

18 DECEMBER 1982

**The attack on South Africa's
Nuclear Power Station at Koeberg**

By Richard Henry

INTRODUCTION

Today in South Africa, the 16 December is called the Day of Reconciliation. A day where black and white come together and put aside their past differences. Why was 16 December chosen for reconciliation?

In December 1838 the Voortrekkers made a covenant with God that if they were to defeat the Zulu army in the coming battle, they would forever celebrate this day in His name. The 470 Voortrekkers (Boers) drew up a laager of wagons on a bend in the Ncome River in Natal. Between ten and twenty thousand Zulu Impi under the command of Dingane's Generals -Dambuza and Ndlela ka Sompisi attacked the laager. With the advantage of muskets over spears, the white Voortrekkers managed to defeat the Zulu. There was so much blood spilt in the river that it became known as Blood River.

In 1865 the Transvaal Republic declared 16 December as a public holiday and it was known as Dingane's Day. The defeat of the Zulu on this day also became a very powerful rallying point for the advancement of Afrikaner culture, identity and nationalism. In 1952 the name was changed to the Day of the Vow.

After the Boer War / South African War 1899-1902, black people, liberal whites and emerging political parties such as the African National Congress (ANC) and the South African Communist Party saw it as a day to protest against white minority rule. Protest action from the 1920s onwards increased but so did Afrikaner Nationalism. For this very reason the armed wing of the ANC – Umkhonto weSizwe (MK) sabotaged government structures in Johannesburg, Port Elizabeth and Durban on 16 December 1961, announcing its existence and opening a new phase of resistance.



The symbol of Umkhonto we Sizwe (The spear of the Nation)

SOUTH AFRICA INTO THE NUCLEAR AGE

At the end of the Second World War 1939-1945, the United States and Great Britain asked South Africa to investigate its potential to supply mineable uranium. This led to the Atomic Energy Board which oversaw uranium production and trade in 1948 and later research and development into nuclear technology. In 1959 the Nationalist Government approved the building of a nuclear research reactor at Pelindaba near Pretoria. In 1960 with South Africa becoming a republic, Afrikaner Nationalism was at an all-time high, new weapons were purchased and many advanced technology projects were underway showcasing the abilities of the white afrikaner, who were at last free from the yolk of the British. In 1965, Prime Minister Hendrik Verwoerd opened South Africa's first nuclear reactor, the South African Fundamental Atomic Research Installation (SAFARI-1). A new South African process to enrich uranium was developed and the plant at Velindaba started in 1971 was completed in 1975. This was also the embryo for research and development into a nuclear weapon, the first one completed in 1978. By the mid- 1970s South Africa due to her apartheid policies had become internationally isolated. The ANC and a host of anti-apartheid organisations were ensuring severe sanctions in almost all spheres were imposed on South Africa. The ANC were starting to get considerably assistance from African and many European countries. Their main support came from the Soviet bloc.



Pelindaba as viewed from the north 2006. Source: Wikipedia

KOEBERG NUCLEAR POWER STATION

Cape Town and the other towns in the Western Cape were far from the coalfields and transportation expensive to move coal to the existing small fossil fuel power stations. The nuclear research work done showed that two 930 Mega Watt reactors would be sufficient to supply electricity to the region. A rural site 27 km north of Cape Town at Duynefontein on the Atlantic Coast was chosen and in 1974 approval to construct Koeberg - a commercial power station was given. A French consortium, Framatome Alsthom Spie Batignolles won the bid and the contract to build two pressurised water reactors was signed on 5 and 6 August 1976 in Johannesburg and Paris, respectively. Internationally, South Africa was suspected of progressing with the development of a nuclear weapon and anti-nuclear activists, and MK watched developments with interest.



The Koeberg Nuclear Power Plant. Source: <http://www.melkbos.com/>

THE STATUS OF MK IN 1982

Umkhonto we Sizwe (MK) was formed on 16 December 1961 with Nelson Mandela as the first commander.

Senior African National Congress / South African Communist Party (SACP) men were sent to Czechoslovakia, East Germany and China for three months military training. Rank and file recruits were at first trained in Ethiopia, Egypt or Algeria. Military and political training of nine months at Odessa in the Soviet Union was organised by Oliver Tambo, vice president of the ANC for the better educated recruits. On completion of training they returned to the MK base at Kongwa, Tanzania. The 16 June 1976 uprising and the consequent brutal reaction of the police security branch caused an unexpected flood of new recruits for MK. With Angolan Independence on 11 November 1975 and the MPLA in power in Angola, most recruits were at first trained by Cuban and Soviet instructors in Angola. Later MK instructors such as Job Tabane (aka Cassius Maake) and Aboobaker Ismail (Rashid) who had attended specialised training in Algeria, Bulgaria, Cuba, East Germany, Hungary and the Soviet Union, were responsible for training new recruits in Angola under the command of Maake.

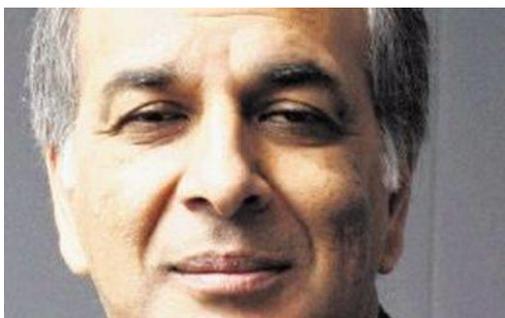
In 1979 a special 19-member MK Special Operations Unit (SOU) was formed by Oliver Tambo. The SOU had its own command structure and operations were highly classified with the members reporting directly to Tambo. Some of the members were Joe Slovo, Montso Mogabudi, Maake and Rashid. Maake was the Chief of Ordnance responsible for logistics, identification of infiltration route location of dead letter boxes, arms registration and deployments. While Aboobaker Ismail (Rashid), was appointed the commander of special operations. In 1987 on the assignment of Maake in Swaziland, Rashid also took over as Chief of Ordnance. The SOU was to attack strategic targets of high military or economic importance and so by gain maximum impact and publicity. A new MK military headquarters was established in Lusaka, Zambia, and Joe Slovo was appointed as the chief of staff of MK. The SOU unit eventually consisted of about 60 members, split into smaller units of between two and six men.



Job Tabane (aka Cassius Maake). Source: sahistory.org.za

ABOBAKER ISMAIL (RASHID)

He was born in Johannesburg on 25 December 1954 and lived in Vrededorp, where there was a lot of political activism. He went to an Indian primary school in Vrededorp and high school in Lenasia. His father was politically aware of Communism, Nationalism and the injustices of apartheid. This rubbed off on his son and he became politically conscious at an early age. He noted the poor lives and the conditions Africans lived in when passing through Soweto on his way to high school in Lenasia. He completed high school in 1971 and went to the University of Durban- Westville where he obtained a BSc with majors in physiology and microbiology in 1974. It is here he became politically involved in the ANC and started to produce and distribute anti-apartheid pamphlets. After being beaten up by the police and now closely watched, he had to later leave South Africa for military training in exile. He completed an Infantry Commanders course and thereafter a specialised course in military engineering, explosives and sabotage in the German Democratic Republic (East Germany) in the first half of 1978. He was immediately sent to the MK Funda Camp in Angola as an instructor, specialising in explosives and sabotage. In 1979 took over as the chief instructor in Angola. Soon afterwards he was appointed to the SOU and made commander of special operations. From mid-1980 he was stationed in Swaziland to control MK special operations mostly in the Johannesburg, Pretoria, and Vereeniging areas. He planned attacks against SASOL, the SADF at Voortrekkerhoogte and along with Rodney Wilkinson the attack on the Nuclear Power Station at Koeberg in December 1982.



Rashid Aboobaker Ismail. Source: southafricatoday.net

RODNEY WILKINSON

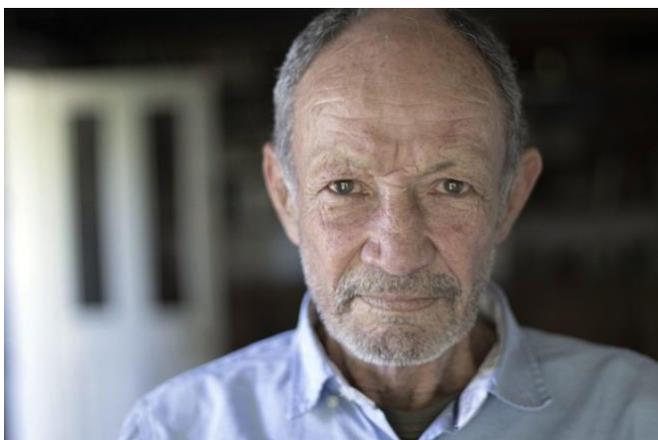
Rodney Wilkinson was born in 1949, the son of a Second World War artillery officer. From his father he gained a romanticised understanding of warfare and was a little gung-ho. As with many of the baby boomer generation he was also rebellious to the old style authority. In the late 1960's after finishing school he completed his National Service in the South African Defence Force. Thereafter he enrolled in at Cape Town University for a degree majoring in Building Science and Politics, a course he did not complete.

At university he did however excel at the sport of Fencing and became the South African National Champion in the early 1970's. South Africa was evicted from the Olympic Movement in 1966 due to her apartheid policies. The South African Fencing Association which had always been open to all races managed to remain a member of International Fencing and was supported by the Swiss and Italian fencing federations but was still excluded from competing in World Senior and Junior Championships until 1992. This made Wilkinson detest the apartheid policies thinking he could have won a medal at the 1972 or 1976 Olympics Games.

Corporal Wilkinson was called up by his citizen force unit for duty in South West African / Angola in 1976. Towards the end of his enforced military service, he and twelve men stole a Bedford military truck and went AWOL (absent without leave). He dropped the other men off at Windhoek airport and later overturned the Bedford.

The building of Koeberg nuclear power station was underway with over 5 000 engineers, artisans and labourers working on its construction. Wilkinson, after dropping out of university lived in a commune close to Koeberg. The commune ran out of money and reluctantly Wilkinson took a job as a labourer at the building site. Later after finding out he had studied building sciences, he was promoted to draughtsman with access to various plans of the site.

In 1979, a Cape Town academic, Renfrew Christie used the excuse of his researching his doctoral thesis into electrical supply in South Africa, to gain access to both the Koeberg and SASOL plants. This information he later passed on to the ANC. Christie was caught and imprisoned from 1979 to 1986. His actions partially reinforced Wilkinson's own anti-nuclear stance.



Rodney Wilkinson. Source: Daily Maverick

WILKINSON OUT TO ASSIST THE ANC

After working on the site for 18 months, Wilkinson knew the security arrangements and where the security was vulnerable due to the number of people on site. It was then (about mid 1980) that Wilkinson's girlfriend – Heather Gray, a speech therapist, convinced him to steal a set of Koeberg building plans and take them to the ANC in Zimbabwe. He got hold of a set of blue prints, resigned from his job and moved to Zimbabwe. There friends of theirs, Jeremy and Jane Brickhill put them in touch with the ANC. Jeremy had left Rhodesia in 1974 and joined ZIPRA where he joined the intelligence section responsible for special operation in Rhodesia. Jeremy contacted Sathyandranath "Mac" Maharaj. Mac was then a member of the MK's Revolutionary Council (ANC). Maharaj was busy planning attacks on trains carrying on 18 year old white National Servicemen reporting for National Service for the very first time.



Brickhill. Source: Bulawayo24.com



Mac Maharaj. Source: SA History on Line

At first Maharaj thought Wilkinson could be a spy and have false plans. He then sent the blue prints to his Western and Soviet nuclear experts for verification and confirmation that explosions at Koeberg would not release nuclear reactive material. How lucky that Wilkinson and his knowledge had fallen into the laps of MK. A planned attack on Koeberg was not in Maharaj's mandate but fell under a strategic target and was thus for Joe Slovo and Aboobaker Ismail. Then were shown the prints and thought the best person to sabotage Koeberg would be Wilkinson as he had intimate inside knowledge and knew the security arrangements.

At a meeting with Mac, Wilkinson, when asked to undertake the operation himself, was at first surprised but because of his gung-ho tendencies, he agreed. The operation was code named "Ops Mac".

PLANNING THE ATTACK AND TESTING KOEBERG'S SECURITY

He first needed to go back to South Africa and try to get back into Koeberg before the reactors were loaded with enriched uranium. He was quite quickly re-employed at Koeberg, responsible for mapping the numerous pipes and valves and was one of about 450 people who had access to the two restricted nuclear reactors. Aboobaker Ismail who was known by his nom de Guerue – Rashid, sent one of his trusted men to travel to Zimbabwe to meet with Rodney Wilkinson and set up the first meeting with Rashid in Swaziland.

Wilkinson travelled to Swaziland on the pretence of a 'dirty weekend' where he met Rashid who from now on would be his handler. They met on a monthly basis. They painstakingly worked through the blue prints and identified three possible targets. One- the reactor heads, which were the heart of the plant. Two - a section of the containment building and three- the concentration of electric cables under the main control room. The reactor heads were deliberately chosen, as damage to these 110 ton monsters would generate the maximum propaganda for the ANC. It was decided that Wilkinson would smuggle four Soviet SPM Magnetic Limpet Mines into the plant. Rashid instructed him the use of the limpet mines. He practiced his smuggling operation by using bottles of whisky (about the same size of the limpet mine) hidden under the dashboard of his little yellow Renault 5 motor car to get into the site past the security. Then he stuffed the whisky bottles into his crotch of his overalls to get past the security and guards dogs. The final hurdle was getting past the tight security at the reactors.

Anybody entering the reactor chambers, which were considered "clean areas", had to first disrobe and change into special white Personal Protective Equipment suits. The pipes he had mapped passed through into the reactor chamber via a rubber sealed duct. He first placed the whisky bottle through this duct, then disrobed, changed into the required PPE and collected the whisky bottle on the other side. By this means he was able to bypass one of the highest security areas in South Africa.

Wilkinson and Rashid planned for the attack to take place on the 16 December 1982. A significant day for Afrikaner Nationalism as well as the formation day of Umkhonto weSizwe (MK) as discussed above. Rashid also instructed Wilkinson on how to prepare and set the timing device on the Soviet Limpet mine.

THE SPM MAGNETIC LIMPET MINE DESCRIBED

The Soviet SPM mine was originally designed for use against ships. A frogman would place the mine which had strong magnets against the hull of a ship, remove the safety pin and the mine would explode at any set time from 5 minutes to 981 hours. In South Africa however this Soviet high explosive limpet mine often coupled with thermite incendiary material was the main explosive device used by MK for sabotage from about 1976 until 1994. It also had an anti-removal function which would explode if the mine was interfered with.



SPM Limpet mine without fuse



VZD-1M limpet mine fuse

Source: <https://cat-uxo.com/uxo-types/landmines/spm-limpet-mine>

The mine is roughly semi-cylindrical and was constructed of aluminium or Bakelite and often painted in a grey colour. The approximate sizes were: overall length with fuse: 298 mm, Diameter: 115 mm, Mass fused: 3 kg. There was a fuse well at one end, threaded to accept the VZD-1M or a VZD-20M fuse assembly. The fuse well was sealed with a plastic plug during transit. Large horseshoe magnets enclosed at each end of the mine, were used to attach it securely to any steel target. The fuse used a lead-shear delay mechanism. The time delay was set by using different lead strips of varying thickness and colour; either unpainted, red, black, white, green, or brown. The VZD 1-M fuse was contained in a red cardboard tube along with the colour coded lead tabs and a time/ colour chart. The use of these limpet mines was not an exact science as the lead tabs were very temperature dependent. In the South African context the explosion was nearly always before the expected set time.

To set the time delay and prepare the mine for explosion, the fuse cap was removed. The correct colour coded lead tab was inserted under the guillotine wire of the fuse. The unpainted tab gave an approximate time of five minutes while use of the brown tab gave a delay of about 800 hours. After the safety pin was withdrawn from the fuse, the guillotine wire which was pulled downwards by the firing pin spring slowly cut through the inserted lead tab. This freed the firing pin which was stuck into the detonator, exploding the RDZ fuse booster charge and this set off the main charge of TNT. The contained termite set alight during the explosion, burnt at a very high temperature (2 500° C) and was difficult to extinguish.

ATTACK PLANNED FOR 16 DECEMBER 1982

Operation Mac encountered some unforeseen obstacles in the lead up to the planned detonations. Firstly the Koeberg plant experienced some security scares. There was also a cable fire started by a short circuit, for which the ANC claimed responsibility. Security was therefore improved. In November 1982 the firm which hired Wilkinson informed him that he was losing his job at the end of the month. They later changed their mind and said he could stay on until the end of December. He told them he had accepted another job offer and would be leaving on Friday 17 December. This gave him a watertight excuse for leaving the plant before the explosions went off. He as a white male would never be expected as the saboteur.

In his November meeting with Rashid he was told of the location of a dead letter box in the little Karoo where Wilkinson could find the four limpet mines for the attack. The date for the pick-up was also set.

It is probable that the following method was used to deliver the limpet mines to the dead letter box (DLB). First they would be issued by the head of ordnance in Lusaka, Cassius Maake along with separate fuses. Maake would also identify the location of the DLB to be used. They would go via Maputo to Swaziland. Here they would be smuggled in a false compartment of a 65 litre Toyota Cressida fuel tank across the border into South Africa. The Cressida petrol tank could be easily removed within 10 minutes and the mines transferred to a car driven by other MK member, who would deliver them at the correct time to the designated DLB.

Wilkinson and Gray travelled to their little yellow Renault 5 to the DLB where they dug up the mines and transferred them to empty 5 litre boxed wine containers. They hid the mines and fuses in their garden in suburban Claremont home in Cape Town.



Limpet mines, F1 and RGD 5 hand grenades, Stechkin automatic pistols, magazines and limpet mine fuses in read cardboard tubes found in a MK arms cache in Taung.

Source: Taung Daily News.

In mid-December he dug up the mines one by one and smuggled them past the security checks just as he had practiced with his whiskey bottles. He placed two mines among the mass of electrical cables under the main control panel. He smuggled the last two limpet mines into the plant. Although the explosions were supposed to be set for 16 December 1982, he was still to report for work on his last day Friday 17 December. On this day he took the last two fused limpet mines and placed them on the steel supports of the two steel reactors. The lead tabs used in the fuses were for a 24 hour setting. It is not known if Wilkinson set the fuses himself or they were pre-set for him. He probably only had to screw the fuse into the fuse well, attached the limpet mine with the powerful magnets to the target and then pull out the safety pins. The 24 hour delay would ensure that the explosions were detonated on Saturday 18 December when the plant was empty, thereby minimising the risk of injury to any workers.

After setting the last limpet mine he had to go for his farewell party arranged for him by his fellow technicians and engineers. He hoped that the lead tabs in the limpet mines would not cause a premature detonation and kill him.

FLIGHT INTO OBSCURITY AND EFFECTS OF HIS ACTIONS

That afternoon he caught a commercial flight from Cape Town to Jan Smuts' airport in Johannesburg. A relative of his drove him to the Swaziland border where he crossed on a bicycle.

The four limpet mines exploded over a 24 hour period. The first mine was detonated at 03:23, the second at 08:40 and the third at 11:24 all on Saturday 18 December 1982. The last limpet mine only detonated at 02:53 on 19 December. The ANC proudly claimed credit for the attack which had resulted in no injuries. The South African authorities were flabbergasted that the security at the plant was breached. Damage to the plant was estimated to be 500 million rand. It also set back the final commissioning of Koeberg Nuclear Power Station by 18 months. The attack was a great propaganda feat for the ANC and MK. It showed that MK saboteurs were capable of successfully attacking the heart of Afrikaner nationalism. Wilkinson was never expected as a suspect.

Rashid arranged for him to travel to Maputo where he met Oliver Tambo and was reunited with his girlfriend. A little while later he flew London and went into exile. He married Heather in Woodbridge, Suffolk and they continued to work for the ANC in London. They returned to South Africa after the release of Nelson Mandela and Wilkinson worked for the ANC government. In 1999 he was granted amnesty by the Truth and Reconciliation Commission and it was only then that his full story became known.

SOURCES:

Books:

- Gwen, JI H Brassey's Infantry Weapons of the World Brassey, London 1979
- Morris & Combrink SA Bomb Summary: Use of Explosives Devices in Sabotage & terrorism in South Africa 1981-1986 terrorism research, Cape Town, 1986.

Internet:

<https://www.sahistory.org.za/article/december-16-reflection-changing-south-african-heritage>

https://en.wikipedia.org/wiki/Koeberg_Nuclear_Power_Station#:~:text=Construction%20of%20the%20power%20station,it%20was%20still%20under%20construction.

<https://www.world-nuclear.org/information-library/country-profiles/countries-o-s/south-africa.aspx>

<https://publicintegrity.org/national-security/south-african-who-attacked-a-nuclear-plant-is-a-hero-to-his-government-and-fellow-citizens/>

<https://mg.co.za/article/1995-12-15-how-we-blew-up-koeberg-and-escaped-on-a-bicycle/>

<https://samilhistory.com/2018/05/01/the-incidental-terrorist/>

http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0018-229X2015000200003

<https://mg.co.za/article/1998-05-08-rasheed-the-clean-bomber/>

[https://en.wikipedia.org/wiki/Sasol#:~:text=Sasol%20Limited%20is%20an%20integrated,1900s%20\(see%20coal%20liquefaction\).](https://en.wikipedia.org/wiki/Sasol#:~:text=Sasol%20Limited%20is%20an%20integrated,1900s%20(see%20coal%20liquefaction).)

<https://www.csmonitor.com/1980/0603/060327.html>

<https://cat-uxo.com/uxo-types/landmines/spm-limpet-mine>

<https://omalley.nelsonmandela.org/omalley/index.php/site/q/03lv03445/04lv03996/05lv04012/06lv04014.htm>

<https://southafricatoday.net/south-africa-news/mastermind-of-church-street-bombing-rashid-aboobaker-ismail/>

<https://bulawayo24.com/index-id-news-sc-national-byo-159614.html>

<https://taungdailynews.wordpress.com/2012/10/01/explosive-items-and-fire-arm-discovered/>

Checked: Director