A History of the Nuclear Struggle in South Africa

A Presentation to a Meeting of
The Van Plettenberg History Society

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Where it all began ...
Atoms for Peace

Address by Mr. Dwight D. Eisenhower, President of the United States of America, to the 470th Plenary Meeting of the United Nations General Assembly, Tuesday, 8 December 1953

“The United States knows that peaceful power from atomic energy is no dream of the future. The capability already proved, is here today. Who can doubt that, if the entire body of the world's scientists and engineers had adequate amounts of fissionable material with which to test and develop their ideas, this capability would rapidly be transformed into universal, efficient and economic usage?”
Early resistance to nuclear weapons

The Campaign for Nuclear Disarmament (CND) March of 1958
Going back in time

Historical forces drove the South African Government’s choice of nuclear technology

- 1961  South Africa gets a research reactor from the United States
- 1977  Nuclear weapons test site spotted in the Kalahari
- 1979  Ballistic missile tested with Israel near Prince Edward Island

Like Siamese Twins

The origins of nuclear energy are intimately tied to the origins of the nuclear weapons industry.
1979

Equipment failures and worker mistakes contributed to a loss of coolant and a partial core meltdown at the Three Mile Island Nuclear Power Station, 15 km southeast of Harrisburg, Pennsylvania, in the United States of America. Although no fatal results have been attributed to the near meltdown, Stephen Wing et al have shown some indication of elevated cancers in the wake of the accident.

(“A Re-evaluation of Cancer Incidence near the Three Mile Island Nuclear Plant: The Collision of Evidence and Assumptions” in Environmental Health Perspectives, Volume 105, Number 1, January 1997)
Meanwhile, back in South Africa ... 
PW Botha’s nuclear industry obtains German and French support

- Koeberg Nuclear Power Station
- Pelindaba and Valindaba (enrichment and fuel fabrication)
- Advena Central Laboratories (nuclear weapons production)
- Vaalputs (nuclear dump site)

A Cold War ideology of “Total Onslaught” leads to an Apartheid State of “Total Strategy”
1986 Four new sites chosen on the coast

1. Koeberg Nuclear Power Station, 28 km north of Cape Town
2. Pelindaba, west of Pretoria
3. Brazil, near Kommaggas in Namaqualand
4. Bantamsklip, near Gansbaai in the Western Cape.
5. Thyspunt, near Cape St Francis in the Eastern Cape
The Road to the PBMR


- 1989 Johan Slabber joins Armscor electronic systems supplier Integrated Systems Technology (IST), along with other AEC staff members.

- 1990 Armscor appoints IST to do feasibility study on the PBMR as a source of propulsion in a nuclear submarine; under project leader Chris Oberholzer.

- 1992 IST receives Armscor approval to investigate the PBMR’s commercial potential through Dieter Matzner.

- 1993 Eskom “investigates” the PBMR option, claiming that “building a new traditional Pressurised Water Reactor (PWR) such as Koeberg would be prohibitively expensive.”
Getting into GEAR: Alec strides forth

- 1994 National Nuclear Policy Workshop, hosted by the ANC’s Science & Technology Desk (then chaired by Roger Jardine, later head of nuclear build beneficiary Aveng), calls for review of the nuclear industry.

- 1995 GEAR macro-economic policy chosen as sole determinant of industrial strategy, including the principles of “mineral beneficiation” and the importance of “foreign direct investment” (FDI), leading to the encouragement of energy-intensive large smelters and metal-working plants.

- 1997 A Joint-Venture Agreement is signed between Eskom and IST Holdings (Pty) Ltd to “build and license PBMR power plants in South Africa and other parts of the world”. The shares in the JV will be 51% Eskom and 49% IST.

- 1999 Alec Erwin becomes Minister of Trade & Industries and the PBMR’s official champion as along with Coega as DTI’s flagship for an aluminium smelter, powered by the PBMR, with a further commitment to purchase 30 reactors (six each for the five designated sites), and a drive for export sales.
2001 COSATU Resolution
passed unanimously at its 7th National Congress

“... we call on government ... to make South Africa a nuclear-free zone, ending its funding of the Pebble-Based Modular Reactor and ensuring that the nuclear waste from Koeberg is not dumped in other parts of Africa.”
Lots of money to be made, of course, if you’re one of the wealthy few ...
Enter AREVA and the French Connection

- French nuclear industry giant Areva is offered “industry technology rights and cooperation” in the PBMR reactor programme.
- Areva says the deal could include fresh fuel supply, waste management and power transmission & distribution.
- CEO Anne Lauvergneon is appointed to the President’s Economic Advisory Committee.
The State of the Nation, 2007

- President Mbeki commits to the nuclear industry in 2007.
- Nuclear Energy Policy approved by Cabinet on 8 August 2007,
- The lack of adequate consultation leads to the founding of the Coalition Against Nuclear Energy (CANE), whose founder members include the Namaqualand community, the Pelindaba Working Group, and the Koeberg Alert Alliance, among others.
Before the Crash of 2008
Reaching towards the R1-trillion mark

- The PBMR having been fairly well abandoned in the short term, tenders were issued for either a Toshiba-Westinghouse AP1000 or an Areva EPR, then under stuttering construction in Finland. Projected costs of these monsters was about R120-billion each.

- In his 2007 Budget Speech, Trevor Manuel warned that “in an economic discussion, it is not appropriate to throw numbers around without a sense of rigour or without some interrogation”

- Here’s what the august and London-based Financial Times had to say:

  The [UK] government's energy review team ... concludes that by 2020 nuclear power will remain more expensive than wind generation and about the same cost as electricity produced from power stations burning specialist green energy crops, unless electricity prices rise or it receives state financial help ...
Cutaway of the Proposed AREVA Evolutionary Pressurised Reactor
Cutaway of the Proposed Westinghouse AP-1000
Christmas 2008: Eskom throws out the nuclear baby with the radioactive bathwater

- Long-standing spokesman Tony Stott indicated that Eskom would no longer be driving the programme:

  *The future of nuclear is bigger than just Eskom now ... The government will now play a bigger role in taking it forward, because the nuclear build is important for the development of the country’s capabilities.*

- Former Director General of the Department of Public Enterprises, Portia Molefe states that a “nuclear task team” would develop “a framework for procuring a nuclear technology partner to support both the nuclear power station build programme, and the associated industrialisation process.”
The current implementing agent for electricity production is Eskom, which is currently governed by the Department of Public Enterprise.

The erection of a nuclear power station cannot proceed without two steps:

1. The Environmental Impact Assessment (DEAT)
2. The Nuclear Licensing Process (the NNR)

The Department of Environmental Affairs recently granted permission for a nuclear power plant of unstated origin to be erected at the Koeberg site.
Civil society and public involvement

Inaugural meeting of the Thyspunt Alliance

Bilateral meeting of the Save Bantamsklip Campaign and the Strandveld Tourism and Conservation Association
Deficits in accountability and transparency

- Despite being utterly flawed, the Integrated Energy Plan and Integrated Resource Policy were hastily approved by Cabinet.
- Substantive opposition to nuclear energy was overruled by “policy considerations”.
- The nuclear energy policy itself was drawn up in defiance of the ANC’s own constituency and without adequate consultation among the broader public.
- The Environmental Impact Assessment process was only intelligible to a handful of the reasonably informed and has been taken on appeal.
CRITIQUE of the Third Draft EIR for Nuclear-1

the “Need & Desirability” is unproven. In the light of reduced growth rate, less demand for electricity, massive increase in RE Mpande gas, Medupi & Kusile

The actual costs of nuclear energy have been concealed.

The “science” is neither accurate nor objective.
Much of the information selected and presented as “science” is provided by the proponent (Eskom) and many of the “scientists” have been employed by the proponent in the past, or hope to be employed again, so there is no sense in “biting the hand that feeds you”.

The decision-making process itself is equally opaque and no real public justification is ever given for decisions taken, other than vague generalities and abstractions: “it’s good for the country”, “it will create jobs”, and so on.
OUR DEMANDS

- Since the National Nuclear Regulator has a critical role to play in monitoring and supervising the industry itself, from the cradle to the grave, it must be strengthened.
- The dumping of nuclear waste in Namaqualand should be halted with immediate effect.
- All information relevant to the current Nuclear-1 procurement process must be released without further ado.
- The precise nature of the technology choice must first be identified before any EIA is possible.
The future is brighter, without nuclear power
Thank You