

# WattsOn

The Official Newsletter of NamPower  
Edition #2, September 2015

## Ruacana's Refurbishment project well on track



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- The National Power Supply Situation
- NamPower leads in Enterprise Information Management
- Update on Ruacana Refurbishment Project
- NamPower Foundation supports Disability Sport Namibia
- Copper wire theft continues unabated



*Powering the Nation and beyond*

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# 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**



**6 - 9 AM**

and



**6 - 9 PM**

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

# The National Power Supply Situation

*- a call to save electricity*



**T**he SADC region is currently facing an economically-threatening power supply crisis that has seen countries in the region having to implement load shedding to stabilize supply and demand.

Although Namibia has had the privilege of enjoying uninterrupted power supply for many years, unfortunately, the power situation is indiscriminative. As a net importer of electricity, the regional power supply crisis poses a direct threat to Namibia's power supply, as we are reliant on imports to supplement local generation capacity to meet demand.

The winter season this year proved to be a real challenge for NamPower in meeting electricity demand, especially during peak hours, 06:00-09:00am and 18:00-21:00pm. During this period, the national peak demand escalated to a high of almost 600 MW, representing a 7% increase in peak demand compared to the same time last year.

This situation is not sustainable as an annual growth of approximately 4% (in line with the GDP growth rate of the country) is taken into consideration when forecasting and

planning is done to ensure security of supply in the country. In an attempt to raise awareness about the power supply situation, NamPower has actively, throughout the years, engaged its customers through various campaigns and information sessions aimed at encouraging behaviour change in energy use.

NamPower has put in place short-term critical supply (STCS) initiatives to ensure security of supply until a base load power station is commissioned. Some of these initiatives will be highlighted in the pages that follow.

NamPower again uses this opportunity to appeal to the public to take the energy savings messages seriously, and we also appeal to the business community to make sure that all lights and air conditioners are switched off when leaving the office.

We hope that we all realize the magnitude of the regional power crisis at hand, and we all play our individual roles to help share the load collectively.

# THE POWER OF KNOWING

## OUR SHORT-TERM CRITICAL SUPPLY INITIATIVES

Strong economic growth and development in Namibia has resulted in an increased demand for electricity, and to ensure security of supply until the Kudu Gas Power Project is commissioned, NamPower is in the process of implementing various initiatives under its Short-term Critical Supply Project.

### NamPower Generation

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

Refurbish Van Eck Thermal Power Station

Install Emergency Diesel Generators (Postponed)

### Consumers DSM

Energy Savings Initiatives

ToU Tariffs

One-million LED (1mLED) Campaign

Twenty-thousand Solar Water Heater (20kSWH) 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
- IPP – Independent Power Producer
- DSM – Demand Side Management
- PPA – Power Purchase Agreement
- ToU – Time of Use

## Ruacana's Unit 3 Runner Replacement Project on track

The Ruacana Runner Replacement and Penstock Inlet Valve (PIV) Project resumed with refurbishment work on Unit 3, on 18 May 2015, following the successful commissioning of Unit 1 in December 2014.

Due to the high river flow between December and April, the project was deferred to the low flow season to allow the power station to operate at full capacity and support system demand.

Unit 3's turbine disassembly progressed well and is on schedule, taking only 2 weeks to completely dismantle the unit and dispatch turbine parts to DCD Heavy Engineering in Johannesburg for machining and refurbishment.

The parts that were sent for refurbishment at DCD include the turbine shaft for fitting new shaft protection sleeve and machining; the head cover for fitting new stationery wearing ring; the draft tube for modification to install a new stainless steel ring; and the guide vanes for welding repair works. The refurbished parts have been completed and are back on site.

The PIV works are also progressing well, with the installation of the new bypass line, servomotor and PIV ARM having been completed in July 2015. The remaining work is

expected to be finished soon to allow dry commissioning to be carried out afterwards.

Some additional activities on the upgrade project that are taking place on site include; the painting of turbine parts; the installation of new sand filters for the shaft seal; and cleaning of the generator's stator and rotor with dry ice.

A NamPower team consisting of staff members from Generation carried out Factory Acceptance Testing for the new Governor in Austria, in June 2015.

In addition, to minimise unit outage in 2016 and maximise available generating capacity, Generation has expedited the delivery of the new governor equipment to allow for its installation to be concurrent with the runner replacement and PIV upgrade project.

Now that the refurbished parts from DCD are back on site, the unit assembling shall follow, and commissioning can begin soon.

Unit 2's Runner replacement, PIV and Governor Upgrade will continue after Unit 3 has been successfully commissioned and handed back to National Control.



*The removal of the turbine head cover.*

## Fibre Optics- NamPower's Communication Highway



**T**he electrical power grid is of a dynamic and complex nature, comprising of interconnected electricity lines that run across the country, subsequently connected to transmission stations that are sometimes situated in the most isolated and uninhabitable areas of Namibia.

With the generation and transmission of electricity being NamPower's primary business, support systems are constantly implemented and refined to ensure effective internal communication and synergy between operations, especially as applicable to transmission stations and NamPower's National Control Centre. The focus of this article is on NamPower's fibre optic network, one of the most critical of these operational support systems.

NamPower's fibre optic network provides communication, control and monitoring between its transmission stations as well as National Control by enabling, amongst others, SCADA (Supervisory Control and Data Acquisition) and data network services. The network runs about 4 500 km throughout the country, with its core purpose being internal

telecommunication, power grid control and power grid protection.

NamPower can be proud to operate, maintain and constantly expand a state of the art fibre optic network system, which allows most of the larger transmission stations to be connected to NamPower's Wide Area Network (WAN), a data network with a reliable, high speed transmission capacity. This cutting-edge network reaches into transmission stations all across the country, even those in isolated areas, like the Rossing Transmission Station, surrounded by the heat, dust and sand of the Namib desert.

Also worthwhile to mention is that a few years ago, NamPower implemented a Voice over IP (VoIP) telephony system at its central offices. This system has enabled telephony services to run on a data network, instead of a dedicated, additional telephony network, as was customary in the past.



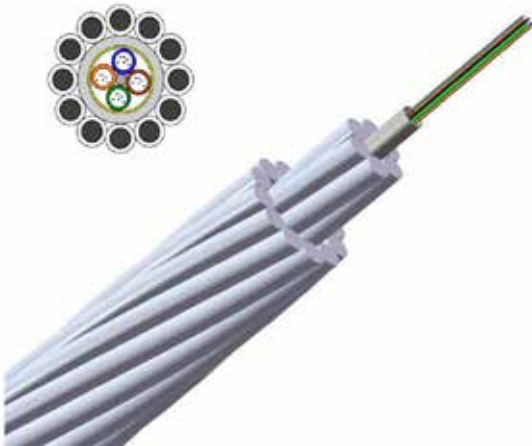
Although this revolutionary system required a steeper initial investment (and learning curve for NamPower) as compared to legacy telephony systems, it held a strategic card up its sleeve: With NamPower's strong and constantly expanding fibre optic network, it became possible to transport the VoIP telephony across the WAN into NamPower's transmission stations, without having to build, maintain and expand an additional, isolated and expensive telephony network with additional terminal equipment.

Nowadays, if a transmission station needs telephony services, it has become as simple as just plugging in a handset on the network. The handset is then immediately controlled by the main system in Windhoek. Not only is this efficient, but it drastically reduces costs by reducing maintenance requirements, travel requirements of technical support staff, and the need for additional expensive and often very specialized equipment at the stations.

All the perks and advantages described above would not be possible without NamPower's superb fibre optic network and associated technologies. But, as with all things in life, these systems must be maintained and operated sensibly for them to remain fully functional, returning on their investment and delivering that for which they were intended. For this purpose, NamPower has dedicated staff with specialist knowledge, gained over many years of hard work and lessons learned. Without this human support base, the technologically advanced network would be worthless.

In conclusion, NamPower has no reason to stand back when it comes to its fibre optic network, neither nationally nor internationally.

*“Technological advancement never stands still, neither will NamPower.”*



Optical fibre.

## NamPower leads African Continent in Enterprise Information Management

NamPower has successfully rolled out a company-wide enterprise information management (EIM) system, enhancing and centralising the management of content related to almost all of the business processes within the organisation.

With the assistance of ICT solution provider, Datacentrix, NamPower's EIM rollout is a landmark project for the continent, marking the first successful African implementation of OpenText's SAP Extended Enterprise Content Management (SAP xECM) on a consolidated EIM infrastructure.

Isac Tjombonde, Chief Officer Corporate Services, explains that the EIM project underpins the company's strategic "Vision 2030" objectives of economic efficiency, process improvement, community upliftment and regulatory compliance, and also forms the foundation for its ISO certification.

Based on these needs, NamPower embarked on a document and records management programme in 2009. This programme consists of two major phases; a four-year initial assessment and preparation phase, followed by a two-year technology implementation project for electronic documents and records.

"The first phase of the document management initiative assisted NamPower to achieve the goal of implementing an integrated manual document management and records management solution, which would ultimately pave the way for an electronic system", Tjombonde said.

The aim of the second phase of the project is to improve information management practices and apply records management controls to all business content; provide secure storage and easy access to all records; speed up the retrieval of information; establish process transparency and allow for accountability; create a paperless office environment; and to achieve the overall business drivers.



*Isac Tjombonde, Chief Officer Corporate Services.*

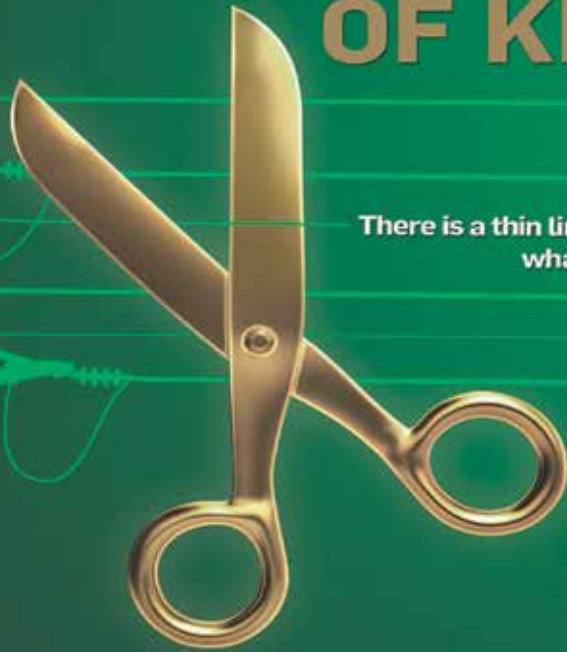
Says Tjombonde; "Since going live on phase two of our EIM project earlier this year, NamPower now has a 360 degree view of all enterprise content – both structured and unstructured. Our record and documents are uniformly managed, in line with records management principles, and thereby compliant with the National Archives Act.

"Aside from this, our search capabilities are faster and more efficient, transparency and accountability have been greatly improved, processes are streamlined, and we have seen gains in productivity and collaboration between NamPower information workers."

*(source: [www.itweb.co.za](http://www.itweb.co.za))*

# THE POWER OF KNOWING

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



## Energy saving tips

### Stove:

- Never use the stove or hot plate as a heater.
- 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.

### Heater:

- Electric heaters that are controlled by thermostats are more energy efficient.
- Only use heaters in 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.
- Wrapping your geyser in an insulating blanket can reduce power consumption by half.

### 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.



## NamPower Foundation increases sponsorship to Disability Sport Namibia

NamPower's relationship with disability sport came about in 2011, when NamPower identified Disability Sports Namibia (DSN) as a beneficiary for NamPower's sports sponsorship.

Since then, NamPower has actively been involved in the support and growth of Disability Sport Namibia. Through sponsorships, NamPower has assisted DSN in various ways ranging from funding activities at grassroots levels, to, assisting the Special Olympics and Paralympics team's participation in international sporting games and events.

Just recently, NamPower handed over a sponsorship of N\$1.2 million dollars to Disability Sport Namibia in support of its general day to day operations and, to enable participation in the Special Olympics World Summer Games in Los Angeles, USA. NamPower also sponsored the team with tracksuits and sports bags.

The Namibian delegation led by Honourable Agnes Tjongarero, Deputy Minister of Sport, Youth and National Service, comprised of a 21 member team, of which 12 were athletes. The athletes participated in Basketball, Marathon and Sprinting.

Charles Nyambe, President of Disability Sport Namibia, explained that the team consists of "unified players" from the DSN Unified Sports program. The Unified Sports movement allows athletes without disabilities to play alongside athletes with disabilities.

DSN believes that having athletes with disabilities play solely among themselves does not create awareness on the abilities and strengths of the disabled, thus incorporating the Unified Sport element makes way for awareness creation among athletes. "But with unified sport, the players with different abilities can become friends through sport and at the same time reverse the stereotypes that exist. Sports allows the special athletes an opportunity to develop confidence as it removes them out of isolation", Nyambe explained.

DSN is the umbrella body for bodies like the Special Olympics Namibia, which caters for athletes with intellectual disabilities, and the Namibian Paralympics Committee (NPC), which caters for those with physical disability. The Special Olympics Namibia currently has 937 registered athletes.



*Deputy Minister of Sport, Youth and National Service, Hon Agnes Tjongarero, President of Disability Sports Namibia, Charles Nyambe, and Managing Director of NamPower, Paulinus Shilamba.*



*Hon Agnes Tjongarero and Paulinus Shilamba pictured with the National Special Olympics team before their departure to the Special Olympics World Summer Games in Los Angeles, USA.*



*Photo credit: Espn*

Ruben brings back the gold!

Ruben Gowaseb re-wrote Namibian sporting history when he won gold in the half marathon event at the Special Olympics World Games in Los Angeles. Speaking at a welcoming back and congratulatory event held for the Namibian team after their return, Acting Managing Director of NamPower, Hanri Jacobs said, “Ruben carved a special place for himself and for athletes with disabilities. His victory underlines that disability does not mean inability”. NamPower is committed to supporting Disability Sport Namibia to ensure that it continues to create platforms and opportunities for people with disabilities.

*In the picture below, Special Olympics gold medallist Ruben Gowaseb photographed with the NamPower management team; Head of NamPower Foundation, Lucia Hiveluah, Acting Managing Director, Hanri Jacobs, Divisional Manager Strategy Communication and Electrification, Monica Nashandi, and Acting Chief Officer Finance, Selma Shaanika.*



## Engineers visit NamPower on IS4D programme

The Australian Government and the NEPAD Planning and Coordinating Agency (NPCA), have partnered to create Infrastructure Skills for Development (IS4D) programme. The programme aims to build public sector capacity to plan and oversee the delivery of priority infrastructure products across Africa. Currently, 40 officials from various countries across Africa are part taking in the programme. The participants are working on over 20 major regional infrastructure projects in Africa across three clusters; road, rail and power.

Against this background, a six member delegation of engineers hailing from Kenya (Kenya Electricity Transmission), Tanzania (Tanzania Electric Supply Company and Ministry of Minerals and Energy), Malawi (Electricity Supply Corporation of Malawi) and Zambia (Zambia Electricity Supply Corporation and OPPI), undertook an “experimental visit” to Namibia to look at cross-border issues related to transmission line interconnection, with a focus on the ZIZABONA project.

The visit to Namibia aimed to give participants insight on how to engage stakeholders for a cross border project and provide exposure on alternative infrastructure modes. While in the country, the delegation visited NamPower, Ministry of Mines and Energy, Electricity Control Board, and other stakeholders in the electricity supply industry. The delegation also visited the Omburu Solar Project and the Gerus sub-station.



*The delegation during their visit to NamPower Head Office.*

## Copper theft costing NamPower millions

**T**heft and vandalism of NamPower property continues unabated as reports of copper theft from sub stations across the country seem to be on the increase. Recent incidences included copper wire theft at Etunda and Otjongava substations in the northern regions, and Omaere sub station in the south. These are just a few of many cases that have been reported. The ongoing theft of copper wire has prompted NamPower to upscale its security operations at its substations as part of preventative measures.

Copper theft causes a serious threat to the stability of power supply as the vandalism of power structures may cause power outages in the affected areas. In addition, infrastructure that is tampered with result in weaker power structures, again making them vulnerable to outages or in some cases, a total structure collapse.

NamPower has in the past engaged communities to educate them on protecting the national grid, while highlighting the dangers of tampering with transmission lines. To reiterate its messages, NamPower will soon embark on another campaign focusing on theft, vandalism and safety. It should be noted that not only is copper theft illegal and punishable by law, but copper theft can result in death and physical injury by electrocution.

NamPower encourages members of the public to take ownership of the infrastructure put in place as they are there to improve the quality of life of Namibians through the provision of electricity. Power lines are there for the benefit of communities and vandalism/ theft of copper wire not only affects NamPower, but also the communities it is intended for. NamPower encourages members of the public to be vigilant and to report copper wire theft to the nearest police station or nearest NamPower district office.



*Pictures taken at the scene after the discovery of copper wire theft at the Etunda sub station earlier this month.*



## News From SHEW (Safety, Health, Environment and Wellness)

### Be Water Wise

**D**ue to increasing population growth, unabated development and below average rainfall over the past few years, Windhoek is currently facing its biggest water shortage in the past twenty years, and all residents have been requested to reduce their monthly water usage by at least 15%.

Namibia is a dry country, situated in a dry region. With its surface and ground water resources and storage capacity limited, Namibia will always need to take care of, and spare its limited water sources.

Every Namibian needs to take responsibility for using less water and protecting our limited resources. Here are some practical ways to save water around your home;

- Water your garden and outdoor plants early or late in the day to reduce evaporation. Water before 9:00 am or after 19:00 pm.
- Take short showers, five minutes or less. Avoid taking baths
- Get an Energy Star labelled washing machine
- Turn off the water while soaping your hands or brushing your teeth
- Install a low flow shower head
- Instead of a hosepipe, use a bucket to wash your car
- Fill your garden with plants that require less water
- Fix leaking taps

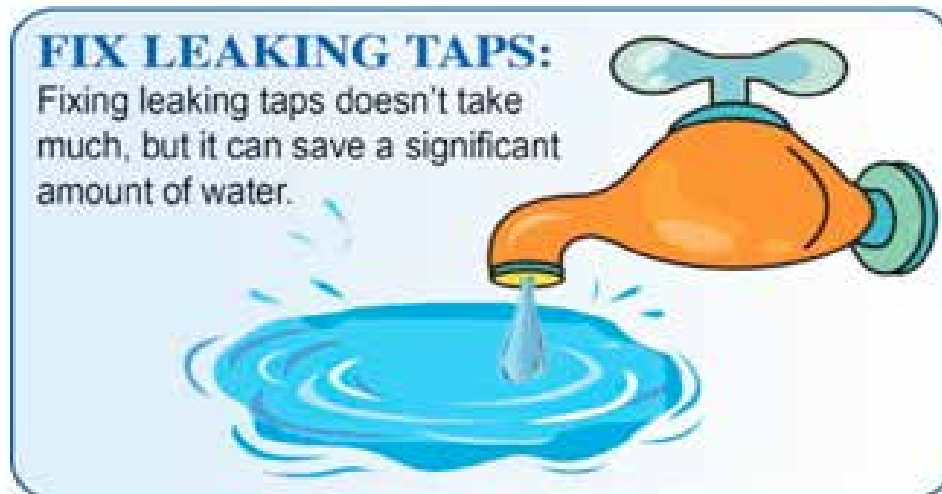


Photo Credit: Google

## Creating awareness at Trade Shows

NamPower's Corporate Communications and Marketing section made use of this years' Ongwediva Trade Fair and Keetmanshoop Industrial Show to spread the message of energy savings. NamPower's exhibition theme was "Lets Switch off and Save", and it highlighted different ways to save electricity on various appliances. The Kudu Gas to Power Project was also represented at the shows. NamPower will also be participating in the upcoming Windhoek Industrial and Agricultural Show and the Erongo Expo.







**NamPower**

*Powering the Nation and beyond*

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