

Koeberg Public Safety Information Forum (PSIF)

Minutes of the meeting held on Thursday, 25 March 2021

Venue: MS Teams (virtual Platform)

Chairperson: Mrs Smokie La Grange

Deputy Chairperson: Ms Natasha Leaner

Name and Surname	Organisation	Present
Adonis, Natasha	Resident	P
Browne, Peter	Resident	P
Beyl, Trudy	Resident	P
Becker, Peter	Koeberg Alert Alliance	P
Black, David	Resident	P
Black, Michele	Resident	P
Browne, Peter	Resident	Apologies
Goss, Clive	Resident	P
Goss, Margot	Resident	A
Graaf, Michael	Resident	A
Harrison, Douglas	Resident	P
Isophakis, John	Resident	Apologies
Jones, John and Anneke	Resident	P
Ketcher, A	Resident	A
Kiehm, Elke	Resident	P
Kruger, Charmaine	Resident	A
Kruger, Willem	Resident	A
Lingard, David	Resident	A
Mayhew, Robert	Resident	P
Mayhew, Sylvia	Resident	P
Maigrot, Cynthia	Resident	A
Maigrot, Harold	Resident	A
Meyer, Carola	Resident	P
Moses, Bramwell	Resident	P
Nagan, Roy	Resident	A
Naylor, Paul	Resident	P
Pannaye, Angelique	Resident	P
Pannaye, Eric	Resident	P
Petersen, Lydia	Resident	P
Scott, Peter	Resident	P
Snyders, Edward	Resident	P
Stockhowe, Rita	Resident	P
Taylor, Roberta	Resident	P
Visser, Ella	Resident	P

OFFICIALS		
Bakardien, Riedewaan	Chief Nuclear Officer – Eskom	P
Bester, Peter	National Nuclear Regulator	P
Booyesen, Thomas	Eskom Koeberg	A
Bruiners, Roger	National Nuclear Regulator	A
Cronje, Nardus	Eskom Koeberg	P
Carolissen, Alan	National Radiation Waste Disposal Institute	P
Ditlhake, Kentse	Eskom Koeberg	A
Douglas, Mehl	National Nuclear Regulator	A
Featherstone, Keith	Eskom Koeberg	P
Franco, Johannes	City of Cape Town	P
Goss, Clive	Resident	P
Grose, Nora	Councillor – Ward 23	Apologies
Jeannes, Deon	Eskom Koeberg	A
Joshua, Debbie	Eskom Koeberg	P
Kunene, Ntaoleng	National Radiation Waste Disposal Institute	A
La Grange Smokie	PSIF Chairperson	P
Leaner, Natasha	PSIF Deputy Chairperson	P
Lenders, Ricky	City of Cape Town – Disaster Risk Management	A
Malale Ditsietsi	Eskom Koeberg	P
Mashele, Bravance	Eskom Koeberg	P
Maree, Marc	Eskom Koeberg	P
Maree, Vanessa	National Nuclear Regulator	P
Matlala, Obakeng	Department of Mineral Resources and Energy	A
Mnyanda Xolisa	Eskom Koeberg	P
Moonsamy, Gino	National Nuclear Regulator	P
Moralie, Granville	Eskom Koeberg	P
Ncuru, Anele	Eskom Koeberg	P
Ndomondo, Thembi	National Nuclear Regulator	A
Ntuli, Velaphi	General Manager - Eskom Koeberg	P
Phidza, Lewis	Eskom Koeberg	P
Pillay, Greg	City of Cape Town – Disaster Risk Management	Apologies
Silinga, Nangamso	National Nuclear Regulator	P
Tshepe, Tshakane	Department of Mineral Resources and Energy	A
Twala, Vusi	National Radiation Waste Disposal Institute	P
Van Rensburg, Stephen	City of Cape Town	A
Valaitham, Mahesh	Eskom Koeberg	Apologies

Abbreviation/definition list			
Abbreviation	Description	Abbreviation	Description
Accident	An unintended event, including operating errors, equipment failures or other mishaps.	Disaster Management	A continuous and integrated multi-sectorial, multi-disciplinary process of planning and implementation of measures aimed at: <ul style="list-style-type: none"> a) Preventing or reducing the risk of disaster b) Limiting the severity or consequences of disasters c) Emergency preparedness d) Responding rapidly and effectively to disaster; and e) Post-disaster recovery and rehabilitation
AFI	Area for Improvement – usually the outcome of a benchmarking exercise, which enables the identification of successful practices/strategies implemented by other organisations in the same or similar industry,	GCE	Group Chief Executive
Boron	A very hard, almost colourless crystalline metalloid element that in impure form exists as a brown amorphous powder. It occurs principally in borax and is used in hardening steel. The naturally occurring isotope boron-10 is used in nuclear control rods and neutron detection instruments.	ECC	Emergency Control Centre
CIA	Central Intelligence Agency	KNEP	Koeberg Nuclear Emergency Plan
Donax	A genus of small, edible saltwater clams, marine bivalve molluscs. The genus is sometimes known as bean clams or wedge shells or white mussels; Donax species have numerous different common names in different parts of the world.	CISF	Centralised Interim Storage Facility
CISF	Centralised Interim Storage Facility	SPF	Spent Fuel Pool
CSB	Cask Storage Building	TEM	Traffic Evacuation Model
DOC	Disaster Operations Centre	Evacuation	The rapid, temporary removal of people from the area to avoid or reduce short-term radiation exposure in the event of an emergency.
ECC	Emergency Control Centre	UAE	United Arab Emirates
EIA	Environmental Impact Assessment	INPO	Institute of Nuclear Power Operations
Emergency Plan	A document describing the organisational structures, its roles and responsibilities, concept of operation, means and principles for intervention during an emergency at Koeberg.	UPZ	Urgent Protective Action Zone
EPZ	Emergency Planning Zone	EPSOC	Emergency Planning Steering and Oversight Committee
FC	Functional Coordinator	CPA	Consumer Protection Act
IPP	Independent Power Producer	KEP	Koeberg Emergency Procedure

		mSv	The millisievert (mSv) is a measure of the absorption of ionising radiation by the human body.
ISO	International Standards Organisation	CCT	City of Cape Town
KNPS	Koeberg Nuclear Power Station	IAEA	International Atomic Energy Agency
NOU	Nuclear Operating Unit	SABC	South African Broadcasting Corporation
SGR	Steam Generator Replacement	TISF	Transient Interim Storage Facility
KPSIF	Koeberg Public Safety Information Forum	WANO	World Association of Nuclear Operators
LTI	Lost Time Injury	Emergency	An event that requires taking prompt action, or the special regulation of persons or property, to limit the risk to people's health, safety or welfare, or to limit damage to property or the environment.
MW	Megawatts. A unit of measure - one megawatt is equal to one million watts.	CCGT	Closed Cycle Gas Turbines
NECSA	South African Nuclear Energy Corporation SOC Limited	DOC	Disaster Operations Centre
NNR	National Nuclear Regulator	NOSCAR	The grading of NOSA for safety performance.
NOSA	National Occupational Safety Association	Radiation	Energy released in the form of particles or electromagnetic waves during the breakdown of radioactive atoms.
NSRB	Nuclear Safety Review Board	NRWDI	National Radiation Waste Disposal Institute
OCA	Owner Controlled Area	AECC	Alternate Emergency Control Centre
OEM	Original Equipment Manufacturer	FME	Foreign Material Exclusion
Outage	Refers to the maintenance period on a power plant when a number of activities are performed on equipment that keeps the plant running.	National Electricity Grid	The network of high-voltage power lines fed by the various power stations, which supplies electricity to the country.
PAZ	Precautionary Action Zone	EP	Emergency Plan
PSM	Power Station Manager	Sheltering	A protective action whereby members of the public stay indoors with windows and doors closed, to reduce their exposure to radioactive material in an emergency situation.
Public Notification	Notification to the public of an emergency and the appropriate protective actions to be taken by using the installed siren and loudspeaker system, as well as local authorities, local radio and television station.	EMP	Environmental Management Plan
Release	The controlled or accidental discharge of radioactive substances into the environment.	UPZ	Urgent Protective Action Planning Zone
SAPS	South African Police Service	KCWIB	Koeberg Cooling Water Intake Basin
SHEQ	Safety Health Environment and Quality	WAC	Waste Acceptance Criteria
SSA	Sea Shore Act	SAMG	Severe Accident Management Guideline
TEM	Traffic Evacuation Model	NERSA	National Energy Regulator of South Africa
UAG	Unplanned Automatic Grid Separation	Hazmat	Hazardous material

1. Welcome

The Chairperson, Ms Smokie La Grange welcomed the attendees to the first Koeberg Public Safety Information virtual meeting of 2021 and since lockdown started which was held on MS Teams. She also confirmed that there was a quorum present as per the Code of Conduct which prescribes that the Chair and four members of the public constitutes a quorum. Both the Chair and Deputy Chair and more than four members of the public was present in the meeting.

2. Safety briefing

Mr Phidza highlighted the fact that everyone should ensure that they are safe where they are and that they are able to evacuate in case of an emergency.

3. MS Teams Protocol and PSIF Code of Conduct

The Chairperson shared the MS Teams protocol and PSIF Code of Conduct with the members and explained to them how to raise their hands on MS Teams and add their comments or questions as it is a virtual platform and a first for many.

4. Apologies

The following apologies were tendered

- Mr Greg Pillay
- Cllr Nora Grose
- Mr Mahesh Valaitham
- Mr Peter Browne

5. Acceptance of the Minutes of the previous meeting (November 2019)

The Minutes of the previous meeting were approved by Mr Naylor and seconded by Mrs Mayhew.

6. Matters arising from the previous meeting

Mr Goss noted a correction to the November 2019 Minutes - Mr Goss's wife's name was spelt incorrectly, it should be Narga Goss.

7.1 Koeberg Nuclear Power Station quarterly feedback: *Mr Velaphi Ntuli - Koeberg Power Station General Manager*

Question by Mr Becker

Mr Becker asked what is meant by "we are progressing safely with the outage."

Response by Mr Ntuli

Mr Ntuli explained that it means that the outage is still ongoing with no safety incidents. He also added that we are currently in day 80 of the outage which is planned for 110 days although they are experiencing some challenges.

Question by Mr Becker

Mr Becker asked when the last pressure test was conducted and when the next one was planned for.

Response by Mr Ntuli

Mr Ntuli confirmed that the last pressure test was conducted in 2015 and it is called the Integrated Leak Rate Test, where the containment building is pressured to 4bar above atmosphere, it is done by specialist who check for any leak rate on containment and to confirm if there are no leaks. Everything was found to be in order. Mr Ntuli also explained that it also tests for any deformation of the building which is compared to what is expected from a building of its age compared to buildings of a similar design that has been tested internationally. He confirmed that the next test is planned for Outage 126 or 127 on Unit 1 which is planned for 2022 to 2024 as per the 10-year time frame.

Comment by Mr Mayhew

Mr Mayhew expressed his condolences to the friends and family of the Koeberg employees who lost their lives due to COVID-19. He commented that it could not have been easy for management to having to deal with it. He enquired whether it was as a result of safety being compromised.

Response by Mr Ntuli

Mr Ntuli confirmed that safety was not compromised and that everything possible was done to ensure that all safety protocols were followed. He further explained that due to COVID-19 and the subsequent safety protocols, work done in the outage had to be approached differently so as to reduce staff numbers which means that it takes longer than usual to get some of the work done. So although it will impact on time they are ensuring that it will not impact on safety.

Question by Mr Mayhew

Mr Mayhew enquired about the amount of days Koeberg is expected to overrun in this outage, considering that it is day 80 of 110 days planned for the outage, and also what it means for the country.

Response by Mr Ntuli

Mr Ntuli responded that the current plan shows 113 days. He further explained that depending on the issues they might find during start-up, the total number of days might increase.

Comment by Ms Adonis

Ms Adonis commented that if they are planning for 113 days does it means that only three days overrun is expected.

Response by Mr Ntuli

Mr Ntuli responded to confirm that it is currently the case.

Question by Mr Becker

Mr Becker enquired whether there is a level of infection where the protocol calls for a pre-emptive shutdown of the reactors and if so, what is that level. E.g. if too many technical staff are off sick, if it will no longer be safe to operate the plant

Response by Mr Ntuli

Mr Ntuli responded that they have identified licensed positions/minimum staffing positions he used the example of Operating where they require a certain number of licensed staff to be on shift as it is also the case in Radiation Protection. He explained that there are various numbers required for various groups and hence they have ensured that they have a sufficient staff complement in these positions. He

explained further that they have never reached any of those numbers or have not been in that situation to date. If they were to shut down it would mean they don't have enough licensed operators to 'man' Operating or the Radiation Protection Department (key departments at the power stations). He explained that at some point when the pandemic started they kept a team of Operators at home whilst the other team worked to ensure they don't land up in that situation. He also explained that in Maintenance they worked on a two-shift cycle for an extended period to ensure one person don't infect their whole department, which they have been fairly able to manage to date.

7.2 Business overview of the National Radioactive Waste Disposal Institute (NRWDI) – Dr Vusi Twala/Alan Carolissen

Question by Ms Natasha A

The member wanted to know how long NRWDI has been operating and how they are able to do waste management without the fund. And why the fund is not a priority.

Response by Mr Twala

Mr Twala responded that the Institute came into being in 2014 when the first Board was inaugurated, the management staff was appointed in 2016 so the Institute has been in operation for the last five years.

Response by Mr Carolissen (Acting CEO – National Radioactive Waste Disposal Institute (NRWDI))

Mr Carolissen explained that according to the Business Operating Model the Institute receive waste disposal fees from waste generators such as Koeberg and Necsa and that it will ultimately receive waste disposal fees from the High Level waste generated but they are not there yet. He explained that the Radioactive Waste Management Fund do not fall within the ambit of the Radioactive Waste Disposal Institute. He emphasised as per the presentation by Dr Twala, under the Governance and Regulatory framework, that the Fund is a separate entity and an issue for the shareholder. He acknowledged people's concern about the slow progress made on the fund. Mr Carolissen informed the members that the Draft Bill has been sent to Cabinet and it will be made available for public consultation in due course.

Question by Ms Adonis

The member asked how safe it is for the spent fuel to be stored at Koeberg and when will it be finally disposed of. She also questioned the cost of the indefinite storage of waste included in the costing models as it seems to her like nuclear energy becomes quite expensive when we think of the long lifespan of the toxic waste.

Response by Mr Carolissen

Mr Carolissen confirmed that the storage facilities at Koeberg is safe - they are engineered facilities with their own operating technical specification, licensed by the National Nuclear Regulator. He explained that the storage at Koeberg cannot be indefinite therefore they are in the process of establishing a Centralised offsite Storage Facility of which Vaalputs will be a candidate site.

Question by Mr Becker

Mr Becker enquired why NRWDI has failed to set up the waste disposal fund for 12 years since it was formed and why it will take another three years. He also asked

where the funds will come from for all the waste already generated and will a levy be applied retrospectively to all the high level waste generated by Koeberg since 1984.

Response by Mr Carolissen

Mr Carolissen reiterated as he has mentioned in his previous response, that the Radioactive Waste Management Fund do not fall within the ambits of the National Radioactive Waste Disposal Institute. It is a separate entity that is under the auspices of the Department of Minerals and Energy and Treasury.

The funding is coming from 1)Government appropriations 2) Services rendered to waste generators e.g. Koeberg and Necsa is paying for their waste stored at Vaalputs 3)They can request funds from the Waste Management Fund.

He explained that the shareholder is committed to expedite the establishment of a Radioactive Waste Management Fund and currently this resides with Cabinet which will be released soon for public participation. He further explained that each Act has to be passed in Parliament followed by a public participation process.

Question by Ms Adonis

Ms Adonis enquired whether there have been any incidents with the trucks transporting the Low Level Waste to Vaalputs and how they are dealing with concerns from the local communities around Vaalputs.

Response by Mr Carolissen

He explained that there has been an incident although not a radiological incident but a conventional incident which happened during one of the shipments from Koeberg to Vaalputs, the Koeberg truck had a flat tyre which was about 30km away from Vaalputs. That was the only incident. He explained that for the past 32 years, waste has been transported between Koeberg to Vaalputs which amounts to approximately 3 million kilometers, with that being the only incident.

Question by Mr Naylor

Mr Naylor asked whether it was planned in 1984 that all High Level Waste (HLW) would be disposed of at Vaalputs and if so, why some of the HLW (if not all) is now stored on the Koeberg site.

Response by Mr Carolissen

He explained that Vaalputs is not licensed for the storage of High Level Waste (HLW) hence it is still stored on the Koeberg site.

Question by Mr Becker

Mr Becker asked whether a levy will be charged on nuclear power going forward, as other countries charge a levy per kilowatt hour on nuclear power produced as a mechanism to create a waste fund. He enquired whether the levy will be applied retrospectively for the years between 1984 and 2023 when the Fund will be established or whether they have another way to obtain the money for that waste.

Response by Mr Carolissen

Mr Carolissen explained that worldwide the principal is to charge a levy but that the Waste Management Fund as an entity on its own, will sort out all the modalities of how waste generators must contribute, which will be a negotiated settlement between the Fund and the waste generators because the policy is very explicit on the fact that waste generators need to make provision for the waste they generate.

Question by Ms Petersen

Ms Petersen enquired whether the storage capacity has been reached at Koeberg.

Response by Mr Bakardien

Mr Bakardien responded that Koeberg's LLW is currently stored at Vaalputs and that there is sufficient storage on site for the continued storage of LLW on the Koeberg site. He explained that with regards to HLW, provisions and plans have been made for the establishment of a Temporary Storage Facility until a Centralised Interim Storage Facility (CISF) is made available by NRWDI.

Question by a member

The member asked whether an Environmental Impact Assessment (EIA) was done at Vaalputs and whether the local people in the community are aware of the situation around Vaalputs.

Response by Mr Carolissen

Mr Carolissen confirmed that an EIA was done when Vaalputs was established which was during the Apartheid years when public participation did not form part of the process. He explained that the legislative process have subsequently changed and now included public participation and consultation. He emphasised the fact that Vaalputs is a suitable site for the Centralised Interim Storage Facility (CISF). He highlighted that for any facility that will be established at Vaalputs there will be public consultations during the EIA process and public hearings when they do the licensing applications. So public participation is a constitutional imperative and that they will follow all legislative prescripts with regards to public consultation with regards to any waste disposal related facility.

Question by Mrs La Grange

Mrs La Grange enquired as to when the EIA will done for the new Centralised Interim Storage Facility (CISF).

Response by Mr Carolissen

Mr Carolissen explained that the Centralised Interim Storage Facility needs to be procured by 2024 as they have just completed a pre-feasibility study which clearly demonstrates that there is a need for such a facility and also because the indefinite storage of spent fuel at nuclear sites is not acceptable and that it needs to be stored in an offsite facility. He also explained that there is mature technology available and all scientific evidence points to the fact that such a facility is feasible to be established, so the next target is to do the feasibility studies (next year) and thereafter follow the regulatory prescripts which involves the EIA process, before they can apply for a license. Various sites will be explored with Vaalputs being a candidate site. He further explained that the EIA will determine which of the sites are the most suitable to host such a facility.

Comment by Mr Carolissen

Public participation is the cornerstone of our democracy. The establishment of the waste disposal infrastructure will therefore be a consultative and inclusive process based on the principles of fairness, openness, public participation and in line with all

the legislative and regulatory prescripts. The establishment of critical disposal infrastructure for spent nuclear fuel will therefore take time to ensure compliance with all the legislative and regulatory prescripts.

Question by Mr Mayhew

Mr Mayhew enquired about the amount of spent fuel casks that are stored at Koeberg Power Station which is ready for disposal. He also mentioned that the public has been informed that the storage at Koeberg is a temporary solution and asked whether the public is being held to ransom because Eskom has no money and the government has no money. Mr Mayhew felt that no clear timelines have been communicated thus far.

Response by Mr Carolissen

Mr Carolissen responded to say that there are clear timelines and that the first timeline is to procure a CISF by 2024 and that it should be operational before 2030.

Question by Mr Harrison

Mr Harrison commented about the lack of visibility/communication on the amount of waste passing through the Koeberg facility and the waste being stored at Vaalputs and that the public are not kept informed of the radiation level readings at the various storage sites and those being built and that the impression he gets is that the amounts are just being blended in with the general background radiation measuring. He suggested that if more waste are going to be stored in the various facilities that each facility should have its own monitoring of the waste passing through and the readings they are registering. He asked how Koeberg plans to record this and share it with the public.

Response by Mr Bakardien

Mr Bakardien indicated that there are eight fuel storage casks stored on site in very specific and highly controlled facilities with specific approval by the National Nuclear of which all safety, radiological aspects and its impacts have been considered. He explained that the Spent Fuel is stored in a building on the Koeberg site called the Cask Storage building which is managed with specific controls and with radiological assessments that are being done on a regular basis. All those facilities are managed with a high level of control and they are regularly and thoroughly assessed.

7.2 Koeberg Long Term Operation (LTO) overview and status update – Bravance Mashele

Question by Mr Becker

Mr Becker enquired about the overall cost of the LTO project.

Response by Mr Bakardien

Mr Bakardien responded that the cost of the project including the modifications, the studies over an extended period including the including the single biggest component being the Steam Generator Replacement Project, amounted to about R20 billion Rand which was considered in their business case presented in 2010, and which was deemed to be an effective business case in investing in extending the life of Koeberg by an additional 20 years.

Question by Mr Becker

Mr Becker enquired whether a new seismic hazard study will be done for the extended license application using the SSHAC methodology instead of the outdated PSHA methodology used previously.

Response by Ms Mashele

Ms Mashele confirmed that they are currently embarking on performing the seismic hazard analysis study for the site, based on the latest methodology which is the Senior Seismic Hazard Committee level 2 Enhanced, which she explained is what industry uses for such type of studies.

8. General**Question by Mr Naylor**

Mr Naylor commented that the Koeberg/PSIF acknowledged that they "dropped the ball" in their last press release regarding the cracking in that this was after the media release (and Mr Bakardien's radio talk) and the steps they will take to ensure PSIF members are informed prior to press releases 2). He also mentioned that they were told that there is a standard operating procedure (SOP) on how to deal with queries/concerns from the public he was told that this was sensitive information and was not available to the public. He asked whether a two-way SOP can be created that can be used by both parties. 3) He also enquired whether Koeberg can create a "Hot Line" for emergency calls as trying to contact Koeberg on their website numbers is almost impossible (he mentioned the number 021 5504836 as a case in point).

Response by Mr Phidza

Mr Phidza suggested that they add it as an Agenda item to the Agenda of the next PSIF meeting where it can be discussed in more detail.

9. Proposed Agenda items for the next meeting

The following Agenda items have been proposed for the upcoming meetings:

- 2020 NNR Regulatory Exercise feedback
- Presentation by the City of Cape Town Fire Services on their interaction with the Koeberg Emergency Plan and how they integrate locally
- Communication to the public especially during COVID-19

10. Date of next meeting

The next PSIF meeting will be held on Thursday, 24 June 2020 and will be held on a virtual platform via MS Teams, unless an earlier meeting is decided upon.

11. Closure

The Chairperson thanked everyone for their attendance at the first PSIF meeting since lockdown started and also the first virtual PSIF. The meeting was concluded at 21:50.