Eskom's first decade

Electrifying our beloved country

1923 - 1933

On 1 March 2013 Eskom celebrated its 90th birthday. We look at the years leading up to, and including, Eskom's first decade.

For South Africans living at the turn of the 19th century, the introduction of electricity must have been as exciting a development as the internet is to our generation today. But, like all new inventions and innovations, it took time before electricity began to impact people's lives in a major way. The good townspeople of Kimberley were the first in Africa to experience the joys of electric streetlights (1882), and they even managed to beat London to it.

In 1886 an Australian prospector by the name of George Harrison stumbled upon a gold outcrop, in what is now Johannesburg, and declared a claim with the government of the Zuid-Afrikaansche Republiek. Harrison is believed to have sold his claim for less than £10 – but in any event he was not heard of or seen again. From then on mining was to be the main driver of development in South Africa as thousands of immigrants flocked to the city of gold seeking their fortune. Johannesburg grew rapidly –within five years of its existence it became South Africa's first city to install an electricity reticulation system, which was powered by steam engines. This is remarkable considering that Cape Town is 200 years older than Johannesburg. Soon the mining companies realised that steam-generated power was inadequate for their needs and they joined forces to build small power stations to supplement the existing supply. In 1906 these smaller undertakings were bought out by the Victoria Falls Power Company (VFP) as the mining bosses sought large centralised power stations as opposed to small dedicated ones. By 1915 the VFP – so named because of its original aim to harness hydro-electric power from Victoria Falls – had built four thermal power stations (Brakpan, Simmerpan, Rosherville and Vereeniging) with a total installed capacity of 160 MW. At around the same time, a system control centre was established at Simmerpan, which later developed into the ESCOM National Control Centre. Today, this Centre controls the national network, as well as the generating output of all ESCOM power stations. Meanwhile, in 1910, the Transvaal Colonial Government, realising the strategic importance of electricity, passed The Power Act. This piece of legislation defined electricity as a public service, and gave the government the power to expropriate private electricity undertakings after a period of 35 years.

From the earliest days of rail in South Africa, SAR (South African Railways) had been considering the idea of using electricity, as opposed to steam, to power the railways. In 1918 SAR invited a top London engineer by the name of Charles Merz to brief them on the matter. The Merz Report was submitted to Jan Smuts's government in April 1920, which formed a committee to look into how South Africa should proceed with electrification. The findings of this committee led to the passing of the Electricity Act of 1922 which laid the foundations of the development of an electricity supply industry in South Africa to "stimulate the provision, wherever required, of a cheap and abundant supply of electricity". From then on the South African electricity industry would be regulated, controlled, and ultimately run by a parastatal.

One of the principle authors of the Electricity Act was a certain Dr Hendrik Johannes van der Bijl, a brilliant young research scientist whom the Smuts government had appointed to advise them on industrial development. It was Van der Bijl's vision that South Africa should take its rightful place among the world's leading industrialised nations by 1) setting up a reliable, low-cost electricity power supply, and 2) establishing an iron and steel industry. It was partly thanks to his farsighted vision that the *Government Gazette* of 6 March 1923 announced the establishment of the Electricity Supply Commission (ESCOM), effective from 1 March 1923. Dr Van der Bijl's passion for industrialisation was given free expression as he took up the reins as ESCOM's first chairperson. This great South African industrialist laid out exactly what he had in mind for his new-born infant.

"There lies before the Electricity Supply Commission a great task and a great opportunity. It will be our endeavour to play our part not as those who follow where others lead, but as pioneers; to foresee the needs of a country fast developing, and by wise anticipation be ever ready to provide power without profit, wherever it may be required." (Dr Van der Bijl)

Although the commission held its first meeting in Cape Town (20 March 1923), it soon situated its headquarters on the first storey of Hofman's Building in Johannesburg, before moving to Electricity House in 1924. At that time, railways across the country were being electrified, and ESCOM was tasked with taking over electrification of the Glencoe to Pietermaritzburg rail link, as well as the Cape Town suburban railways. It also began work on the establishment of new power stations in Cape Town, Durban, Sabie and Witbank. Although the VFP, very much the major electricity supplier in the Transvaal, had initially applied to ESCOM to erect a power station at Witbank, Dr Van der Bijl opposed the application on the grounds that the VFP did not sell electricity at cost, and that electricity consumers would in effect be enriching VFP shareholders. After some negotiations, and the timely intervention of Prime Minister Smuts himself, a deal was struck whereby ESCOM would own and finance the power station that would be designed, built and operated by the VFP. Witbank power station was commissioned in 1926 and the arrangement turned out to be a win-win situation for all parties. In that same year a power station was commissioned in Colenso and two years after that Congella and Salt River 1 coal-fired power stations were commissioned.

In 1925 ESCOM erected the Malieveldspruit hydro station as a temporary measure while a bigger hydro station was being built at the Sabie River Gorge, which eventually became operational halfway through 1927. These two power stations were the first to be built and used by ESCOM. In spite of a worldwide economic depression in 1929, ESCOM still enjoyed strong demand – with sales of 800 million units that year. In response to the increased demand, two additional sets of 20 MW were commissioned at Witbank power station, bringing its total capacity to 100 MW. Witbank was now the largest power station in the country, producing the cheapest electricity in the world. And ESCOM's construction of Doornpoort Dam (in the Great Olifants River) meant Witbank now enjoyed abundant water and electricity supply, allowing for the development of the coal-mining industry in the surrounding area. ESCOM also designed and installed a street lighting system for the town that became an international showpiece.

In 1932 South African mining received a major boost when the discovery of gold fields near Randfontein coincided with a steep rise in the gold price. It became clear that ESCOM would have to build new power stations to satisfy the increasing demand of the gold mines. But first there were two major obstacles to be overcome: the VFP had a virtual monopoly on electricity supply to the gold-mines; and there was a serious shortage of water near the Rand. •

DID YOU KNOW?

< Kimberley had street lights before London. Kimberley installed 16 electric street lights in **1882**.

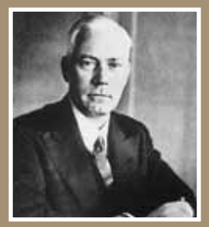
The Transvaal Power Act of **1910** gave the state the authority to expropriate an undertaking (power company) 37 years (later shortened to 35 plus two years' notice) after granting it a licence to operate.

The Victoria Falls Power Company (VFP) was so-named because of its original intention to source hydro-electric power from Victoria Falls. >

In **1914**, a senior engineer at the VFP could earn as much as £2 000 a year – almost R1 million in today's terms.

ESCOM employed its first cleaner in **1924**; his name was Alfred and he was paid £4 a month. (Roughly R1 800 in today's terms).

In **1920 Dr H.J. van der Bijl** was appointed as a scientific and technical adviser to the government – he was 33. >



In **1924** an employee, AL Kolver, received a bicycle allowance of 7 shillings and 6 pence; and that same year ESCOM granted a car allowance of £12 a month. >

ESCOM's first power station was Malieveldspruit – a temporary hydro-electric station built on the Sabie River in **1925** while the Sabie power station was being completed.

< Congella power station (commissioned in **1928**) was one of the first in the world to use pulverised-fuel.

The Sabie River Gorge hydro station, completed in **1927**, was the first power station to be designed by ESCOM engineers.

In its first year ESCOM sold 80 million units of electricity (1 unit = 1 kilowatt-hour)

The South African Iron and Steel Corporation (ISCOR), another Van der Bijl brainchild, was established in **1928**.

In **1929** ESCOM sold 800 million units of electricity. Now, Eskom gets through that in about a day and a half. (*Eskom now sells around 220 000 million units – or 275 times as much as it did in 1929*)

South Africa's first power station pooling agreement came about in **1932** when ESCOM's Salt River 1 and Cape Town's Dock Road power stations were interconnected and run as a single entity. >

In his role as a technical advisor to government (before ESCOM was founded) Dr van der Bijl dealt with such diverse matters as weights and measures; metrification; and allaying fears regarding the glucose content in South African jam exports.