

Koeberg Public Safety Information Forum (KPSIF)

Minutes of the meeting held on 26 March 2015

Venue: Koeberg Visitors Centre, Koeberg Nuclear Power Station

Chairperson: Ms Smokie La Grange

Deputy Chairperson: Ms Christa Kleynhans

Name and Surname	Organisation	Present
La Grange, Smokie	KPSIF Chairperson	P
Kleynhans Christa	Deputy Chairperson	P
Anderson, Elma	Resident	P
Anderson, Melville	Resident	P
Browne, Peter	Resident	P
Daniels, Alistair	Resident	P
Grose, Nora	Resident	P
Iosiphakis, John	Resident	P
Lingard, D	Resident	P
Maigrot, Mr	Resident	P
Mayhew, Robert	Resident	P
Mayhew, Sylvia	Resident	P
Mvunelwa, Maphelo	Resident	P
Nagan, Roy	Resident	P
Oosthuizen, Liza	Resident	P
Saayman, Desmond	Resident	P
Slabbert J	Resident	P
Speed, Kenneth	Resident	P
Taylor John	Melkbosstrand Neighbourhood Watch	P
Watney, Tertius	Resident	P
William Raymond	Resident	P
Williamson, Mrs	Resident	P
Wilson, Tug	Resident	P
OFFICIALS		
Aploon, Darryl	Ops Manager – Eskom Koeberg Nuclear Power Station	P
De Wet, Joy	Assistant Communication Practitioner: Stakeholder Management, Eskom Koeberg Operating Unit	
Dyabaza, Jongi	Senior Advisor Stakeholder Management: Eskom Koeberg Operating Unit	
Franco, Johannes	Disaster Risk Management	P
Henkeman, Pauline	Communications Officer, Eskom Koeberg Nuclear Power station	P
Jeannes, Deon	Environmental Management, Eskom Koeberg Nuclear Power Station	P
Le Roux, Jurina	Environmental Officer: Nuclear Sites, Eskom Nuclear Land Management	P
Mack, Cyril	Atlantis Councillor	P
Makgae, Reuben	National Nuclear Regulator	P
Phidza, Lewis	Manager: Stakeholder Management - Eskom Koeberg Operating Unit	P
Pillay, Greg	Head: Disaster Risk Management Centre - City of Cape Town	P
Pienaar, Shaun	Communication Officer: Stakeholder Management, Eskom Koeberg Operating Unit	P
Dr Steyn, Elmien	Head: Special Planning & Critical Infrastructure Disaster Risk Management Centre	P
Trollope, Ian	Emergency Management Manager: Eskom Koeberg Nuclear Power Station	P

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.
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: 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.		
OEM	Original Equipment Manufacturer		

1. Opening and welcome

The Chairperson welcomed everyone to the KPSIF meeting and enquired whether everyone received a 2015 Eskom Emergency Plan Calendar. She also advised that those who have not received one to please collect one at the front desk. She mentioned that she was very impressed with the notifications in the local press about the Siren Test and that she was more impressed with the Siren Test poster notifications on the lamp posts, stretching from Melkbosstrand right through to Table View, advertising the Annual Siren Testing which took place on 4 March 2015. She also added that she was impressed that they were removed promptly, even faster than the election posters. She also mentioned that she heard that one or two sirens in Duynefontein was a bit inaudible in terms of some of the voices doing the announcement, however overall it was very clear. She informed the members that Phindile gave birth to a healthy little girl.

2. Safety briefing

Mr Shaun Pienaar conducted the safety evacuation briefing, informing members about the safety protocols for the Nuclear Auditorium at Bulk Stores.

3. Apologies

The following apologies were tendered (26 March 2015):

- Mr Riedewaan Bakardien
- Mr Waleed Adams
- Ms Michelle Herbert
- Mr Manfred Van Rooyen
- Ms Cornia Ellis
- Ms Catherine Boulanger
- Dr Tshepe (Department of Energy)
- Ms Makgopa (Department of Energy)
- Mr Gino Moonsamy (NNR)
- Mr Keith Featherstone
- Mr Gino Moonsamy
- Ms Debbie Joshua
- Ms Angelique Pannaye
- Mr Siyo Phinda
- Mr Longden-Thurgood
- Mr Duval La Grange
- Mr Stephen van Rensburg

It was noted by the Chairperson that no apologies were received from Mr Jens Kuhn from the City of Cape Town, who were responsible for presenting on ***The impact of the Wolwerivier extension on the Koeberg Emergency Evacuation Plan***. The only apology received, was from his colleague and co-presenter, Mr Waleed Adams, the day before.

4. Acceptance of the Minutes of the previous meeting

Due to skipping straight to the Presentation by Mr Kevin Engel, the Minutes was not accepted by any member.

5. Matters arising from the previous Meeting

No matters arising were recorded as the Chairperson skipped straight to the Presentation by Mr Kevin Engel, on Koeberg's quarterly feedback.

6. Presentations

6.1 Koeberg Quarterly Feedback

Presenter: Mr Kevin Engel - Koeberg Plant Manager

Mr Kevin Engel welcomed everyone and mentioned that he has not been there in quite a while and that it was good to have the opportunity to engage the PSIF members again. He emphasised that it was quite an eventful quarter for the power station. He mentioned that there has been movement on Koeberg's performance target and he is aware that there will be tough questions, which he is prepared for. He informed members that Koeberg are doing extremely well. There has been no deviation from trend for the target. He informed members that Koeberg is currently in outage on one of their units (Unit 1) and that we are well within target with nothing of concern to be report on. He mentioned that we usually have quite a few contamination events; however, during this outage, we have been at our best performance especially relating to contamination. He informed members that the Station Clock resets have shown movement in the negative direction with two human performance events which is quite significant. He mentioned that the one event happened when the Reactor Turbine tripped when a problem was encountered with the scaffolding in the Transformer Yard. The other event occurred during the outage when the Core was being unloaded. The Maintenance Team took off a cap on one of the Safeguard systems, the EAS system (Containment spray system) and the pipe was empty, which resulted in a flow path from the reactor building into the Nuclear Auxiliary building which resulted in a breach of containment integrity which is quite serious in our business and to the public. He mentioned that although we are still trying to maintain our targets set, these two events impacted us negatively.

Force Loss Rate (FLR): Two units running breaker to breaker. Mr Engel informed members that unfortunately on 1 February 2015, seven days before the outage, Koeberg experienced a reactor and turbine trip, which they did not recover from. Thereafter they had a subsequent trip, and had a production loss of eight days on Unit 1 - almost equivalent to over 1%. He mentioned that Koeberg would have had a fantastic year should they not have had that production loss which tarnished their good record.

Lost time injury (LTI) rate: He mentioned that Koeberg had four events, which is also not good for our performance. During December 2014 the contractor lost time rate was standing at zero, Eskom's lost time rate was at zero and then we had four events – three Eskom employees and one contractor. He told members that although it was not big events, people did get hurt which is never good. From people stretching on ladders (one event), injured his back, twisting an ankle standing on a trench, a motorbike accident in the parking lot where a motorbike fell onto an individual.

Third quarter feedback

Summary:

Results as at February 2014/2015 Financial Year

Dose 😊

*YE (Year End) Target: **1275 mSv**

YTD (Year To Date) Target: **1502 mSv**

YTD (Year To Date) Actual: **735 mSv**

Station Clock Resets 😐

*YE Target: **3**

YTD Target: **2**

YTD Actual: **2**

Forced Loss Rate 😊

*YE Target: **3.2%**

YTD Target: **3.2%**

YTD Actual: **1.38%**

Lost Time Injury Rate 😊

*YE Target: **0,13**

YTD Target: **0,20**

YTD 12MMI: **0,13**

Outage Milestones missed 😞

Outage 121 : 17/113

Outage 221 : 8/43

Outage 122: 0/7

Outage 222: 0/6

*YE Targets are for the year ending on 31 March 2015

Unit 1 - Outage

1 February 2015 - Unit 1 Reactor and turbine trip - restrictive earth fault protection operated - brought about by pre-outage scaffolding being erected and possible shunting of current in the common neutral star point of the main transformers.

6 February 2015 - on unit synchronisation there was a reactor and turbine trip – loss of 400KV- cause was a defect in the operation of generator 24KV breaker. Investigation in progress.

9 February 2015 - Outage 121 commences

Fuel is unloaded

Presently in maintenance window

Unit 1 – In Outage

- **9 April 2015** - will do the second ILRT (Integrated Leak Rate Test) in Koeberg's life time
- Important human performance event, containment integrity breached when a cap on safe guard system was taken off in error, linking reactor building with nuclear auxiliary building while unloading the core. Work stop went into effect until integrity restored
- Discovered asbestos band on secondary vessels, work stop in effect until asbestos removed
- On target to achieve 98 day planned outage : due back on the 18 May 2015 , full power on 25 May 2015

Unit 2 remained at full power for this period

Question by Mr Wilson

Mr Wilson mentioned that he has seen staff when they arrive on (Koeberg) site under the influence of alcohol. He wanted to know whether this is not the cause of these small events.

Response by Mr Engel

Mr Engel responded that two years ago Eskom adopted the policy of “being sober” as part of their compulsory Life-saving Rules. That means zero tolerance for any person coming to work intoxicated (whether by liquor or drugs). He mentioned that all the Eskom power stations up north as well as Eskom's construction sites, implemented 100% alcohol testing. Koeberg started its implementation on 5 January 2015. He explained that this means that before you enter the Koeberg site, you get tested – he added that there were people who tested positive. He mentioned that that they take the necessary disciplinary action to rectify this behaviour in those who transgressed, of which some was senior staff members. He confirmed that no-one (whether employee, contractor or visitor) can enter the Koeberg site without being tested. He mentioned that this was all in a bid to prove fitness for duty of all Koeberg employees and contractors.

Question by Mr Mayhew

Mr Mayhew asked whether it's 100% of the people and not a matter of selecting a few people.

Response by Mr Engel

Mr Engel confirmed that it is 100% of the people, meaning everyone. He also mentioned that those with alcohol problems will be dealt with and not allowed on the Koeberg site.

Question by Mr Mayhew

Mr Mayhew asked what type of discipline people who transgress are subjected to?

Response by Mr Engel

Mr Engel responded that the discipline is very straightforward, however very strict. He explained that the first time someone transgresses they are sanctioned with seven days without pay. Should they get caught again, they are fired. He mentioned that they had their first person, a very experienced person, fired due to transgressing for a second time.

Question by Mr Mayhew

Mr Mayhew asked whether it applies to everyone, even a senior person.

Response by Mr Engel

Mr Engel responded by confirming that this is so, and also added that it is part of Eskom's Life-saving rules which means no-one is exempt.

Question by a member

One of the members enquired whether Eskom has taken into account over the counter medication as a lot of them contain small amounts of alcohol.

Response by Mr Engel

Mr Engel responded that an experiment has shown that should you take a bottle of cough medicine you will test positive, but the second test after an half an hour or an hour should be negative and if not, then it cannot be due to the medicine. He also mentioned that this discussion is still ongoing as some deodorants also contain alcohol.

Additional response by Mr Phidza

Mr Phidza added that just to confirm, a blood test can be done to verify it.

Comment by Mr Wilson

Mr Wilson commented that in the 30 years that he has been with Koeberg he has never seen such good performance and that it deserves a round of applause for the good work done during this current outage.

[Members all gave a round of applause]

Question by Mr Mayhew

Mr Mayhew acknowledged that everyone makes mistakes; however he wanted to know with Koeberg having so many procedures, what they have done to rectify the mistake and ensure it doesn't happen again. He mentioned that although the (transformer yard incident) didn't happen on the nuclear site, what would have happened if it had taken place on the nuclear site.

Response by Mr Engel

Mr Engel responded that the people who transgressed the rules were dealt with, with some being suspended. He confirmed that subsequent to the event the area was classified as a sensitive area which means no-one will ever be able to put up scaffolding without management involvement.

Question by Mr Iosiphakis

Mr Iosiphakis just clarified that the scaffolding that was erected and it touched the nuclear connector. He also wanted to know whether it was not insulated.

Response by Mr Engel

Mr Engel responded that it's not. He explained that it's a big copper bar running across the transformers. He added that there is no current or potential and that it is only fault conditions on the transformer or fault conditions on the Grid which will give a low amperage flow, but that's where the protection picks up and causes it to trip as a protection.

Question by Mr Mayhew

Mr Mayhew enquired about when a trip happens at Koeberg, what happens to the nuclear side of the plant?

Response by Mr Engel

Mr Engel responded by saying that if the plant is at 100% power and Koeberg loses their 400kV line, the reactor trip, the safety rods fall in, the turbine trips, all stop and governor valves closes, the reactor is shut down. He added that the plant is designed to go into natural circulation with the ability to cool itself as long as cold water can be pumped into the steam generator.

Due to a malfunction on the recording device, the recording stopped at this point, hence no questions on the presentations by the NNR or the Nature Reserve Presentation could be captured. Only the summaries of the presentations were captured.

6.2 Koeberg National Nuclear Regulator (NNR) Exercise feedback – Mr Mothusi Ramerafe (NNR)

Summary

According to section 38 of the NNR Act 47 of 1999,

- The holder of a nuclear authorisation must establish an emergency plan
- The NNR Shall approve an emergency plan
- NNR to ensure that the Licensee has an effective emergency plan
- Nuclear Installation Licence No. NIL-01
- The Licensee must
 - comply with the requirements of RD-014
 - Establish Emergency plan, maintain it in a state of readiness and subject it reviews and technical audits
 - Determine management and mitigative measures
 - Describe responsibilities and training of staff

Emergency Response Organisations

Onsite Responders: Eskom

- ECC (Emergency Control Centre)
- Field Monitoring Teams
- Medical

Offsite Responders

- City of Cape Town - Disaster Operations Centre (DOC)
- Provincial Government of Western Cape
- DoE
- SABC
- Dept Arts & Culture (Robben Island)
- SAPS, SANDF
- Golden Arrow Bus Service
- Tygerberg Hospital
-

Specific Objectives of the Exercise

- To test communication among all responding organisations
- Protection of emergency workers
- Transportation of evacuees
- Physical evacuation of the public (simulation)

- Activation, availability and operation of a Mass Care Centre
- Preparation of the press release and conduct of a press briefing

Outcome of Exercise

- Final exercise report was prepared and sent to Eskom/ CoCT DOC
- Non-compliances and areas of improvements (Observations) (and areas of compliances) at the different response locations onsite and offsite
- **Finding/Non-Compliances:** issues identified that are in contravention with emergency procedures
- **Observations:** issues identified that are not in contravention with the emergency procedures but may improve the emergency plan if implemented

Emergency Control Centre

No non-compliance was raised, however, two observations were raised regarding the early arrival of responders at the ECC (before exercise started) and Eskom non-responders assisting emergency responders

Radiological Surveillance Team (Kilo Mobiles)

No non-compliance was raised.

Three observations were noted regarding inability to retrieve data in the vehicle simulator and had to be assisted by the ECC, continual disturbances by Eskom non-exercise participants in using the emergency channel, and the inaudibility of the radio channel for communication between the KMs and Field Team Leader.

Follow Up Actions

- The NNR submitted the report to KNPS and CoCT
- A corrective action programme was established by KNPS and CoCT and submitted to the NNR
- The NNR reviewed the programme and found some corrective actions acceptable
- Some of the non-compliances were closed in the review of the corrective action programme.
- Submissions for corrective actions implemented will be reviewed by NNR and when deemed acceptable the necessary evidence will be reviewed and/or inspections will be conducted. Once satisfied with implemented actions and respective evidence the NNR will declare, in the form of a report, non-compliances/ observation as closed.
- The evidence collected forms the basis for a decision to render the implemented corrective action as adequately addressed.

Koeberg National Nuclear Regulator (NNR) Exercise feedback

Mr Mothusi Ramerafe (NNR)

Summary:

The NNR's conclusion following the annual NNR regulatory exercise held on Wednesday, 22 October 2014 stated the following:

The overall response of Koeberg Power Station and the intervening organisations revealed that in the event of a nuclear accident occurring, the Integrated Koeberg Emergency Plan is adequate for the protection of people, property and the environment. Areas for improvement however have been identified for correction.

The objectives of the exercise:

- To test communication among all responding organisations
- Protection of emergency workers
- Transportation of evacuees
- Physical evacuation of the public (simulation)
- Activation, availability and operation of a Mass Care Centre
- Preparation of press releases and conducting of a press conference

11 x observations were raised:

Observations are issues identified that are not in contravention with the emergency procedures but may improve the Emergency Plan is implemented:

7 x non-compliance issues were raised

Findings/non-compliances are issues identified that are in contravention with emergency procedures:

The following questions were posed by some of the PSIF members:

A question was posed by a member as to how the Emergency Plan can be deemed adequate by the NNR if there are still outstanding findings from the report (refer to presentation).

The response from the NNR was that the overall Emergency Plan is adequate even though there was areas for improvement that had been identified.

A question posed by a member (Mr Mayhew) was whether the NNR Exercise is a training exercise.

The response was that it is a regulatory exercise and not (merely) a training exercise.

A question was posed as to why the SAPS Security Services was not present at the Mass Care Centre?

The response was that Metro Security Services was present at the Mass Care Centre.

6.3 Feedback on the impact of the Wolwerivier extension on the Koeberg Emergency Evacuation Plan – Mr Waleed Adams and Mr Jens Kuhn CoCT

Due to the absence of the presenters, this topic will only be presented in the next PSIF meeting scheduled for Thursday, 25 June 2015.

6.4 Koeberg Nature Reserve presentation – Mr Deon Jeannes and Mrs Jurina Le Roux (Eskom)

Summary

- The “Koeberg Private Nature Reserve” (KNR) was proclaimed in 1991 in terms of Cape Ordinance 19 of 1974
- The National Environmental Management: Protected Areas Act of 2003 (NEMPAA) recognizes previously declared nature reserves as having been declared in terms of NEMPAA (s28(5))
- NEMPAA requires the assignment of a Management Authority by the MEC (s39) which is Eskom
- NEMPAA requires the Management Authority to submit a Management Plan to the MEC for approval within 12 months of assignment (s40)
- The KNR Management Plan public participation occurred in 2014 (Cape Nature and CoCT) and in 2015 (Environmental Affairs, Agriculture, Heritage, Land Claims, Mineral Resources, Water Affairs, etc. and the Public).

Nature Reserve objectives

- Create an environment in which the Koeberg Nuclear Power Station and possible future nuclear development can continue to operate;
- Create an environment in which social development of the area can take place;
- Protect the ecological integrity and functioning of the wetlands and their catchments;
- Protect biodiversity of the area;
- Provide sustainable access by the public to the area and its resources

Management Plan objectives

- Integration of KNR and Power Station (continuous operation of KNPS without significant negative impact on biodiversity);
- Primary strategy tool for management of the KNR, informing the need for specific programmes and operational procedures;

- Objectives and activities to direct the protection and sustainable use of its natural, scenic and heritage resources;
- Medium-term operational framework for the prioritized allocation of resources;
- Facilitate capacity building, future thinking and continuity of management;
- Comply with the requirements of the NEM: Protected Areas Act (2003) to develop a Management Plan.

Main challenges and opportunities:

- Combining Development and Conservation
- New Developments in Conservation Zone
- Biodiversity Management
- Fire Management
- Alien Invasive Species
- Game Management
- Security
- Education and Recreation
- Erosion and Road Maintenance

7. General

Question by PSIF member

One of the members enquired about who is responsible for supplying information to the newspapers. He mentioned that according to an Afrikaans newspaper, Koeberg had problems getting the plant up and running. The member cautioned that information supplied to newspapers be checked and verified as it could be misinterpreted by readers.

Response by Mr Phidza

According to Mr Phidza, members should not believe everything they read as many of the articles featured in the local press are not supplied by Eskom. He explained that Eskom supplies accurate and verified information to the press; however the newspaper journalists often decide to go outside of what have provided and add their own information or add their own spin to the information/story, leading to inaccuracy.

Question by PSIF member

The same member enquired whether Eskom is obligated to provide information to the press.

Response by Mr Phidza

Mr Phidza responded by saying that Eskom decided to be transparent, hence Mr Engel shared so candidly about Eskom's performance and under performance, however in their bid to be transparent, information provided are often misinterpreted by the press. He added that some journalists are better than others in reporting information accurately due to their knowledge of Eskom which is often as a result of them attending Eskom/Koeberg induction/awareness sessions.

8. Date of the next meeting

Thursday, 25 June 2015

9. Proposed Agenda Points for the next meeting

The next KPSIF Meeting date, Agenda items and venue will be communicated to all the members once finalised.

10. Closure

The KPSIF Meeting was adjourned at 21:24.