

Koeberg Public Safety Information Forum (PSIF)

Minutes of the meeting held on 31 March 2016

Venue: Visitors Centre, Koeberg Nuclear Power Station

Chairperson: Mr Keith Featherstone

Deputy Chairperson: VACANT

Name and Surname	Organisation	Present
Alhadeff, Leon	Resident	P
Arbuckle, Graham	Resident	
Anderson, Melville	Resident	
Beyl, Trudy	Resident	P
Boulanger, Catherine	Resident	
Browne, Peter	Resident	P
Clark, John	Resident	
Cupido, Dimitri	Resident	P
Desjardins, Peter	Resident	
Duval, Monique	Tygerburger	P
La Grange, Smokie	Resident	P
La Grange, Duval	Resident	P
Esau, Phillip	Resident	
Madima, Tenda	Resident	P
Mayhew, Robert	Resident	P
Mayhew, Sylvia	Resident	P
Maigrot, H (Mr)	Resident	
Maigrot, ? (Mrs)	Resident	
Meyrick, MAC	Resident	
Nagan, Roy	Resident	
Oosthuizen, Liza	Resident	
Pannaye, Angelique	Resident	
Pistorius, Hendrik	Resident	
Potgieter, L	Resident	
Saayman, Desmond	Resident	
Slabbert J	Resident	
Sibanda, Sabelo	Resident	P
Speed, Belinda	Resident	P
Speed, Kenneth	Resident	
Taylor John	Melkbosstrand Neighbourhood Watch	
Watney, Tertius	Resident	
Weaver, Z	Resident	
OFFICIALS		
Bakardien, Riedewaan	Eskom Koeberg Operating Unit	
Bruiners, Rodger	National Nuclear Regulator	P
De Wet, Joy	Eskom Koeberg Operating Unit	
Dyabaza, Jongi	Eskom Koeberg Operating Unit	
Engel, Kevin	Eskom Koeberg Operating Unit	P
Franco, Johannes	Disaster Risk Management Centre	P
Joshua, Debbie	Eskom Koeberg Operating Unit	P
Makgae, Reuben	National Nuclear Regulator	P
Matlala, Obakeng	Department of Energy	P
Mogorosi, Tshepiso	National Nuclear Regulator	
Moonsamy, Gino	National Nuclear Regulator	
Nicholls, Dave	Eskom Koeberg Operating Unit	P

Ndomondo, Thembi	Department of Energy	P
Pakhothe, K	Eskom Koeberg Operating Unit	P
Potgieter, Luka	Eskom Koeberg Operating Unit	P
Phidza, Lewis	Eskom Koeberg Operating Unit	P
Pienaar, Shaun	Eskom Koeberg Operating Unit	P
Pillay, Greg	City of Cape Town	P
Sataar, Haaroen	Eskom Koeberg Operating Unit	P
Silinga, Nangamso	National Nuclear Regulator	P
Steyn, Elmiën	City of Cape Town	P
Van Rensburg, Stephen	City of Cape Town	

Abbreviation/definition list

Abbreviation	Description	Abbreviation	Description
KNPS	Koeberg Nuclear Power Station	CoCT	City of Cape Town
KOU	Koeberg Operating Unit	IAEA	International Atomic Energy Agency
NNR	National Nuclear Regulator	DOC	Disaster Operations Centre
KPSIF	Koeberg Public Safety Information Forum	SABC	South African Broadcasting Corporation
ISO	International Standards Organisation	mSv (millisievert)	The millisievert (mSv) is a measure of the absorption of ionising radiation by the human body.
PSM	Power Station Manager	EP	Emergency Plan
SAPS	South African Police Service	UPZ	Urgent Protective Action Planning Zone
MW	Megawatts. A unit of measure - one megawatt is equal to one million watts.	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.
ECC	Emergency Control 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.
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.	Plant	Nuclear power station with associated components, machinery, equipment or devices
PAZ	Precautionary Action Zone	National Electricity Grid	The network of high-voltage power lines fed by the various power stations, which supplies electricity to the country.
LTI	Lost Time Injury	WANO	World Association of Nuclear Operators
NSRB	Nuclear Safety Review Board	Radiation	Energy released in the form of particles or electromagnetic waves during the breakdown of radioactive atoms.
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.	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.

EIA	Environmental Impact Assessment		
Release	The controlled or accidental discharge of radioactive substances into the environment.	EMP	Environmental Management Plan
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
FCs	Functional Coordinators	EPSOC	Emergency Planning Steering and Oversight Committee
TEM	Traffic Evacuation Model	SAMGs	Severe Accident Management Guidelines
EPZ	Emergency Planning Zone	UPZ	Urgent Protective Action Zone
SHEQ	Safety Health Environment and Quality	KCWIB	Koeberg Cooling Water Intake Basin
Outage	Refers to the maintenance period on a power plant when a number of activities are performed on equipment that keeps the plant running.	FME	Foreign Material Exclusion
NOSA	National Occupational Safety Association	NOSCAR	The grading of NOSA for safety performance.
UAG	Unplanned Automatic Grid Separation	NERSA	National Energy Regulator of South Africa
SSA	Sea Shore Act	NSRB	Nuclear Safety Review Board
CCGT	Closed Cycle Gas Turbine	Hazmat	Hazardous material
IPP	Independent Power Producer	KEP	Koeberg Emergency Procedure
NECSA	South African Nuclear Energy Corporation SOC Limited	CCGT	Closed Cycle Gas Turbines
WAC	Waste Acceptance Criteria	FA	Fuel Assembly
IPP	Independent Power Producer	CPA	Consumer Protection Act
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

OEM	Original Equipment Manufacturer	AECC	Alternate Emergency Control Centre
DOC	Disaster Operations Centre	TEM	Traffic Evacuation Model
CISF	Centralised Interim Storage Facility	SPF	Spent Fuel Pool
OCA	Owner Controlled Area		

1. Opening and welcome

Mr Phidza and Mr Featherstone welcomed everyone to the PSIF Meeting. Mr Featherstone advised that the Chairperson of the PSIF was unavailable to conduct the meeting of 31 March 2016, due to illness. Mr Featherstone advised that as per the PSIF constitution, any member who is in a position to chair the meeting may do so. The meeting consensus was that Mr Featherstone would chair the meeting.

2. Safety briefing

Mr Phidza conducted the safety evacuation briefing, informing members about the safety protocol of the venue.

3. The following apologies were tendered (31 March 2016)

- Catherine Boulanger
- Riedewaan Bakardien
- Fabian Brandt
- Ben Lewies
- Mr H Maigrot
- Mrs. C Maigrot
- Tshepiso Mogorosi
- Gino Moonsamy
- Nomaphelo Mbana
- Norah Grose
- John Iosiphakis
- Desmond Saayman
- Mothusi Ramerafe
- Ian Trollope
- Stephen Van Rensburg
- Phindile Radebe

4. Matters arising from the previous meeting and minutes

Corrections to the Minutes

- Correction to Section 6.1 of November 2015, Minutes: Mr Featherstone addressed a concern that some of the spent fuel cask information was incorrectly recorded as having being presented in the PSIF. Mr Featherstone confirmed that the information in question was, in fact, shared in the September 2014 meeting by Dr Steph Steyn.
- Mr and Mrs Mayhew incorrectly marked as absent.
- Mr Featherstone incorrectly marked as absent.
- Mr Moonsamy incorrectly marked as present.

Response by Mr Phidza

Mr Phidza noted the comment and responded that Mr Gino Moonsamy was not present in the November 2015 PSIF; however he was represented by two colleagues who were also representing him at the meeting of 31 March 2016.

5. Acceptance of the Minutes of the previous meeting (26 November 2015)

The Minutes were accepted by (Mr Mayhew) and seconded by Mr Peter Browne.

6. Koeberg quarterly feedback - Mr Kevin Engel, Koeberg Plant Manager***First quarter feedback***

Congratulations were extended to Mr Dave Nicholls on his appointment as Chief Nuclear Officer (CNO) of the Koeberg Operating Unit (KOU).

Summary

- Unit 1 has remained at full power for 303 days.
- Unit 2 has been online for 111 days, after completing its refuelling outage on 8 December 2015.
- Both units have been steady with no significant safety or production risk.
- Dose, Station Clock Resets and Forced Loss Rate are good.
- Lost Time Injury Rate is not looking good.
- Next outage – Outage 122 is due to start on 19 September 2016.

Question by Mr Mayhew

Mr Mayhew inquired about the seriousness of the Lost Time Injuries (LTIs) which were presented.

Response by Mr Engel

Mr Engel explained the severity and provided more information about the last three LTIs experienced.

- Stuck lift accident: an individual fell 15 meters down a lift shaft during an incorrectly executed rescue operation, from a stuck lift.
- Hammer accident: a four pound hammer fractured an individual's thumb.
- Falling objects accident: Arc plate fell several meters, split individual's hard hat, and caused damage to the forehead.

Mr Engel advised that although safety has always been a priority at Koeberg, the increase in injuries and severity thereof, has called for an added focus on Zero Harm.

Comment by Mr Mayhew

Mr Mayhew commented that despite efforts, there will always be accidents; what we can do is learn from them.

Response by Mr Engel

Mr Engel added that amongst other things, some of the corrective actions which resulted from the recent injuries are that a risk assessment and response procedure have been compiled for stuck lifts, and staff will receive training on the procedure.

Outage 221 - Performance

- Outage 221 started on 31 August 2015 at 01:45 (24kv breaker opened).
- Outage 221 completed on 8 December 2015 at 11:43 (synchronisation).
- Unit 2 at 100% power on 16 December 2015 at 21:13.
- Actual duration of 99 days and 10 hrs

Bush fires in Koeberg Nature Reserve

- On 16 February 2016 at 12:00 a fire started behind the Bush Pub farm.
- A total area of 640ha of the Koeberg Nature Reserve was burnt. In total the area affected by the fire was over 1800ha.
- 6.14km of fencing due to the galvanising being burnt off the fence. This will result in the fence rusting.
- The cabling on one of the borehole pumps on the waterline road melted and needs replacing.
- In total 640ha of fynbos was burnt. Post-fire invasive species removal is needed in all fire affected areas. The current staff complement cannot clear these areas.
- Snakes and tortoises were burnt during the fire. No large animals were injured.
- Damage to firefighting equipment and mobile equipment. Estimated 2.2km of gravel road has been badly damaged by the heavy articulated vehicles.

Eskom expresses its sincere appreciation to:

- The City of Cape Town - Disaster Risk Management
- Local communities
- Contract fire fighters
- Eskom staff and management

Comment by Mr Engel

Mr Engel added that the fire section in the Emergency Plan will be reviewed to improve its effectiveness, in light of the recent fire event.

Question by PSIF Member

One of the PSIF members enquired whether controlled burning in the nature reserve will be considered.

Response by Mr Featherstone

Mr Featherstone responded that Koeberg does not conduct controlled burning due to safety reasons.

Question by Mr Mayhew

Mr Mayhew inquired whether the fire posed a risk to the Koeberg Power Station.

Response by Mr Engel

Mr Engel responded that the Emergency Response Teams and Centre were activated, and the only real threat was to the transmission lines, which was managed. At no time was there a risk to the Koeberg Power Plant.

7. Spent Fuel Cask Project – Ms Luka Potgieter**Summary**

- Eskom currently has 112 used fuel assemblies in dry storage inside four casks which are stored inside the Cask Storage Building (CSB) on the Koeberg Nuclear Power Station site.
- Koeberg Unit 1 and Unit 2 will have filled its Spent Fuel Pool (SFP) by March 2018 (Outage 123) and September 2018 (Outage 223), respectively.
- Additional storage space will be required to accommodate any further used fuel assemblies generated during production.
- If no additional storage space is created in the SFPs, this would lead to the premature shutting down of Koeberg Units 1 and 2.

Question by Mr Mayhew

Mr Mayhew required clarity as to whether the term “temporary” refers to a time frame of ten years.

Response by Ms Potgieter

Ms Potgieter confirmed this and added that the time frames are in line with international standards.

Response by Mr Nicholls

Mr Nicholls further explained that the intention is to establish a centralised spent fuel storage facility by 2025 - probably at Vaalputs. However this is not yet confirmed.

Question by Mr Mayhew

Mr Mayhew enquired how the casks will be transported.

Response by Ms Potgieter

Ms Potgieter responded that the intended casks will be transportable.

Response by Mr Nicholls

Mr Nicholls responded that the casks will be stripped of external outline, prior to transportation, and this will not be radioactive.

Question by Mr Mayhew

Mr Mayhew enquired whether the spent fuel rods can be sold.

Response by Mr Nicholls

Mr Nicholls responded that this is not a feasible option at the moment given the current economic conditions. He added that we would rather consider reprocessing the spent fuel.

Question by Mr Mayhew

Mr Mayhew expressed concern that it seems the public meetings are a waste of time, as it seems spent fuel casks project is a done deal.

Response by Mr Nicholls

Mr Nicholls responded that as part of the life cycle of a power station. Spent fuel has to be taken care of, using one of the methods. Mr Featherstone added that the EIA public participation meetings are worth it, they were set up to critically look at what is proposed and determine whether it is environmentally viable.

Question by Mr Mayhew

Mr Mayhew inquired whether the government representatives, who granted permission to start the project, were knowledgeable.

Response by Mr Nicholls

Mr Nicholls responded that they were. Mr Nicholls added that everything is done according to international standards - the only unique feature with South Africa is that Eskom convinced the South African Government to have an external storage facility (CISF).

Question by Mrs Mayhew

Mrs Mayhew inquired whether the external storage facility is the safest option.

Response by Mr Nicholls

Mr Nicholls responded that due to the high levels of corrosion experienced at the Koeberg site, Vaalputs is a far better option. Koeberg's goal is to move spent fuel off-site to the Centralised Interim Storage Facility (CISF).

Question by Mr Mayhew

Mr Mayhew inquired whether the CISF project has commenced.

Response by Mr Nicholls

Mr Nicholls clarified that the Radwaste Institute is currently being established. The institute's mandate is to handle all nuclear waste in South Africa, which is currently being handled by NECSA. The current discussion is whether spent fuel is defined as waste or not. These details are currently being looked at and resolved.

Question by Mr Alhadeff

Mr Alhadeff enquired about how safe the surrounding community is, with the spent fuel on site.

Response by Mr Nicholls

Mr Nicholls responded that the spent fuel on site does not pose a risk to the public - it has been stored correctly in concrete casks.

Response by Mr Engel

Mr Engel advised that the safety case should be presented in the next PSIF. This was accepted.

Question by Mr Alhadeff

Mr Alhadeff enquired whether other nuclear power plants also have residential areas within 5km proximity.

Response by Mr Nicholls

Mr Nicholls confirmed that the vast majority of nuclear power plants have residential areas close by.

Question by Mr Sibanda

Mr Sibanda expressed concern about the easy access to the site.

Response by Mr Nicholls

Mr Nicholls responded that there are different areas within Koeberg and they have different levels of security. He advised that the Owner Controlled Area (OCA) is within the nature reserve and it is open to the public.

Response by Mr Engel

Mr Engel illustrated the various security levels, and reassured the members that the plant is heavily protected and under surveillance.

Question by Mr Sibanda

Mr Sibanda enquired about where to find the evacuation procedure.

Response by Mr Phidza

Mr Phidza responded that the Eskom Koeberg Calendar, which contains the evacuation procedure, is distributed to surrounding communities annually. Furthermore nuclear awareness programmes take place at schools.

Question by Mr Sibanda

Mr Sibanda enquired whether the Dunoon community is appropriately informed of the evacuation procedure.

Response by Mr Phidza

Mr Phidza responded that the surrounding communities are profiled and communicated with appropriately - the emergency plan information in the annual Koeberg Emergency Plan calendars is printed in Xhosa, English and Afrikaans.

**8. CoCT Koeberg Radiological Release Hazard DRM Plan (RRR) –
Dr Elmien Steyn**

Please see presentation for summary.

Question by Mr Alhadeff

Mr Alhadeff expressed a concern that in an emergency situation people would panic and not comply with evacuation instructions.

Response by Mr Pillay

Mr Pillay referred to the Traffic Evacuation Model (TEM), which speaks to the current population numbers and meets the present time frames for evacuation, as confirmed by the NNR.

Response by Mr Featherstone

Mr Featherstone commented that the TEM has been discussed in detail at various PSIF meetings. However, since it is quite an emotional issue he suggested that it be presented again as part of the City of Cape Town's RRR Plan.

Question by Mr Sibanda

Mr Sibanda enquired whether there will be mock disaster scenario training to test the effectiveness of the TEM in future, especially with emergency services, taking into consideration bad road infrastructure in areas such as Dunoon.

Response by Dr Steyn

Dr Steyn responded that over and above the Koeberg emergency plan exercises, there are numerous small scale exercises on a daily basis in various institutions. Furthermore there are bigger scale exercises. Pertaining to Koeberg; there are seven exercises per year and the eighth being the full scale Koeberg emergency plan exercise.

Question by Mr Sibanda

Mr Sibanda enquired about civil society's participation/involvement in the execution of the emergency plan.

Response by Dr Steyn

Dr Steyn responded that civil society is not involved. However they are communicated with during emergencies.

Question by Mr Sibanda

Mr Sibanda added that he raised the question based on past experience in other regions whereby conflict arises between government departments and civil society who also want to assist during an emergency. The result is that civil society ends up feeling disregarded and therefore "do their own thing."

Response by Mr Engel

Mr Engel acknowledged the concern and made an example of the civilians who offered assistance during the recent fire in the Koeberg Nature Reserve. He advised that the correct protocol should be put in place to allow civilians to safely get involved during emergencies.

Response by Mr Pillay

Mr Pillay responded that the Disaster Management Act caters for volunteers.

Question by Mr Sibanda

Mr Sibanda enquired whether the spent fuel stored on site will withstand an earthquake.

Response by Mr Nicholls

Mr Nicholls responded that Koeberg has been designed to withstand earthquakes.

Mr Nicholls also clarified that the two applications issued to the NNR were not for construction of nuclear power plants but rather characterisation of sites for future nuclear sites: Duynefontein; and Thyspunt.

Comment by Mr Bruiners

Mr Bruiners explained the role of the NNR.

Question by Mr Mayhew

Mr Mayhew requested feedback on all areas of improvements from the EP exercises.

Response by Mr Featherstone

Mr Featherstone suggested the topic be revisited.

Question by Mr Brown

Mr Browne requested regular feedback about any developments on the Sunbird Gas Pipeline project.

Question by PSIF Member

One of the PSIF members suggested the identification of civil society organisations to get training on emergency response, with the goal of participating in emergency response at Koeberg.

Response by Mr Featherstone

Mr Featherstone responded that we need to take the question away for a response at a later stage.

9. Date of the next meeting

The next KPSIF meeting is scheduled to take place at the Koeberg Visitors Centre from 19:00 on 30 June 2016.

10. Possible/proposed agenda points for next meeting

- Improvements made to Tygerberg Hospital with regards to provisions for a nuclear accident.
- Regular updates about the gas pipeline (Sunbird) and feedback when required.
- Involvement of civil society in the Emergency Plan
- Safety case for the Spent Fuel Storage Facility.

11. Closure

The PSIF meeting was adjourned at 21:00.