

Koeberg Public Safety Information Forum (PSIF)

Minutes of the meeting held on Thursday, 25 November 2021

Venue: MS Teams (virtual Platform)

Chairperson: Vacant

Deputy Chairperson: Mr Cyril Mack

Name and Surname	Organisation	Present
Adonis, Natasha	Resident	A
Andrews, Melanie	Resident	P
Browne, Peter	Resident	Apologies
Beyl, Trudy	Resident	P
Becker, Peter	Koeberg Alert Alliance	P
Black, David	Resident	A
Black, Michele	Resident	P
Browne, Peter	Resident	Apologies
Goss, Clive	Resident	P
Goss, Marga	Resident	Apologies
Graaf, Michael	Resident	A
Harrison, Douglas	Resident	P
Iosiphakis, John	Resident	P
Jones, John and Anneke	Resident	A
Jenny (Guest)	Resident	P
Ketcher, A	Resident	A
Kiehm, Elke	Resident	A
Kruger, Charmaine	Resident	A
Kruger, Willem	Resident	A
La Grange, Smokie	Resident	P
Lee, Nick and Anne	Resident	Apologies
Lingard, David	Resident	A
Mayhew, Robert	Resident	P
Mayhew, Sylvia	Resident	P
Mallison, Clyde	Resident	P
Meyer, Carola	Resident	A
Moses, Bramwell	Resident	A
Nagan, Roy	Resident	A
Naylor, Paul	Resident	P
Pannaye, Angelique	Resident	A
Pekeur, Wendy	Resident	P
Pannaye, Eric	Resident	A
Petersen, Lydia	Resident	P
Scott, Peter	Resident	Apologies
Slabbert, Johan	Resident	P
Snyders, Edward	Resident	A
Stockhowe, Rita	Resident	A
Taylor, Roberta	Resident	A
Van der merwe, Marinda	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	P
Cronje, Nardus	Eskom Koeberg	Apologies
Ditlhake, Kentse	Eskom Koeberg	A
Featherstone, Keith	Eskom Koeberg	P
Franco, Johannes	City of Cape Town	P
Grose, Nora	Councillor – Ward 23	Apologies
Jeannes, Deon	Eskom Koeberg	P
Joshua, Debbie	Eskom Koeberg	P
Kline, Kim	Eskom Koeberg	Apologies
Lenders, Ricky	City of Cape Town – Disaster Risk Management	P
Le Roux, Jurina	Eskom Koeberg	P
Mashele, Bravance	Eskom Koeberg	P
Maree, Marc	Eskom Koeberg	A
Maree, Vanessa	National Nuclear Regulator	A
Matlala, Obakeng	Department of Mineral Resources and Energy	A
Minnie, Johan	City of Cape Town	P
Mnyanda Xolisa	Eskom Koeberg	P
Moonsamy, Gino	National Nuclear Regulator	P
Ncuru, Anele	Eskom Koeberg	P
Ndomondo, Thembi	National Nuclear Regulator	A
Phidza, Lewis	Eskom Koeberg	P
Powell, Charlotte	City of Cape Town	A
Ryland, Nizaam	Eskom Koeberg	P
Silinga, Nangamso	National Nuclear Regulator	P
Stephanus, Aminah	Eskom Koeberg	P
Thomas, Mandy	City of Cape Town	P
Twala, Vusi	National Radiation Waste Disposal Institute	A
Van Rensburg, Stephen	City of Cape Town	P
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: 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

Due to the position of Chairperson being vacant, the Deputy Chairperson, Mr Mack was tasked to chair the meeting as per the PSIF Constitution. Mr Mack experienced challenges with his sound and Mr Phidza welcomed the members to the November PSIF meeting. He explained that he will hand over to Mr Munsami, after he has conducted the safety briefing, who will explain the process pertaining to the position of Chair and Deputy Chair.

2. Safety briefing

Mr Phidza highlighted the fact that everyone should ensure that they are safe where they are, adhere to COVID-19 protocols and that they are able to evacuate in case of an emergency. He also appealed to the members to ensure their homes are safe, due to the spate of house robberies that have been on the rise.

3. Update by Mr Moonsamy (NNR) on the status of the PSIF Chairperson appointment

Mr Moonsamy explained that the term of office of the previous chairperson, Ms Smokie La Grange, has come to an end at the end of October 2021. Part of the process is that the NNR invites nominations for chairperson from the members of the public and registered members of the Koeberg PSIF which they have done and to date they have received two nominations for Ms La Grange which will be submitted to the National Nuclear Regulator (NNR) Board who will be sitting in January 2022 to decide on who will take up the position of Chairperson for the 2022 PSIF meetings.

Mr Moonsamy explained that to ensure the continuity of the meeting, the Deputy Chairperson will take up the position of chairperson for the meeting as per the PSIF protocol. Mr Moonsamy explained that since the Deputy Chairperson, Mr Mack, has challenges with his sound, he proposed to the members that Ms La Grange chair the meeting. There was an overwhelming majority voting for Ms La Grange to chair the meeting.

4. MS Teams Protocol and PSIF Code of Conduct

Ms La Grange thanked the members who supported the proposal for her to chair the PSIF meeting. She shared the MS Teams protocol and PSIF Code of Conduct with the members (it was shared visually for all the members to see). She informed them that the meetings are recorded for reference and Minute-taking purposes and asked them to mute their microphones and videos unless they are speaking. She also explained to them how to raise their hands on MS Teams and add their comments or questions in the chat box as it is a virtual platform and a first for many. She also confirmed that there was a quorum present and that the meeting can continue.

5. Apologies

The following apologies were tendered

- Cllr Nora Grose
- Ms Marga Goss
- Mr Mahesh Valaitham
- Mr Peter Browne
- Mr Peter Scott
- Mr Nick and Mrs Anne Lee
- Mr Nardus Cronje
- Ms Kim Kline

6. Acceptance of the Minutes of the previous meeting of 30 September 2021

The following changes were noted:

Page 9, **endearing** support to be changed to **enduring** support. Also on page 9, the following sentence to be amended; she is willing to continue **as** and **not if**, the PSIF Chairperson.

The Minutes of the September 2021 meeting were approved by Mr. Mack and seconded by Mr. Naylor with discussed changes.

7. Matters arising from the previous meeting

There were no matters arising from the previous meeting.

7.1 Action list (see updated Action Item list at end of Agenda)

Items 2 and 3 will be addressed during the meeting and will be removed from the list.

7.2 Action item – The total population in the 5km radius of Koeberg, was presented by Ms Annelise du Bruin - City of Cape Town Urban Growth Management Department.

Question by Mr Mayhew

Mr Mayhew enquired when last a full evacuation drill/exercise was performed at Koeberg especially with all the changes to the roads and infrastructure.

Response by Mr Bester

Mr Bester explained that nowhere in the world are actual evacuation exercises performed. It is simulated and modelled through inputs and analysis to avoid placing people's lives at risk. He informed the members that years ago, they did a drill with a sample of people with prior arrangement, to determine the availability of busses, but it did not entail evacuating masses of people from their homes and various places such as malls, schools, etc.

Response by Ms Thomas

Ms Thomas explained that from the City of Cape Town Disaster Risk Management they have not conducted an actual evacuation drill for the past two years due to COVID-19, but they have simulated their procedures and in simulating their procedures they have identified gaps that they are in the process of addressing and closing.

Question by Mr Slabbert

Mr Slabbert enquired when last the Traffic Evacuation Model (TEM) was run and if they are still able to meet the times for the PAZ and UPZ. He also enquired whether the Emergency Plan caters for situations such as high COVID incidents in an area that needs to be evacuated.

Response by Ms Thomas

Ms Thomas explained that the Traffic Evacuation Model (TEM) is run on regular basis. When applications are received, they must check that the development falls within the required evacuation times that has been set by the NNR which is 4 hours for the 5 km zone and 16 hours for the 16km zone.

Ms Thomas informed Mr Slabbert that the National Nuclear Regulator (NNR) posed the question to the City of Cape Town when the pandemic hit, as to whether they will be able to safely evacuate people during the pandemic. She explained that the City of Cape Town confirmed that they are able to do so.

Question by Mr Becker

Mr Becker enquired whether the City of Cape Town has documentation available to the public that can support their response about their ability to evacuate residents during COVID-19 as per their updated plan.

Response by Ms Thomas

Ms Thomas explained that nothing has been published as their plans are semi-restricted and confidential, but a written notice of the actions has been sent to the NNR.

Response by Mr Bester

Mr Bester informed the members that during the last NNR exercise they tested the readiness for COVID-19 and although actions were implemented, it was not properly documented, which formed part of the close-out actions of the previous NNR exercise.

Question by Ms Andrews

Ms Andrews informed the members that she is representing Early Childhood Development Centres in Atlantis and relayed their struggle with land use applications and her fear that many of the ECDs in Atlantis are not on the radar of the City of Cape Town. She raised a concern as to how they will handle creches that have not gone through the land use application process, in case of an emergency at Koeberg.

Response by Ms Thomas

Ms Thomas explained that the City of Cape Town has a list of registered and unregistered Early Childhood Development Centres (ECDs) in Atlantis, and that the city has done quite a lot of work in educating them with regards to the evacuation process especially since they fall within the 16km radius of Koeberg. She also explained that during the last three years they have worked with approximately 60 creches, doing training and conducting community-based risk assessments where these crèches had to come up with their own Emergency Plan which informs them how to evacuate in case of a disaster. Many of these ECDs also form part of forums through which the City of Cape Town work. Training is also provided via these forums. She invited ECDs to channel their requests through these established forums and if they are not

part of these fora and have not done the training, they can contact the City of Cape Town for their needs.

8. Koeberg Nuclear Power Station quarterly feedback: Mr. Riedewaan Bakardien – Chief Nuclear Officer (CNO)

Question by Mr Mayhew

Mr. Mayhew enquired about when the spent fuel casks will be moved to a permanent storage facility and whether it can be recycled. His second question related to the WANO outstanding findings and whether it has been addressed. His third concern is about sabotage and what the security plan is to safeguard the plant from possible sabotage.

Response by Mr Bakardien

Mr Bakardien explained that the National Radioactive Waste Disposal Institute (NWRDI) has been established to provide long-term radioactive waste storage and disposal solutions. They are in the process of setting up a long-term storage facility, which should be in place between 2025 and 2030. Currently an arrangement is in place to store the spent fuel in casks at Koeberg until the facility becomes available. He further explained that currently it is not a viable or a feasible option for the fuel to be reprocessed with only one nuclear plant in Africa and that it would require extensive measures for the fuel to be shipped overseas for processing, it will also require for the plant to be modified so that it can then use reprocessed fuel.

He explained that the WANO issues/areas of improvements are new and that they will be addressed before the next review. He also explained that there are extensive security measures in place, overseen by the National Nuclear Regulator, to mitigate the risk of sabotage.

Comment by Mr Goss

Mr Goss congratulated Mr Featherstone on the detailed response to the relay failure and Mr Bakardien for the running of a well-managed nuclear power station and he also commended him for the way, he responded to the questions posed by the media during his Cape Talk interview. He suggested that Talk media be invited to Koeberg so that many of the misperceptions can be addressed and they can be exposed to a nuclear power station and educated on nuclear.

Question by Mr Iosiphakis

Mr Iosiphakis enquired why the relay issue was called a relay problem when the relay didn't have a problem and whether there was something else that caused the relay not to operate.

Response by Mr Ryland

He explained that it is regarded as a relay problem because during the investigation the relay was found in the failure state position which confirmed that it was the reason for the trip. They performed a functional test to determine the repeatability and check the relay and found that it operated thereafter, and that's why the decision to send it to the Original Equipment Manufacturer (OEM) for further analysis.

Question by Mr Becker

Mr. Becker explained that his understanding as per the presentation is that the annual releases of radio nuclides are provided but it is a different picture if all of data are released on one day or an equal amount every day of the year. He enquired whether the data on the daily releases could be shared/communicated. He also enquired what the problem was with the filter in the airborne contamination incident because as per his understanding the filter system is currently not functioning.

Response by Mr Jeannes

Mr Jeannes explained that there are two types of releases, one type which are batch releases which when the tank is full you would then mix the tank, analyses the tank and if the radioactivity is reasonably low you would release the tank. The second type is for continuously releases, for which they have continuous radiation monitoring in place, if the radioactivity is too high, the plant will either automatically terminate the release or divert the release through filters or via other control means. He explained that there is a lot of data available of what is released via each tank and what is released on a continuous release basis, which involves huge volumes of data.

Response by Ms Stephanus

Relating to the question about the airborne contamination incident, Ms Stephanus, the Koeberg Independent Safety Evaluation Manager who is heading up the investigation, explained that the investigation is currently underway and that it will be concluded by the end of December 2022. She explained that it is a bit premature to share any information at this point until the investigation has been concluded.

Comment by Mr Bakardien

Mr Bakardien suggested that he will include information pertaining to the investigation in the quarterly feedback presentation at the next PSIF meeting.

Question by Mr. Becker

Mr Becker enquired whether the filter system is currently non-functional (pertaining to the airborne contamination incident).

Response by Mr Bakardien

Mr. Bakardien responded that the filter system is fully functional. The test was concluded, and the filter was found to be effective.

9. General**Question by Mr Mallison**

Mr Mallison enquired how Koeberg could procure new steam generators for their life extension when they haven't yet received a 'permit' from the National Nuclear Regulator (NNR) to run their plant post 2024 which seems like a cart before the horse situation. He asked whether they were expecting a rubber stamp or whether they are holding thumbs for a positive outcome.

Response by Mr Bakardien

Mr Bakardien explained that the Steam Generator Replacement (SGR) is not necessarily linked to long term operation. The SGR contract was placed in 2014 whilst preparation started way before then. At the time there was concerns that the current steam generators will not be able to run until 2024 and therefore the intent was to replace it at the earliest opportunity as there are

benefits from the early replacement. The current steam generators create an additional burden on the power station as their inspections lead to longer outages which involves additional maintenance and costs. He explained that the application for long term operation is not a rubber stamp exercise, as it goes through a rigorous approval process, and Eskom needs to prove that all current and future safety requirements have been met to the satisfaction of the NNR.

Question by Mr Mallison

Mr Mallison enquired whether there is a possibility, be it small, that the new steam generators could become stranded assets.

Response by Mr. Bakardien

Mr Bakardien explained that many power stations of Koeberg's design have been able to safely extend to 60 years or more of operation. Eskom therefore has a high degree of confidence that we can present a safety case that will be acceptable to the National Nuclear Regulator, demonstrating that Koeberg can operate safely for an extended period.

Question Ms Pekeur

Ms Pekeur enquired about the likelihood of a reactor trip reoccurring and what back-up plans are in place in case it happens again. She referred to the earthquake that occurred recently and expressed concern if it were to happen at Koeberg and the devastation it could cause. She also enquired about the decommissioning of Koeberg because based on her knowledge it was planned for 2022 and now, they are talking about extending the life of the plant. Her concern was about the high-level waste and the impact of a disaster to the neighboring communities such as Atlantis.

Response by Mr Featherstone

Mr Featherstone responded that due to time constraints and the question being broad, it requires time to respond which merits a presentation, he suggested that it be added as an Agenda topic for a future PSIF meeting. This will involve showcasing how Koeberg is designed to withstand earthquakes, and how the design and regulatory requirements ensure the plant is maintained and operated in a manner that ensures the safety of the public and the environment.

Question by Mr Naylor

Mr Naylor enquired about the percentage of electricity that Koeberg contributes to the national grid. He also enquired on the total number of power stations that are involved in the WANO peer review.

Response by Mr Phidza

Mr Phidza explained that Koeberg produces about 4.4 percent of the total output of Eskom's electricity supply.

Response by Mr Bakardien

Mr Bakardien responded that all power stations, which amounts to 442 operating units, are reviewed by WANO on a routine basis and WANO also has oversight over all of them.

Question by Mr Mallison

Mr Mallison enquired whether Koeberg can afford the downtime for the installation of the new steam generators given the tight time constraints.

Response by Mr Featherstone

Mr Featherstone explained that we have the new steam generators on site, and that Eskom has looked at the energy capacity forecast and have agreed to the outage window in which to install the steam generators.

Comment by Mr Becker

Mr Becker suggested that we either extend the PSIF meeting times or have more frequent meetings as we don't manage to get through the agenda or manage to answer all the questions.

Response by the PSIF Chairperson

Ms La Grange confirmed that it will be considered once discussions have been held with the Koeberg Management team in terms of what is more practical.

10. Proposed Agenda items for the next PSIF meeting

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

- Koeberg Quarterly Feedback
- Long Term Operation (LTO) update
- NNR feedback: i) New PSIF Chairperson appointment
ii) NNR exercise feedback
- The Koeberg Emergency Plan Overview (tentative)

Proposed PSIF topics (future meetings)

- Koeberg safety
- NRWDI update

11. Date of next meeting

The next PSIF meeting will be held virtually, via MS Teams, on Thursday, 31 March 2022.

12. Closure

The Chairperson thanked everyone for their attendance at the November 2021 PSIF meeting and encouraged the members to RSVP their attendance to the 31 March 2022 PSIF, to Debbie Joshua, at their earliest convenience, but no later than a week before the next meeting. She wished all attendees a safe and merry Christmas and a happy new year.

The meeting was concluded at 21:14.

PSIF Action item list

No.	Action	Raised by	Action owner	Status (25 November 2021)
1.	Emergency Plan Calendar 2022 progress update.	Mr Goss	Mr Phidza	Calendars planned to be distributed from December 2021 and by end January 2022 all residents in the 16km should have their calendars. Those who did not receive a calendar, to notify Stakeholder Management.
2.	Question on the ephemeral water pan	Mr Naylor	Ms Jurina Le Roux	There is no link with the Koeberg Nature Reserve. However, Ms Le Roux has contacted the CCT to understand what is going on. Ms Le Roux to provide feedback to Mr Naylor outside the meeting. Item closed - to be removed from list
3.	Total population in the 5km radius of Koeberg	Mr Naylor	City of Cape Town	Ms Annelise du Bruin from the City of Cape Town, Urban Growth Management Department, did a presentation on the topic. Item closed - to be removed from list
4.	Update on the opening of the Koeberg Nature Reserve	Mr Naylor	Mr Bakardien	Mr Bakardien explained that it is not related to the operation of the power station but there is an environmental issue that needs to be addressed before the reserve can be re-opened. Included in Quarterly Feedback presentation – keep on list