

Time for organic transformation in SA's power industry?

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COMMENT



I write this between periods of Stage 6 loadshedding, which began again before dawn on Sunday 18 September. In a briefing on that Sunday morning, Eskom announced this was likely to continue well into the working week. Andre de Ruyter said Eskom was doing “our level best to avoid a total system collapse, which is why we have load-shedding”, adding that stage six loadshedding will remain in place until sufficient generating units are returned to service and the emergency reserve levels are replenished.

To minimise loadshedding, he said, Eskom had been forced to run on diesel and dam reserves – via its open cycle gas turbines and its pumped hydro storage dams. In the past five months of this year, the power utility has spent R7.7-billion on diesel and a further R5-billion is being used to buy more.

The combined cost of the Ankerlig and Gourikwa peaking plants in the Western Cape, built back in 2007, was R3.5-billion, which highlights just how expensive it is to run these plants for extended periods.

Several reasons were given for ‘generation capacity constraint’: a ‘breakdown’ of one of the Kusile Units; the ‘tripping’ of a unit at Kriel; an ongoing ‘mechanical’ issue on Unit 2 at the Koeberg Nuclear Power station; and outages on five other coal-fired units across the country, including three at Kendal.

Jan Oberholzer, Eskom’s chief operating officer, said the entity had sufficiently experienced and competent executive and operational teams, but the risks of using an ‘ageing coal fleet’ remained too high. Yet Eskom is launching a crowdsourcing platform to source ‘urgently required’ skills to address its ‘immense’ operational challenges?

Following a meeting of the Eskom board with Public Enterprises Minister Pravin Gordhan, an approach has been made to independent power producers (IPPs) to procure 1 000 MW on an urgent basis and De Ruyter has “a very high degree of confidence” that this and more can be procured.

Meanwhile, on Thursday September 15, Eskom put in a request to Nersa for an ‘average power tariff increase’ of just over 32%, starting from April 1, 2023. The reasons? Higher diesel and fuel oil prices, depreciation of its generation assets and greater procurement from independent power producers. Clearly, Eskom believes that loadshedding will be required for a long time to come.

In its recent presentation to the Joint Portfolio Committee on Public Enterprises and Mineral Resources, Eskom confirms this. Its ‘planned risk

level’ indicates that South Africans will experience Stage 1 or Stage 2 load-shedding for 27 weeks between now and September 2023. But the ‘likely risk scenario’ for its anticipated power system performance over the coming year suggests that 326 days of load-shedding would be required in the next 12 months. That could amount to over 46 of the next 52 weeks.

The need for householders, businesses and industries to start ‘doing it for themselves’ could not be clearer. Working from home now requires, at a minimum, a UPS-type battery based backup power solution to keep computers and WiFi routers running during loadshedding.

Home use hybrid renewable energy solutions make more sense than ever, given the global drive to decarbonise by 2050 and the increasing costs of gas, petrol and diesel fuel to power generators. Small PV systems with a 5 to 7 kW inverter and 5 kWh of battery back-up can be seamlessly integrated into a distribution board to bridge any period of loadshedding. Typical installation costs are between R100 000 to R150 000 – less than the cost of an relatively average second hand car.

A system with a PV array of just 5.2 kWp can generate, on average, 24 kWh of free electricity or 720 units per month. This will save about R2 000/month, nearly R25 000/year on the electricity bill, giving a payback period on a R150 000 system of six years. In addition, this amount of money – and a lot more if tariffs continue to increase – will be spent anyway if relying solely on an electricity supply from the utility.

From an IPP perspective, larger distributed coal-fired, wind, solar-thermal, PV solar, biogas plants, along with many other generation technologies, are fast becoming much more attractive propositions, from an investor and a take-off perspective. Transforming towards a large number of distributed solutions must surely lower the overall risks to the nation than continuing to rely on a hundred or so large, ageing and/or unreliable generation units. Also, new legislation now frees IPP investors to enter this market more easily.

South African citizens, businesses and private industries need to take ownership of their own power needs and invest in their own cleaner, greener and much more reliable energy future. Ultimately, wouldn’t it be better for Eskom to supply only our backup needs instead of continuing to disappoint in the sole provider role.



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