

SOUTH AFRICA

1. LOCATION AND CAPABILITY OF NUCLEAR FACILITIES

In 1960s, South Africa commenced a nuclear power program and began to experiment with development of a limited deterrent capability. South Africa manufactured a smaller number of nuclear weapons in the 1970s, but the program was halted in 1989 with the fall of the apartheid.

Since then, South Africa has acceded to the NPT as a Non-Nuclear Weapon State and its nuclear disarmament was confirmed through IAEA inspections.

Today, coal fuel is the largest source of energy for South Africa. Remaining energy is derived from hydro, gas and nuclear sources. http://www.nti.org/e_research/profiles/SAfrica/index.html; http://www-pub.iaea.org/MTCD/publications/PDF/cnpp2003/CNPP_Webpage/countryprofiles/SouthAfrica/SouthAfrica2003.htm

Power Reactors

Operational: 2

Shut down: 1

Decommissioned: 0

Planned: 0

<http://www.iaea.or.at/programmes/a2/>

Research Reactors

Operational: 1

Shut down: 0

Decommissioned: 0

Planned: 0

<http://www.iaea.or.at/worldatom/rrldb/>

Uranium Mines

Uranium mining in South Africa started in the late 1940s in the Witwatersrand Basin in the Transvaal, where uranium was a by-product of gold mining. The 1973-1974 oil crisis triggered intensified exploration for uranium, leading to the country's first primary uranium mine (Beisa) coming into production in 1982. However, uranium is still mainly a by-product of the extensive gold mining.

<http://www.worldenergy.org/wec-geis/publications/reports/ser/uranium/uranium.asp>

Mine	Location	Status
Beisa	Free State	decommissioned
Blyvooruitzicht	Mpumalanga	decommissioned
Driefontein	Mpumalanga	decommissioned
East Rand	Mpumalanga	decommissioned
Freegold	Free State	decommissioned
Hartebeestfontein	Klerksdorp	halted
Merriespruit	Free State	decommissioned
Palabora	Northern Transvaal	closed
Randfontein	Gauteng	decommissioned
Rhenosterhoek	Klerksdorp	idle
Rietkuil	Klerksdorp	idle
Stilfontein	North West	decommissioned
Vaals Reefs	Gauteng	closed
West Rand Consolidated	Gauteng	decommissioned
Western Areas	Gauteng	closed
Western Deep Levels	Mpumalanga	closed

Reprocessing Plants

The Valindaba facilities in the North West region of South Africa, which undertook uranium conversion and enrichment, were permanently closed down in the mid-1990s.

<http://www.antenna.nl/wise/uranium/uofafr.html#ZA>; <http://www.antenna.nl/wise/uranium/uproj.html>

http://www.world-nuclear.org/wgs/decom/database/php/qry1_results_allfacilities.php

2. FISSILE MATERIAL HOLDINGS

Separated Civil Plutonium- 4.3 tons (end 2002)

http://www.isis-online.org/global_stocks/civil_pu.html#table7

Ex-military Stocks of Highly Enriched Uranium- 600-750 kilograms (end of 2003)

http://www.isis-online.org/mapproject/country_pages/southafrica.html

Radioactive waste disposal

Low- and intermediate-level waste: Low- and intermediate-level waste from the Koeberg reactor is disposed of at the National Radioactive Waste Repository in Vaalputs. The waste is stored in metal steel drums and concrete containers. Spent fuel is stored on site in wet storage or dry casks with a reported storage capacity of 40 additional years.

<http://www-pub.iaea.org/MTCD/publications/PDF/cnpp2003/index.htm>

High-level waste: Currently high level radioactive waste from Koeberg is stored on site, while awaiting a decision on a final storage site. <http://www.earthlife-ct.org.za/ct/article.php?story=20040603224317184>

3. NUCLEAR ACTIVITIES

Research Centers

CSIR: Council for Scientific & Industrial Research

Geological Survey of South Africa

NAC: National Accelerator Centre

NECSA: South African Nuclear Energy Corporation

<http://www.radwaste.org/research.htm>; http://www.world-nuclear.org/portal/nuclear_research_centres.htm

Nuclear Cooperation

US: 1957 agreement for construction of Safari-1 reactor and supply of highly enriched uranium fuel from US company, Allis Chalmers. US also supplied enriched uranium and heavy water for the Safari-2 reactor. http://www.nti.org/e_research/profiles/SAfrica/Nuclear/2149.html

France: Agreement signed on cooperation on molecular laser isotope enrichment 1996.

<http://www-pub.iaea.org/MTCD/publications/PDF/cnpp2003/index.htm>

IAEA: South Africa works closely with IAEA to help it uncover international smuggling of nuclear weapons-related materials.

Iran: In 2004, a meeting between South African President Thabo Mbeki and Iran's secretary of national security resulted in South Africa offering to help Iran resolve questions about its nuclear program that have caused concern within the IAEA. http://www.nti.org/e_research/profiles/SAfrica/Nuclear/2149_4624.html

4. INTERNATIONAL NON-PROLIFERATION EFFORTS

Treaties Signed and Ratified, date of deposit

Antarctic Treaty, 21 June 1960

Biological Weapons Convention, not ratified

Chemical Weapons Convention, not ratified

Comprehensive Nuclear Test-Ban Treaty, 30 March 1999

Convention on the Physical Protection of Nuclear Material, 8 February 1987

Nuclear Non-Proliferation Treaty, 10 July 1991

Outer Space Treaty, 8 October 1968

Sea Bed Treaty, 26 November 1973

Treaty of Pelindaba, 27 March 1998

South Africa ratified the IAEA Additional Protocol 13 September 2002.

Multilateral Groups

Conference on Disarmament

Hague Code of Conduct against Ballistic Missile Proliferation

Missile Technology Control Regime

New Agenda Coalition

Nuclear Suppliers Group

Wassenaar Arrangement

Zangger Committee

5. POSITIONS TAKEN IN INTERNATIONAL FORA ON VARIOUS ISSUES OF NUCLEAR DISARMAMENT

State of the NPT: “While it is true that the periods since 1995 and 2000 have seen developments which have impacted negatively on the goal of nuclear weapons non-proliferation, the proliferation of States with nuclear weapons capabilities, a withdrawal from the NPT, the proliferation of nuclear weapons technologies and an instance of non-compliance-it continues to be fair to say that the overwhelming majority of non-nuclear-weapons States Parties to the NPT have demonstrated, and are continuing to demonstrate, their full commitment to, and compliance with, their obligations. On the other hand, and by way of example:

- There has been only limited progress made in implementing the thirteen steps on nuclear disarmament to which all States Parties agreed at the 2000 Review Conference...

- Pressure appears to be waning on the three states which are not yet parties to the NPT, and which operate unsafeguarded nuclear facilities, to accede to the Treaty as non-nuclear-weapon States promptly and without conditions, and to bring into force the required comprehensive safeguards agreements, together with additional protocols. To the contrary reports indicate greater co-operation with these States even in the field of nuclear co-operation...

- There is no sign of engagement by all five nuclear-weapon States in a plurilateral process leading to the total elimination of nuclear weapons.” - **Statement by Mr. Peter Goosen to the Third Preparatory Committee of the 2005 Review Conference, 26 April 2004.**

<http://www.reachingcriticalwill.org/legal/npt/prepcom04/safrica26.pdf>

Nuclear energy: “South Africa fully recognizes and supports the inalienable right of all states to utilize atom for peaceful purposes only in conformity with the rights and obligations contained in the NPT. As agreed at the 2000 NPT RevCon, ‘each country’s choices and decisions in the field of peaceful uses of nuclear energy should be respected without jeopardizing its policies or international co-operation agreements and arrangements for peaceful uses of nuclear energy and its fuel cycle policies’.

“South Africa believes that should we find, through recent experiences, that existing instruments are not adequate and the non-proliferation regime needs to be strengthened, this should be addressed collectively within the relevant technically competent and multilateral institutions.” - **Statement to the First Committee on Disarmament and International Security, 4 October 2004.**

<http://www.reachingcriticalwill.org/political/lcom/lcom04/statements/SA.pdf>

Disarmament: “As stated on various previous occasions, South Africa believes that any presumption of the indefinite possession of nuclear weapons by the Nuclear Weapon States is incompatible with the integrity and sustainability of the nuclear non-proliferation regime and with the broader goal of the maintenance of international peace and security. It is our view that continuous and irreversible progress in nuclear disarmament, nuclear reductions and other related nuclear arms control measures remains fundamental to the promotion of nuclear non-proliferation.”- **Statement to the Third Preparatory Committee of the 2005 Review Conference, 29 April 2004.**

<http://www.reachingcriticalwill.org/legal/npt/prepcom04/safricaCLI.pdf>