

**Anton Eberhard / Electricity supply**

## **Eskom's broken contract in the Cape**

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We pay our electricity bills; (most South Africans do). In return we expect a reliable and cost-effective electricity service. In effect it's a contract. We pay; Eskom delivers. But for those of us who live in the Western Cape, this contract has been broken. We continue to pay (most of us). But since November last year we no longer have a secure electricity supply. And last week was the worst.

Electricity supply has been on and off – and mostly off when it's been most needed. There has been no power to cook meals or to light homes. Television monitors fizzle in the middle of an important soccer match. The city has been grid-locked through inoperative road traffic lights and cancelled trains. Municipal pumps fail to operate and raw sewerage flows into rivers and the sea. Businesses suffer millions in lost production and sales. Work deadlines are missed as computers remain off-line and staff wander from their offices or stay at home. The quality of this year's wine harvest is threatened as cellar pumps and cooling systems fail. Tourists are irritated and question whether they have come to the right destination. And the investment climate in the Western Cape is trashed as international capital moves to more attractive and reliable countries.

In any other sector, South African consumers would migrate to alternative suppliers. But in the electricity sector they cannot. Eskom enjoys a government protected monopoly (they generate 96% of our electricity). The anger of consumers is entirely understandable; and angry they are. Electricity consumers feel helpless in the face of continued blackouts. After a week, power has been restored – but we hear that rolling blackouts will return during the winter months.

Eskom has been a reliable supplier for the past few decades, but this is no longer the case. What's going on?

There are many proximate causes. Eskom has offered explanations that power lines from the coal-fired generation hub in Mpumalanga to the Western Cape have tripped, or that a stray bolt left in the stator of a generation unit at the Koeberg nuclear power plant, 30 kilometres north of Cape Town, caused irreparable damage.

It is true that power transmission lines from the north can only supply three-quarters of the power requirements of the Cape. It is also true that one of the two generation units at Koeberg has been damaged and will be out of service for many months because of the difficulty of sourcing spare equipment. At least one of the two nuclear units at Koeberg, needs to be online to provide the balance of power for the Cape that cannot be supplied by the transmission line from the North. But one unit is damaged and the other unit has been tripping, and soon will have to be taken out for a scheduled refuelling and major maintenance overall that could take months: i.e. the blackouts of the past months will continue.

So there is a real short term emergency power supply problem. The residents of the Western Cape and, indeed the national government (because this affects the South African economy), need to know what Eskom is going to do about this situation. Already months have passed since the problems first emerged. Yet all consumers are being told is that they have to conserve energy. What is Eskom going to do to restore a secure supply to the Western Cape? When will the damaged generator/stator in Koeberg unit one be replaced? When will reactor two be taken out for its scheduled maintenance and refuelling and how long will that take? If both units are out at the same time, what contingency plans have Eskom put in place to prevent ongoing power outages in the Cape? Months tick by. Has Eskom considered contracting emergency power – such as barge-mounted power units that could be towed into Cape Town harbour, or other alternatives?

Between 2002 and 2004, South Africa considered very seriously moving to a competitive electricity market. The plan was to break up Eskom and to allow private generators to compete with Eskom in a power exchange where electricity consumers would have a choice of supplier. Last year that policy model was reversed and Eskom's role as the dominant supplier was reaffirmed. While a limited number of private independent power producers will be invited to supply modest amounts of new power, they will have to sell to Eskom on long-term contracts, and Eskom will retain responsibility as the "supplier of last resort".

The problem with monopolies is that when things go wrong, consumers bear the cost. The South African government's decision to retain Eskom as the national champion implies certain obligations. In the first instance, planning around new power generation investments needs to be spot on. And it clearly is not.

We are probably 18 months behind schedule in terms of new capacity. The current supply/demand equation is extremely tight. Any unscheduled outage of any of Eskom's generation units places the national power supply system under severe strain. Eskom's ageing plant requires more maintenance and longer down-times, creating an even tighter supply/demand situation. Already, large industries are panicking at the frequency with which Eskom is calling on controlled power interrupt provisions in their supply contracts in order to keep the national grid powered.

There is another worry – and that is whether Eskom has sufficiently robust operations and maintenance systems to guarantee a reliable supply. This is not an easy question to raise as there is often an over-forceful response that the question is racially motivated; that the underlying assumption is that Eskom's new black management is not coping and that too many skilled white technicians have left.

I do not hold these assumptions or support this argument. Eskom has been remarkably successful in its transformation and has many qualified and skilled managers and staff. Nevertheless, the failure to provide a reliable electricity supply to customers raises serious questions around the robustness of operations and maintenance. Security of supply problems cannot simply be credited to immediate or proximate causes such as transmission line trips caused by fires or pollution (as Eskom media releases claim). The underlying, ultimate causes also need to be examined honestly and purposefully. The National Electricity Regulator has launched

an investigation into Eskom's maintenance systems and whether it has breached its licence conditions.

Medium and long term investment plans also need to be re-examined. I have no doubt that current investment decisions in new generation plant and transmission lines will alleviate our supply shortages in the few years beyond 2007. But as we now know this is too late and, ironically, there is a real danger that Eskom will then actually over-invest, as it did in the 1970s and 1980s. In other words, monopolies, such as Eskom, are not particularly good at dealing with investment and uncertainty. And therein lies the challenge for the future.

*Anton Eberhard is a professor at the Graduate School of Business at the University of Cape Town*