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A MONTHLY REVIEW OF ENERGY-RELATED NEWS

# **SOUTH AFRICA ENERGY ROUNDUP**

**APRIL 2019**

## ESKOM GENERATION AND SALES

### Boiler-tube leaks playing big role in rise of unplanned losses

State-owned electricity producer Eskom has confirmed that boiler-tube leaks are a significant contributor to unplanned losses of more than 12 000 MW across its coal fleet. The underperformance of the coal fleet, including those units in commercial operation at the Medupi and Kusile projects, was the main contributor to the bout of confidence-sapping load-shedding in mid-March. Planned and unplanned losses fluctuate daily, but on the morning of March 19 when Eskom and Public Enterprises Minister Pravin Gordhan briefed the country on the status of the system, unplanned losses stood at 12 098 MW, while planned outages stood at 5 771 MW. Boiler-tube leak repairs accounted for 2 717 MW of those unplanned losses, which also included losses from a stuck ash system of 593 MW, generator repairs of 1 125 MW, turbine repairs of 1 682 MW, high-pressure pipework repairs of 1 168 MW, partial load losses of 3 702 MW and outage delays of 754 MW.

The rise in boiler-tube leaks has been partly attributed to the fact that a boiler health maintenance contract, which expired in late 2017, had not been renewed, which had undermined Eskom's ability to perform preventative maintenance. COO Jan Oberholzer explained that when the contract was in place, a service provider had been performing ongoing assessments of the state of the boiler tubes across the utility's 15 coal-fired power stations. The diagnosis then fed into Eskom's preventative-maintenance planning system so that leaks and likely future leaks could be addressed during planned outages.

### Eskom to seek special procurement dispensation

Crisis-ridden power utility Eskom is approaching the Auditor-General and the National Treasury to seek approval for a special procurement dispensation that will allow it to accelerate the purchase of critical goods and services required to address ongoing breakdowns of its coal fleet. Public Enterprises Minister Pravin Gordhan has said the new procurement model will be more responsive, than is the case currently, to Eskom's need to accelerate the pace of procuring spare parts, equipment, services, coal and diesel.

Nevertheless, the model will still include the necessary safeguards to prevent "malfeasance". Eskom chairperson Jabu Mabuza has said that "speed is of the essence" and argues that current procurement processes are not "geared up for the speed that is now required".

### Eskom sets aside R50bn over 5 years for maintenance

Electricity firm Eskom has set aside R50-billion over the next five years for maintenance as ageing infrastructure is unable to keep up with electricity demand, according to CEO Phakamani Hadebe. Eskom has previously been using its maintenance spend on generation alone, but will now also focus on transmission and distribution networks. He says there has been a decline in spend in maintenance in the past few years and the previous administration at Eskom has pushed the power system hard to keep the lights on.

### Eskom technical review team to deliver preliminary report

The Eskom technical review team, appointed by the Public Enterprises Minister Pravin Gordhan and the Eskom board on March 4, will produce a preliminary report by mid-April. The 11-member team comprises academics, engineers and power systems professionals and is being coordinated by Dr Tsakani Mthombeni and Ian Morrison. It has been asked to assess: plant unavailability owing to scheduled maintenance; plant unavailability owing to unplanned outages and unscheduled maintenance; operator errors resulting in power plants tripping and shutting down; and technical and operator-associated inefficiencies resulting in lower than optimum electricity output from the power station units. Cabinet also received a report on March 13 from Deputy President David Mabuza on the work of the joint special Cabinet committee on Eskom, established in response to recent electricity supply disruptions and its negative impact on the economy. The committee, which includes the Ministers of Public Enterprises, Energy, Transport, Finance, Police and State Security, will coordinate government's efforts to bring financial, operational and structural sustainability to the embattled State-owned utility.

### Greenpeace opposes Eskom's application to postpone air quality legislation compliance

Nonprofit organisation Greenpeace Africa has reaffirmed its opposition to State-owned Eskom's application for further postponements and/or suspensions of its obligation to comply with air quality legislation. The organisation argues that no further postponements should be given to the cash-strapped utility or any other entity, when cleaner and safer options are available. This comes after Eskom applied for wide-ranging postponements and suspensions from South Africa's Minimum Emission Standards (MES) that will allow it to operate its existing fleet without rudimentary controls for pollutants emitted from coal-fired power plants, namely sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and mercury. In 2018, Eskom again applied for postponements for NO<sub>x</sub> emissions for 16 of its 19 power plants,

including 14 coal-fired and two liquid fuel power plants, and suspensions of SO<sub>2</sub> emissions standards for the majority of the power plants. A verdict on Eskom's application is expected by the end of this year.

### Sacci, SBI urge govt to do more to resolve Eskom's troubles

The recent round of rolling blackouts plaguing South Africa, and uncertainty about the longer-term power supply situation in South Africa are having a devastating impact on business, says South African Chamber of Commerce and Industry (Sacci) CEO Alan Mukoki. The Small Business Institute (SBI) has echoed Sacci's sentiments and called on government to redouble efforts to resolve the rolling blackouts, which it said are having a crippling effect on small businesses in the country. Sacci, meanwhile, called on government to employ "the right, most competent and highly experienced people in resolving the problems of Eskom", adding that it "can no longer be business as usual".

## ESKOM FINANCES AND CORPORATE

### Cabinet mulls further financial support for Eskom

Cabinet has discussed Eskom's financial woes and is looking at ways of giving further support to the troubled power utility, without providing further information. Eskom was assured in February of financial help from the National Treasury to the value of R23-billion a year for the coming ten years.

### Energy Regulator sanctions 13.82% Eskom tariff hike for 2019

South Africa's Energy Regulator has granted State-owned power utility Eskom allowable revenue of R206.38-billion for 2019/20, which will translate into a tariff increase of 9.41% from April 1, exclusive of the 4.41% hike sanctioned following an adjudication, in 2018, of three Eskom regulatory clearing account (RCA) applications. The State-owned utility is therefore allowed to increase tariffs to direct customers by 13.82% on April 1. Increases for municipal customers will follow on July 1, with adjustments to cater for the three-month lag during which municipalities are unable to pass on the higher Eskom tariffs to customers. The regulator also granted further increases of 8.1% and 5.22% for 2020/21 and 2021/22 respectively, following its adjudication of Eskom's three-year fourth multiyear price determination (MYPD4) submission. This equates to allowable revenue of R221.843-billion in 2020/21 and R233.078-billion in 2021/22. The regulator also granted Eskom the right to claw back R3.869-billion in line with its review of a 2017/18 RCA application, which was adjudicated together with the MYPD4 submission. The liquidation schedule is still to be determined. In its MYPD4 submission, Eskom requested allowable revenue of

R219-billion for 2019/20, rising to R252-billion in 2020/21 and R291-billion in 2021/22, which, if granted, would have translated into increases of 17.1% for 2019/20, 15.4% for 2020/21 and 15.5% for 2021/22. Together with the 4.41% RCA increase, the increase from April 1 would have been 21.5% had the Energy Regulator acceded to Eskom's full request.

### Union gets assurances on job losses

The National Union of Mineworkers (NUM) has confirmed that it met with President Cyril Ramaphosa, Public Enterprises Minister Pravin Gordhan and Energy Minister Jeff Radebe, where it got assurances about job losses at the utility. Workers are concerned about the "inconsistent messages" from government with regard to the unbundling of the State-owned utility into three entities – generation, transmission and distribution. Eskom, according to the NUM, had been unable to explain what the unbundling would mean for workers in terms of job security. The union noted that the meeting with Ramaphosa was productive and brought some elements of hope. While the NUM fully supports government's commitment to fix the utility, it remains opposed to any restructuring that will add to job losses.

## NUCLEAR

### Zuma says nuclear could have solved load-shedding

Former President Jacob Zuma, whose administration has been blamed for the current power outages, has said the power crisis could have been averted if the country had built nuclear reactors. In an interview with Business Day in March, Zuma said the costly nuclear build programme he supported during his Presidency could have "solved our problems, once and for all". Zuma, who resigned as President in mid-February 2018, said Russia would have been the most trustworthy country to undertake the project, because of their support in the struggle against Apartheid. Proposals to build a second nuclear power station, with an estimated cost to the economy of around R1-trillion, were criticised as unaffordable during Zuma's term.

## RENEWABLE ENERGY

### Eskom struggles and tariff hikes strengthen case for distributed generation – SAWEA study

Commissioned against the backdrop of volatility and uncertainty in the electricity landscape, a new study by the South African Wind Energy Association (SAWEA) has highlighted the role that distributed generation renewable energy (DG-RE) could play in the South African electricity market. The study examined 14 scenarios in five different South African municipalities. The study found that wind and solar systems embedded in distribution

networks could reduce the load on municipalities, lower the price of electricity, prevent electrical interruptions, reduce losses and provide an effective and efficient contribution to resolving South Africa's power crisis. Distributed generation refers to a variety of technologies that generate electricity at, or near, where it will be used, such as solar photovoltaic panels, wind and combined heat and power and may, or may not, use existing electricity infrastructure for distribution to customers. "Distributed generation can directly serve loads behind-the-meter as we have seen increasingly in South Africa over the past years, but they can also use existing public network infrastructure to supply offtakers that are not colocated with the energy plant. This type of scheme presents a number of advantages at various levels, and this is what we wanted to better understand through the study," says SAWEA technical working group chairperson Kevin Minkoff. He adds that State-owned Eskom's tariff increases and continued struggles only strengthen the business case for DG-RE plants and the role these could play in supporting the sustainable delivery of power.

### Radebe willing to use his legislative powers to unlock short-term private power projects

Energy Minister Jeff Radebe has signalled his willingness to use his legislative powers to facilitate the introduction of private electricity supply alternatives that could reduce the threat of load-shedding by Eskom in the short to medium term.

The Minister is considering attaching a short-term action plan to the longer-term generation blueprint that will be provided by the updated Integrated Resource Plan, which is currently under consideration by the social partners at the National Economic Development and Labour Council. He has also approached the Independent Power Producer Office to seek its guidance on removing obstacles to the development of projects bid in 2015 as part of the so-called 'Expedited Bid Window' of the Renewable Energy Independent Power Producer Procurement Programme.

Officially, the bid window has been cancelled and there is an expectation in the market that a new bid window, governed by new bid documents, will replace it. Potential participants have also indicated that the technical, financial and construction components of the bid would have to be revised in light of changes that had taken place since the projects were first bid. However, Radebe appears to have opened the door to the projects.

## INDEPENDENT COAL-FIRED POWER

### City of Johannesburg intent on using licence to buy power from Kelvin – Mashaba

Eskom has barred the City of Johannesburg from increasing its energy capacity despite having a licence to purchase power generated by other producers, according to mayor Herman

Mashaba. Mashaba said in March that the City was issued with a licence in 1995, which allowed it to draw up to 600 MW of power from Kelvin power station and up to 140 MW from four gas turbines in the city. "Currently, the City receives only 200 MW of power from the Kelvin power station. Through this licence, the City is investigating the means of increasing our power capacity. This would allow us to mitigate the effects of load-shedding as caused by Eskom." Mashaba added that Eskom had written to him barring City Power from taking advantage of its ability to get additional electricity from the Kelvin power station.

### DA mayors to ask Minister permission to bypass Eskom

Democratic Alliance (DA) mayors will petition Energy Minister Jeff Radebe under Section 34 of the Electricity Regulation Act for permission to procure electricity directly from independent power producers, says DA leader Mmusi Maimane. It will allow councils run by the DA to bypass Eskom and ensure stable electricity supply while the national utility suffers capacity constraints. "Section 34 of the Act empowers the Minister of Energy to allow municipalities to enter into a tender procedure which is fair, equitable, transparent, competitive and cost-effective with the private sector to provide for new generation capacity," Maimane says. "This direct licensing arrangement with private-sector energy providers must be approved in consultation with, and facilitated by, the National Energy Regulator of South Africa."

## ENERGY STORAGE

### Bushveld Energy commissions first VFRB project

Aim-listed Bushveld Minerals subsidiary Bushveld Energy has commissioned its vanadium redox flow battery (VFRB) project with power group Eskom, including site acceptance testing. At completion, the unit will have a peak output of 450 kWh. Bushveld Energy CEO Mikhail Nikomarov says that the company can now approach the development of a more complex project that includes a hybrid of solar generation and VFRB storage technologies with even higher confidence. The company has initiated development of a 1 MW minigrid, combining solar photovoltaic generation and energy storage using VFRB technology at Vametco, Bushveld Minerals' vanadium mine, which will feed electricity directly into the internal distribution network of the mine.

## OIL AND GAS

### Astron Energy signals commitment to growing its Cape Town refinery, service stations

Standalone South African energy company Astron Energy is upbeat about investing in its Cape Town refinery, as well as its Caltex-branded service stations over the next few years.

"Investment in South Africa has positive potential. South Africa has the highest fuel consumption in sub-Saharan African. It is 25% higher than Nigeria's demand, yet has a population three times smaller," says Astron CEO Jonathan Molapo. He told delegates at the African Refiners and Distributors Association (ARA's) annual ARA Week, in Cape Town, in March, that South Africa had a growing demand for fuel products. Astron's Cape Town refinery has a 100 000 bbl/d capacity. The company also owns 850 Caltex-branded service stations in South Africa and Botswana. It makes up 19% of the retail market in South Africa, with 810 local service stations.

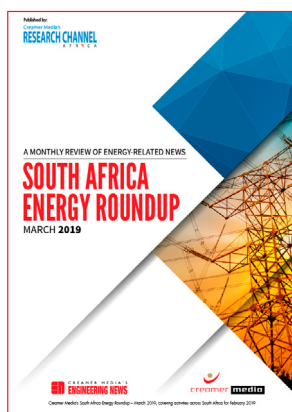
The company has recently emerged from a three-year transition. Astron entered the South African market through a majority acquisition of the former Chevron South Africa. Chevron Global Corporation announced in January 2016 that it intended selling its South African assets. On March 15, 2019, the Competition Tribunal conditionally approved the transaction.

## OTHER

### New Sanea chairperson appointed

South African National Energy Association (Sanea) has appointed Kiren Maharaj its new chairperson. Maharaj, who has been a Sanea director since 2017, previously worked as a divisional executive at Eskom Holdings. In February, she was appointed MD of local professional services company Gibb Power, in which international power group EDF has a 30% interest. Sanea also announced that Wendy Poulton, who is also a Sanea director and Eskom's organisational strategy GM, had been appointed secretary-general. Maharaj succeeds Sanea stalwart Brian Statham, who served as the organisation's founding secretary-general from 2000 to 2006 and as its executive chairperson from March 2007 to March 2019. Statham also served two terms as an officer of the World Energy Council, where he was elected as an honorary officer at its executive assembly in 2016. Sanea is the South African member committee of the World Energy Council.

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