station, which in our case is the Kudu Power Station.”



*NamPower's System Development Chief Officer, Rainer Jagau (Left) and Managing Directors, Paulinus Shilamba, (second from the right) with the Oranjemund Town Councillors.*

# THE POWER OF KNOWING

There is a thin line between what you use and  
what we are able to supply.



## Energy saving tips

### **Air Conditioner:**

- Clean and inspect your air conditioner filters regularly.
- Only cool or heat rooms that are occupied.

### **Geyser:**

- A geyser accounts for up to 40% of your electricity bill.
- Ensure that the thermostat is set to no more than 55 Degrees Celsius.

### **Kettle:**

- Only boil the amount of water that you need.
- Keep the kettle's element clean by boiling vinegar to remove lime scale build up.

### **Light Bulbs:**

- Replace conventional bulbs with Compact Fluorescent Light (CFL) or Light-Emitting Diode (LED) light bulbs where possible. These light bulbs provide the same amount of light while using much less electricity and they last longer.
- Always switch off lights when leaving a room.

### **Pool Pumps**

- Reduce the operating time to limit water circulation to twice a day.
- Set the pool pump to operate between 24:00 and 05:00.

### **Stove:**

- The size of the pot should match the size of the stove plate.
- Rather use a pressure cooker when preparing food that normally takes a long time to cook.

**Let's work together and use electricity sparingly.**



**NamPower**

*Powering the Nation and beyond*

# Power structures under threat

**N**amPower is concerned about the rising theft of cross braces from high voltage power line structures which is sold as scrap metal or used to make beds and donkey carts among others.

Last year, the town of Rundu was without power for almost two weeks after eleven power structures on the Otjikoto-Rundu 132kV power line fell to the ground due to heavy rain and wind storms. It was later found that the power structures were weakened by missing bolts and nuts, due to suspected theft of these. This worrisome trend seems to have spread to other parts of the country now.

This year alone, nearly 400 cross braces were stolen on the Ruacana-Omburu line in the Kunene and Omusati regions, the Van Eck – Kuiseb line in Khomas region, as well as the Kokerboom line in the Hardap Region. Even though NamPower is in the process of replacing the stolen braces, the Managing



*A high voltage power structure without cross braces at the bottom.*

Director, Paulinus Shilamba has warned that the practice can cause the collapse of the country's power transmission system as well as loss of lives.

With assistance of the Namibian Police, some of the stolen cross braces were found in welding workshops and about ten people have so far been arrested and have appeared in court.

The Namibian Police warned community members in the said regions to return any cross braces in their possession or face the law when they are found in possession of these materials.

The cost to replace stolen crosses braces has not been determined yet, but could run into millions. The theft of cross braces and copper wires is not unique to Namibia - it is a great concern to the whole of the SADC region and is costing the region millions of dollars in replacements.



*Recovered cross braces at a welding workshop.*

# New Science Laboratories for Ruacana High School

**N**amPower continues to invest in the development of the town of Ruacana, where the country's main source of power generation, the Ruacana Hydro Power Station, is located.

Last year, NamPower availed an amount of N\$400,000 for the construction of two new classrooms which have already been handed over. More recently, a further investment of N\$535,000 was made by NamPower when two fully equipped science laboratories were handed over to the Ruacana High School.

The two laboratories, one for Biology and the other for Physical Science, boasts state-of-the-art science equipment, including a full range of science kits and chemicals for science experiments.

At the handover ceremony, NamPower's MD, Paulinus Shilamba said that the new laboratories will ensure that the learners from this remote school as well as other schools in the surrounding areas of Ruacana town will receive a quality education in science henceforth.

"The facilities we have put in place here should not be reserved for the usage of Ruacana High School only, but should also be availed for use by other schools in the region. This, after all, is an investment in the education of a Namibian child".

The main aim of this investment is to enhance the learning experience of learners from underprivileged schools and to ultimately help them improve on their matric results.

"This we believe will lay a solid foundation for research in science and technology."



*A learner from Ruacana High School experimenting with the new chemicals in the laboratory.*

# NamPower helps brighten up children's ward



**N**amPower recently extended sponsorship to the Michelle McLean Children's Trust Fund for the procurement of various items for a playroom in the children's ward at the Windhoek Central Hospital.

The sponsorship of N\$11 235.69 was used to procure a TV, DVD player, carpeting, chairs and tables as well as toys for the playroom on the 9<sup>th</sup> Floor's East Wing.

The playroom has been transformed into a haven where the little ones can find much needed joy in their time of distress. The fairy and relaxed atmosphere

will contribute greatly in their healing process.

In addition to the playroom, all of the eleven rooms and bathrooms in the ward were renovated and painted with colourful artwork by learners from Windhoek Gymnasium, St George's and the Windhoek Afrikaans Privaat schools. Artist, Alma Hugo headed the painting project.

The ward, which will now be called the Michelle McLean Children's Ward, was officially opened in October by Michelle McLean-Bailey and handed over to the Minister of Health and Social Services, Dr. Richard Kamwi.

# THE POWER OF KNOWING

There is a thin line between what you use and  
what we are able to supply.



Use less electricity during peak times



and



**8 - 10 AM**

**6 - 9 PM**

Please avoid using washing machines, dishwashers, pool pumps, irons, air conditioners, stoves, lights, geysers and all other appliances you do not need to use during these times.

**Let's work together and use electricity sparingly.**



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