

Koeberg Public Safety Information Forum (PSIF) Minutes of the meeting held on Thursday, 1 December 2022

Venue: Koeberg Visitors Centre (in-person)

Chairperson: Ms Smokie La Grange

Deputy Chairperson: Cyril Mack (absent)

Name and Surname	Organisation	Present
Abrahall, Tony	Resident	P
Barry, Austin	Resident	P
Beyl, Trudy	Resident	A
Becker, Peter	Koeberg Alert Alliance	A
Bellinger, Sue	Resident	A
Bennet, George	Resident	A
Booysen, Jeffry	Resident	P
Browne, Peter	Resident	P
Davidson, Donald	Resident	P
De Roy, John	Resident	Apologies
Du Plessis, Austin	Cycling South Africa	P
Estherhuyse, Freda	Resident	P
Gorgens, Deon	Resident	P
Goss, Clive	Resident	Apologies
Harrison, Douglas	Resident	P
losiphakis, John	Resident	A
Jones, John and Anneke	Resident	P
Kolesky, Craig	Resident	A
La Grange, Duval	Resident	P
Le Roux, Adrian	Resident	P
Lee, Nick	Resident	P
Lee, Anne	Resident	Apologies
Mayhew, Robert	Resident	Р
Mayhew, Sylvia	Resident	Р
Mallison, Clyde	Resident	А
Mayers, Dr Nadine	Resident	Р
Mayers, Paul	Resident	Р
McDaid, Liz	Resident	Apologies
Meyer, Carola	Resident	А
Mutangadura, Tapiwa	Resident	Р
Naylor, Paul	Resident	Apologies
Naidoo Andre	Resident	Р
Nel, Andrea	Resident	P
Orlik Ryszard	Resident	Apologies
Pannaye, Angelique	Resident	Apologies
Pannaye, Eric	Resident	Apologies
Petersen, Lydia	Resident	Р
Dr Reutener, Marcelle	Resident	P
Scott, Peter	Resident	P
Slabbert, Johan	Resident	A
Terblanche, Jurgen	Resident	P

OFFICIALS			
Bester, Peter	National Nuclear Regulator	Р	
Bele, Joyce	Eskom Koeberg	Р	
Bruiners, Rodger	National Nuclear Regulator	А	
Coetzee, Ubert	National Nuclear Regulator	А	
Cronje, Nardus	Eskom Koeberg	Apologies	
Ditlhake, Kentse	Eskom Koeberg	А	
Ellis, Frikkie	Eskom Koeberg	Р	
Featherstone, Keith	Eskom Koeberg	Apologies	
Flatela, Mvola	Eskom Koeberg	Р	
Franco, Johannes	City of Cape Town	Р	
Jeannes, Deon	Eskom Koeberg	Р	
Joshua, Debbie	Eskom Koeberg	Р	
Julius, Graham	Eskom Koeberg	A	
Kana, Thando	Eskom Koeberg	Р	
Lenders, Ricky	City of Cape Town – Disaster Risk Management	А	
Le Roux, Jurina	Eskom Koeberg	Р	
Mack, Cyril	PSIF Deputy Chairperson	Apologies	
Mashele, Bravance	Eskom Koeberg	А	
Maree, Marc	Eskom Koeberg	Apologies	
Maree, Vanessa	National Nuclear Regulator	А	
Minnie, Johan	City of Cape Town	Р	
Moonsamy, Gino	National Nuclear Regulator	Apologies	
Ntutha, Ntsiki	City of Cape Town	A	
Ncuru, Anele	Eskom Koeberg	A	
Paul, Vernon	Eskom Koeberg	Р	
Phidza, Lewis	Eskom Koeberg	Р	
Powell, Charlotte	City of Cape Town	A	
Ramerafe, Mothusi	National Nuclear Regulator	Apologies	
Silinga, Nangamso	National Nuclear Regulator	Р	
Stephanus, Aminah	Eskom Koeberg	Р	
Swart, Paul Cllr	Ward Counsellor (DA)	Apologies	
Touffie, Sadika	Eskom Koeberg	Р	
Thomas, Mandy	City of Cape Town	Р	
Van Rensburg, Stephen	City of Cape Town	Р	
Valaitham, Mahesh	Eskom Koeberg	Р	



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	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	Hazmat	Hazardous material



1. Welcome

The Chairperson, Ms Smokie La Grange, welcomed everyone to the December 2022 Public Safety Information Forum (PSIF) meeting. She introduced herself to the new members. She explained that she's an unpaid volunteer and not employed by either the Koeberg Nuclear Power Station or the National Nuclear Regulator. She confirmed that a quorum was present as per the Koeberg PSIF Constitution (*a quorum constitutes of the Chairperson and four members of the public*).

2. Safety briefing

Ms Fifi Meyer, Head of the Koeberg Visitors Centre did the safety briefing informing the PSIF members of the safety protocols for the Visitors Centre including the emergency alarms and what each tone sound like and what it signals.

3. MS Teams meeting protocol and PSIF Code of Conduct

The chairperson took the members through the PSIF protocol and PSIF Code of Conduct. She informed them that the meetings are recorded for reference and minute-taking purposes.

Ms La Grange clarified a question posed to her earlier about the taking of photographs. She indicated that there is a Koeberg authorised photographer who will be taking photos of the meeting and that no other person of the public are allowed to take photos.

4. Apologies

The following apologies were tendered

- Mr Marc Maree
- Mr Clive and Marga Goss
- Mr Steven van Rensburg
- Mr Keith Featherstone
- Ms Trudy Beyl
- Mr Paul Naylor
- Ms Jenny McKinnell
- Mr Ryszard Orlik
- Mr Gino Moonsamy
- Mr Peter Bester
- Mr Mothusi Ramerafe
- Mr John de Roy
- Ms Liz McDaid
- Cllr Paul Swart
- Mrs Anne Lee
- 5. Acceptance of the Minutes of the previous meeting of 30 September 2022 The Minutes of the 30 September 2022 meeting were approved by Mr Mayhew and seconded by Mr Harrison.



5.1 Action list review – 30 September 2022 (see updated Action Item list at end of Agenda)

Action item 1: Frequency and duration of the PSIF meetings

Mr Frikkie Ellis addressed the action item and responded that it has been monitored during the last three meetings and for all three meetings we have been able to manage the Agenda and have been concluding the meetings on time. He then proposed that the item be removed.

Comment by Mr Harrison

Mr Harrison proposed that a hybrid solution be considered for future PSIF meetings especially now that we have resumed the in-person meetings, especially for those who travel from far and who might get stuck in traffic and not able to make the in-person meeting on time.

Action item 2: Opening of the Nature Reserve

He confirmed that it was stated in the Minutes of the meeting that the City of Cape Town has been busy with renovations on the dams in the reserve and that work has been in place to repair the roads etc. He confirmed that all the work by the City of Cape Town has been concluded and the road have been repaired and that it is ready to be opened but due to operational challenges it has to remain closed until all the issues has been dealt with. He invited the public's input into how to handle the permit system to allow access which will be discussed under General.

Comment by Mr Valaitham

Mr Valaitham (Acting Power Station General Manager) informed the members that as the Power Station Manager, he is under huge pressure from the members of the public to open the Koeberg Nature Reserve. He confirmed that it is not only from the public as he is also receiving pressure from his own family as is the case with many of the Koeberg staff especially since the Koeberg staff are allowed to visit the reserve, however their families are not allowed to visit.

6. Presentations:

6.1. Koeberg quarterly feedback - Mr Mahesh Valaitham Koeberg Power Station General Manager (Acting)

Mr Valaitham informed the members that Mr Frikkie Ellis has taken over the role of Acting Senior Manager, Strategy and Regulation the role Keith Featherstone used to perform. Mr Valaitham also introduced Mr Sadika Touffie who is currently acting in the role of Chief Nuclear Officer, (the position Mr Featherstone is currently performing), in Mr Featherstone's absence.

He informed the members that he is the Acting Power Station General Manager (since July 2022) and has been at Koeberg Nuclear Power station for 27 years (since 1995). He has worked in various Departments at Koeberg where he fulfilled various roles.

Question by Mr Mayhew

Mr Mayhew enquired where the waste will be stored that is generated from Koeberg since the fuel pool is full. He also enquired whether the steam generator that will be removed from the containment building is radioactive.

Response by Mr Valaitham

Mr Valaitham informed Mr Mayhew that the steam generator that will be taken from the containment building, will be highly radioactive. He informed Mr Mayhew that the waste part of his question will be answered by the presentation that will be delivered by Ms Matse Makhothe on the Fuel Management Strategy, that is on the Agenda.

Question by Ms Lydia Petersen

Ms Petersen enquired whether the Original Steam Generator Interim Storage Facility (OSGISF) is the building where the old steam generators that will be replaced, will be stored, and whether there is a building where the new steam generators (SGs) will be housed and whether both licenses have been issued for both buildings.

Response by Mr Valaitham

Mr Valaitham confirmed that the OSGISF is the building where the original steam generators will be stored and also that there is a building where the new steam generators are housed. He confirmed that both licenses for both buildings have already been obtained.

Question by Mr Harrison

Enquired about the amount of background radiation that will be added by the Steam Generators that have been removed and what the percentage background radiation will be added at the OSGISF attributed to the original steam generators that will be stored there.

Response by Mr Ellis

Mr Ellis explained that the OSGISF is in close proximity to Koeberg's Low Level Waste building which already adds to the background radiation, which is being monitored. The OSGISF has thick concrete walls to ensure the the area surrounding and above that the radiation levels conform to acceptable limits. Studies are however conducted and there are huge shields in front of the building as was shown in the slides which confirms that the radiation levels are within the acceptable limits as set by the National Nuclear Regulator (NNR).

Question by Mr Mayhew

Mr Mayhew enquired about the duration in which the Steam Generators (SGs) will be stored in the OSGISF. He also enquired about how the Steam Generator become contaminated.

Response by Mr Ellis

Mr Ellis explained that it will be stored for 10 years. He further explained that the SGs become contaminated due contaminants (radionuclides) that is present in the primary water which is circulating through the steam generator tubes on the inside, on the outside it is the water that is turned to steam which is clean water.

Response from Mr Valaitham

Mr Valaitham further explained that when you have water on the outside that shields you from the radioactivity that is present on the inside of the steam generator tubes. When the water is drained and you stand next to the steam generators, you will pick up radiation (dose) because of the radioactivity inside the tubes due to the contaminants inside the primary water that flows through the inside of the SG tubes. That's why the thick walls that covers the SGs to protect staff and the public.

Question by member of the public

Enquired whether the Original Steam Generator Interim Storage Facility (OSGISF) is situated inside the nuclear plant perimeter or within the nature reserve.

Response by Mr Valaitham

Mr Valaitham explained that the OSGISF is within the nuclear plant perimeter, next to the Low-Level Waste building.

Question by Ms Petersen

The member enquired what happens after 10 years of storage in the Original Steam Generator Interim Storage Facility (OSGISF).

Response by Mr Ellis

Mr Ellis explained that the Vaalputs Waste Disposal Facility is ultimately where all nuclear waste will be stored. He further explained that work and negotiations is still underway to ensure that the waste is in an acceptable condition to be received and accepted at Vaalputs.

Question by Ms Petersen

Ms Petersen explained that her understanding is that Vaalputs have been licensed for only low and intermediate level waste and whether there is a plan to license Vaalputs for high level waste.

Response by Mr Ellis

Mr Ellis confirmed that it is the intention of the National Radwaste Institute.

Response by Mr van Schalkwyk

Mr Van Schalkwyk explained that he was involved in the 2nd spent fuel re-racking project where they've increased the fuel capacity of the fuel pools. He explained that the fuel was stored inside the racks and that it was 'cleaned' and that they ensured that it was at an acceptable level before it was sent to Vaalputs for storage. He explained that it depends on the levels of radiation that will determine how it will be stored/buried at Vaalputs.

Response by Mr Valaitham

Mr Valaitham explained that it depends on how it is classified, whether low or intermediate, before it is transported to Vaalputs. He further explained that there is a lot of steps that must be taken before it can be stored at Vaalputs.

Question by Mr Mayhew

Mr Mayhew enquired what the steam generators are classification as.

Response by Mr Valaitham

Mr Valaitham explained that it is classified as intermediate level waste as nuclear fuel is classified as high-level waste.



6.2 Management of Civil Structures – Mr Emuel Venter, Koeberg Civil Structural Engineer

Mr Valaitham introduced Mr Emuel Venter as the Civil Structural Engineer at Koeberg, legally responsible and accountable for all the civil structures on site from a design and systems engineering point of view.

Question by Mr Mayhew

Mr Mayhew enquired whether concrete and steel has different values during contraction and expansion.

Response by Mr Venter

Mr Venter explained that reinforced steel and concrete has a very similar thermal expansion coeffient and they expand more or less at the same rate. He explained further that if you have differential movement (one moving at a different rate as the other) it causes stresses inside the concrete and that would cause fatigue inside your concrete structure which will induce cracks which is not the case with reinforced concrete.

Comment by Mr Mayhew

Mr Mayhew commented on the mock-up of the containment structure that is displayed in the Visitors Centre exhibition area that is worth viewing as it provides a view of how the containment building is constructed on the inside.

Response by Mr Venter

Mr Venter explained that the containment structure has thickening inside the structure around the building which has 216 cables tensioned inside the structure, each with a force of approximately 120 tonnes.

6.3 Fuel Management Strategy – by Ms Kelebohile Makhothe, Corporate Specialist Nuclear Fuel Engineering

Question by Ms Petersen

Ms Petersen expressed her new appreciation with what is being done at Koeberg after the presentation that was conducted by Ms Makhote. She enquired about the capacity of the dry-storage casks because as is her understanding, during 2020 the re-racking of the fuel pools stopped, and the spent fuel was stored by other means. She expressed her concern at the amount of waste Koeberg has and the time it will take to store the fuel in the casks and the number of casks that still needs to be procured and if it will be enough considering the extension of the life of Koeberg for an additional 20 years.

Response by Ms Makhote

Ms Makhote explained that the re-racking to maximise the capacity of the fuel pools started in 2000 already and the pools are currently at capacity with no additional space. The capacity of the casks that they have currently can fit 32 fuel assemblies multiplied by 16 casks and add to it another 11 casks. For long-term operation they are looking at 30 to 40 metal casks, this is assuming a certain capacity, as there are casks that can take up to 68 fuel assemblies or others with a capacity to store 24 fuel assemblies - it depends on what has been approved at a particular phase.

Comment by Mr Valaitham

Mr Valaitham explained to the members that if you visit some of the United States power plants, you will find that they have a high-level fuel storage facility that is out in the open and you have fuel casks out in the open. This is due to having reached their maximum capacity in their fuel pools. He explained that when it comes to long term operation, Koeberg applied for an additional 20 years of operation, however, some of the plants apply for 80 years which relates to the maximum capacity of their fuel in casks stored on the outside. He gave the example of Comanche Peak Power Station in Texas, where the fuel is stored in fuel casks outside in the open.

Question by Mr Mayhew

Mr Mayhew enquired about the Cask Building and when the waste that is stored in the building will be removed and stored at Vaalputs and what the progress is on this. He emphasised that it is a question that he keeps on asking and he hasn't received a satisfactory answer to date.

Response by the Chairperson

The chairperson confirmed that his question will be addressed in the March PSIF.

Question by Mr Harrison

Mr Harrison enquired about the amount of waste in tonnage that is stored at Koeberg, how the waste arrives at Koeberg and how it is loaded in the reactor and how many is loaded.

Response by Ms Kana

Ms Kana introduced herself as the Reactor Fuel Engineering Manager at Koeberg. She explained that they use two fuel suppliers at Koeberg, the French and the Swedes. She further explained that they replace one third of the old fuel with new fuel which amounts to a maximum of 60 fuel assemblies in Unit 1 and about 56 fuel elements in Unit 2, of the fresh fuel. It is an elaborate process which involves security and the City of Cape Town Emergency Services and other key stakeholders. She explained that it is not highly publicised as it is not a public matter as it relates to Koeberg fuel movement which is a sensitive issue. She further explained that there are highly trained individuals at Koeberg that deals with the fuel and that it is part of their licence to move fuel from the reactor to the fuel pools so there is enough space to unload and load the reactor core.

7.General

The Chairperson read the questions sent via email by Ms Liz McDaid in her absence under General as requested. Her questions were as follows:

When will the NNR Exercise report will be finalised? Response by the NNR Ms Silinga

Ms Silinga explained that the report will be discussed in the March 2023 PSIF meeting.



Will the report be publicised?

Response by Ms Silinga:

Ms Silinga explained that it will be discussed in the March PSIF

What actions are being taken to assure public safety? Comment by the City of Cape Town

The City of Cape Town representative felt that the question was very vague and requires clarification.

Response by Ms La Grange

The chairperson confirmed that she will ensure the question is clarified in the March PSIF by Ms McDaid.

Question by the Cyclists

The cyclist enquired when the Koeberg Nature Reserve will be opened to the public.

Response by Mr Ellis

Mr Ellis acknowledged that he saw the proposal from the cyclists and their suggestions looks good. They are currently considering the permit process for entry to the reserve, as stricter measures will have to be implemented when the reserve is reopened. He explained that in the interim discussions will be taking place until an agreement can be reached.

Comment by Mr van Schalkwyk

Mr van Schalkwyk explained that they have a lot of pressure to open the reserve however they have a responsibility to the nuclear power station to keep it safe as that is their primary responsibility and mandate. He explained that once they have the necessary controls and processes in place, they will consider the reopening of the reserve however, once opened the nature reserve might have to be closed from time to time due to operational reasons.

Comment by Mr Lee

Mr Lee thanked the National Nuclear Regulator (NNR) for finally removing the tattered signage at the NNR building on Atlantic Drive.

Comment by Ms Mayers

Ms Mayers expressed concern as a resident of Melkbosstrand following the City of Cape Town's Spatial Development Plan relating to the densification, intensification and commercialisation of Melkbosstrand which has been approved by the Mayor. She also expressed concern about the deviations on the extensions of properties which will double the population in the area, one being at the end of her street. She wanted to know if the spatial development plan had been discussed in the PSIF and whether Koeberg has been approached and given permission for the Spatial Development Plan and for the approved developments. She was especially concerned about the imminent developments that they would like to stop before end of February in Beach Rd and 10th avenue.

Response by Ms La Grange

The chairperson confirmed that she will discuss the matter with the relevant Koeberg roleplayers and provide feedback to the member.

Question by a PSIF member

The member acknowledged that Koeberg Nature Reserve is a private Nature Reserve but would appreciate if they can give a date by when the Nature Reserve will be re-opened.

Comment by Ms La Grange

Ms La Grange informed the members that the Calendars will be distributed within the next two weeks and continue until the end of January 2023, as per communication from Mr Phidza. She explained that the electronic copies will be sent to the members in the interim. She informed the members that if they have not received a Calendar by the end of January, they are to inform herself or Debbie Joshua, so arrangements can be made for them to receive it. She expressed her disappointment that it has not been distributed by end December as was promised.

8. Proposed Agenda items for the next meeting

- Koeberg Quarterly Feedback (focus on the Outage update)
- Management of waste at Koeberg
- NNR Exercise feedback

9. Date of next meeting

The next PSIF meeting will held on Thursday, 30 March 2023.

10. Closing

The PSIF Chairperson thanked everyone for attending the Public Safety Information Forum. The meeting was adjourned at 21:30.



PSIF Action item list – after meeting of 1 December 2022

No.	Action	Raised by	Comment
1	Increasing the frequency of the PSIF meetings	Mr Naylor	Item to be removed as it is no longer a valid concern after the last three meetings ended on time with all the Agenda items covered.
2	Re-opening of the Koeberg Nature Reserve	Mr Naylor	Due to operational reasons and access issues that need to be resolved, the reserve will remain closed. Item to remain open.
3.	Proposal for run a hybrid PSIF for future meetings especially for people travelling from afar.	Mr Harrison	The proposal will be discussed with the PSIF Chair and relevant Eskom management and the decision shared at the next PSIF meeting.