

Koeberg Public Safety Information Forum (KPSIF)

Minutes of the meeting held on 26 June 2014

Venue: Nuclear Auditorium, Bulk Stores, Koeberg Nuclear Power Station

Chairperson: Ms Smokie La Grange

Deputy Chairperson: Ms Christa Kleynhans

Name and Surname	Organisation	Present	Apologies
Bobo, Lindelwa	Resident	P	
Bobo, Lunga	Resident	P	
Boulanger, Catherine Irene	Resident	P	
Browne, Peter	Resident	P	
Frans, Richard	Resident	P	
Iosiphakis, John	Resident	P	
Kleynhans, Christa	KPSIF Deputy Chairperson	P	
La Grange, Duval	Resident	P	
La Grange, Smokie	KPSIF Chairperson	P	
Lewies, Ben	Resident	P	
Longden-Thurgood, M	Resident		A
Mayhew, Robert	Resident	P	
Mayhew, Sylvia	Resident	P	
Mbolompo, David	Resident	P	
Nilsson, Napoleon	Resident	P	
Nyoka, Thembile	Resident	P	
Saaymans, Desmond	Resident	P	
Smith, Gary	Resident	P	
Taylor, John	Resident		A
Williamson, Raymond	Resident		A
Williamson, Mrs	Resident		A
Wilson, John	Resident	P	
Yekeen, Ahmed	Resident	P	
Bakardien, Riedewaan	Power Station Manager – Eskom Koeberg Nuclear Power Station	P	
Featherstone, Keith	Senior Manager: Nuclear Support - Eskom Koeberg Operating Unit	P	
Joshua, Debbie	Senior Advisor: Stakeholder Management - Eskom Koeberg	P	

	Operating Unit		
Makgopa, Bessie	Deputy Director: Nuclear Safety – Department of Energy	P	
Nicholls, Dave	General Manager (Nuclear Engineering) - Eskom Koeberg Operating Unit		A
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	
Radebe, Phindile	Assistant Communication Officer – Stakeholder Management, Eskom Koeberg Operating Unit	P	
Steyn, Elmien (Dr.)	Head: Special planning and critical infrastructure - City of Cape Town	P	
Trollope, Ian	Emergency Management Manager - Eskom Koeberg Operating Unit	P	
Van Rensburg, Stephen	Head: Area North Disaster Risk Management Centre – City of Cape Town		A
Van der byl, Francis	Fire and Rescue Services - City of Cape Town	P	
Van Rensburg, Neville	Emergency Medical Services - City of Cape Town		A
Xaso, Simphiwe	Security Manager -	P	

	Eskom Koeberg Operating Unit		
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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 between major power stations
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: <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	It is 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

NECSA	South African Nuclear Energy Corporation SOC Limited	CCGT	Closed Cycle Gas Turbines
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1. Opening and welcome

The Chairperson welcomed everyone to the KPSIF meeting.

2. Safety briefing

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

3. The following apologies were tendered (26 June 2014):

- Mr Williamson
- Mrs Williamson
- Mr Nicholls
- Mr van Rensburg
- Mr Taylor
- Mr Longdon-Thurgood

4. Matters arising from the previous minutes

Request by Mr Mayhew

Mr Mayhew requested that the definition of the term millisievert be added to the abbreviation list in the KPSIF Minutes.

Response by Chairperson

The Chairperson acknowledged the request and indicated that it would be added to the list.

Comment by Mr Mayhew

Mr Mayhew commented that the quality of the Minutes is good, but indicated that the delivery time of close to three months is too long.

Response by Mr Phidza

Mr Phidza acknowledged the comment and advised that as per the KPSIF Terms of Reference, the Minutes have been distributed within the prescribed time frame. He requested the members of the meeting to revisit the KPSIF Constitution.

Suggestion by Mr Mayhew

Mr Mayhew suggested that the Terms of Reference be amended in favour of distributing the KPSIF Minutes earlier than currently stipulated.

Response by Chairperson

The Chairperson acknowledged the request and responded that the suggestion will be taken under review.

Comment by Mr Iosiphakis

Mr Iosiphakis commented that his preference is to receive the KPSIF Minutes at a time which is closer to the following KPSIF.

Response by Mr Mayhew

Mr Mayhew expressed disagreement with the suggestion.

Response by Chairperson

The Chairperson responded that the suggestions will be taken under review.

5. Acceptance of the Minutes of the previous meeting (27 March 2014)

The Minutes were accepted by Mr Mayhew and seconded by Mrs Kleynhans.

6. Koeberg quarterly feedback - Mr Riedewaan Bakardien - Koeberg Power Station Manager***Second quarter feedback****Summary**Unit 1*

- Unit 1 has remained at 100% power for the last quarter and has been online since synchronisation to the grid on 28 December 2013.
- Unit 2 returned from Outage 220 on 17 May 2014 after a 54-day outage.

Positives achieved during Outage

- Excellent safety performance with no Lost Time Injuries (LTIs)
- No significant Human Performance (HP) events
- Good plant status control and improvement in Foreign Material Exclusion (FME) practices.

Areas for improvement for Outage 220

- The planned duration of 43 days was exceeded by 11 days. The actual duration was thus 54 days. The cause of the delay was a faulty new containment isolation valve installed (RIS 042 VP) and delays incurred during generator testing.
- The outage dose exceeded station target.

General

- The grid is extremely tight with load shedding being a reality due to the reduced margin between demand and supply – residents were advised to use electricity sparingly
- The station focus remains on the safe and reliable operation of both units and preparation for two long outages in 2015 (approximately 100 days each).
- For the second time in the last year, the station achieved two million injury-free (LTI-free) hours (in May 2014), reflecting a continued improvement in industrial safety at the station.

- The second NSRB (Nuclear Safety Review Board) meeting was held in May 2014 to provide additional oversight of Koeberg's safety performance to the Eskom Board.
- Nuclear Safety Culture Survey results were good and all trends that were identified are being monitored.
- The SABS ISO 9001 compliance audit yielded good results.

Question by Mr Mayhew

Mr Mayhew enquired whether there have been repercussions for the 11 days exceeded in Outage 220, and queried who is responsible for the costs of the valve which failed.

Response by Mr Bakardien and Mr Featherstone

Mr Bakardien responded that as part of the ongoing investigation, one of the possibilities is that a faulty valve was supplied to Eskom, or that a fault occurred during installation.

Response by Mr Featherstone

Mr Featherstone responded that as outlined in our law, Eskom cannot be reimbursed for consequential damage but only for the direct cost of the valve.

Question by Mr Browne

Mr Browne enquired what "our law" refers to.

Response by Mr Featherstone

Mr Featherstone responded that this refers to Eskom's contractual law.

Comment by Mr Browne

Mr Browne commented that the Consumer Protection Act was established exactly for such situations.

Comment by Mr Bakardien

Mr Bakardien added that, moving forward the components will be inspected prior to installation regardless of supplier instructions to install immediately without inspection so as to avoid damage during installation.

Question by Mr Mayhew

Mr Mayhew queried whether there are health implications for staff being exposed to radiation.

Response by Mr Bakardien

Mr Bakardien responded that Koeberg's radiation level alarms pick up very low dose accumulation, therefore further minimising the risk of radiation exposure to employees.

Question by Mr Mayhew

Mr Mayhew enquired whether Koeberg has a blaming culture.

Response by Mr Bakardien

Mr Bakardien responded that Koeberg boasts a good reporting culture driven, amongst others, by a problem notification system. He added that employees are held accountable, but the aim is not to terminate one's employment but rather view such instances as an opportunity for improved learning. He added that this approach is very important in order to ensure that employees do not hide mistakes due to fear. The Nuclear Safety Culture Survey measures such things and the results thereof have been good, with the trends being monitored on a continuous basis.

Question by Mr Iosiphakis

Mr Iosiphakis asked whether the two long outages planned for 2015 have any relation to the other are related to other Eskom power stations being commissioned.

Response by Mr Bakardien

Mr Bakardien explained that Koeberg plans with the rest of the Generation Division. However, regardless of power stations coming online or not, Koeberg has to shut down for maintenance and modification purposes. He added that due to the importance of operating a nuclear power station safely, Koeberg sets the trend for the maintenance schedule within the Generation Division.

Question by Mr Iosiphakis

Mr Iosiphakis requested more information about the tender for spent fuel storage as well as the tender for a local supplier of nuclear valves.

Response by Mr Bakardien

Mr Bakardien responded that Koeberg is currently focussing on the long-term storage of spent fuel. He indicated that spent fuel is currently stored on site in the spent fuel pool. He further responded that although Koeberg already has fuel casks, the fuel pool is running out of space and as a result two strategies are being pursued: the first is to procure more fuel casks which will allow for some of the spent fuel to be extracted from the pool, be contained in the casks and stored in an appropriately designed building on the Koeberg site.

The second strategy is to implement modifications to increase the spent fuel pool size. The tender being referred to by Mr Iosiphakis, is for the inserts for the spent fuel pool extension project. Mr Bakardien added that the regulation in South Africa is to decrease the amount of international suppliers. In light of this, Koeberg is involved in an initiative to work with local suppliers to be at a standard at which they can supply quality valves locally.

Question by Mr Desmond

Mr Desmond asked whether the public have been made aware of the amount of spent fuel which is stored on site since commissioning in 1984/1985.

Response by Chairperson

The Chairperson suggested that Waste Management be added to the agenda for the following KPSIF, which was agreed to.

Response by Mr Phidza

Mr Phidza responded that the public has been made aware of the amount of fuel stored. He added that in recent months the media has shown an interest in the topic. He indicated that the type of questions asked by the media can also be included in the presentation.

Question by Mr Smith

Mr Smith asked whether Eskom works with Pelindaba for waste management.

Response by Mr Bakardien

Mr Bakardien responded that each operator is responsible for its own waste, governed by the same standards. Low level waste is transported to Vaalputs waste holding site. Pelindaba follows the same approach. NECSA is responsible for the management of the Pelindaba waste holding area.

Question by Mr Smith

Mr Smith commented that during a film shoot in the Pelindaba area four years ago, there was an old notice which implied that all rules for importing nuclear waste to South Africa can be bypassed and that Pelindaba can import waste from all over and store it in South Africa.

Response by Mr Bakardien

Mr Bakardien responded that Pelindaba is not licensed to import waste from other countries. He indicated that the NNR can provide more information about what Pelindaba are licensed to do. Furthermore Pelindaba is an organisation independent to Eskom. He added that with the IAEA monitoring, this is very unlikely.

Mr Smith was requested to provide a copy of this notice, to which he agreed.

Response by Mr Phidza

Mr Phidza added that the Radwaste Institute Board was recently established. He added that this board is independent from Koeberg and Pelindaba and its role is to manage the radwaste on behalf of all users in South Africa . The role of the board will be added to the waste management presentation.

Question by Mr Iosophakis

Mr Iosophakis asked whether the OCGT in Atlantis is still in operation.

Response by Mr Bakardien

Mr Bakardien responded that the OCGTs are in operation but that they are used during peak periods of demand due to the high running costs.

Question by Mr Iosophakis

Mr Iosophakis requested confirmation whether the plan is to convert the OCGTs to CCGT, which are environmentally friendly.

Response by Mr Bakardien

Mr Bakardien responded that this is correct but that this modification will be done in the future.

7. The role of Fire and Rescue Services in a Koeberg Nuclear Emergency - Mr Steve Abrahamse*Summary – brief overview of CoCT Fire and Rescue Services*

- Currently, there are 30 fire stations across the city.
- Fire Rescue Services employs 1 300 operational firefighting, safety, admin, control room and other staff.
- Approximately 34 officers and fire fighters are trained as specialised hazmat technicians and technical rescue and the overall majority of operational staff are trained in hazmat operations.
- They have responded to 7 398 incidents collectively in the first quarter of 2014.
- Their fleet consists of various categories of operational response vehicles (188), including a state of the art control bus.

Fire and Rescue Services response in a nuclear emergency

- Fire and Rescue services respond as per the Koeberg Nuclear Emergency Plan, to provide a fire fighting and rescue service within the emergency planning zone.
- The Fire and Rescue Services holding point is predetermined unless circumstances dictate otherwise. This is verified and communicated by the on duty Disaster Management Coordinator at the Disaster Operations Centre.
- Fire and Rescue Services are activated from the Alert stage of a nuclear incident/emergency.
- Emergency workers are then provided with the correct personal protective equipment and clothing.
- Together with role other players, such as Housing and the Defence Force, set-up commences for decontamination points for the public as well as vehicles exiting the evacuation zone.
- Fire and Rescue Services participate in all the Koeberg Emergency Plan readiness exercises.

Mr Abrahamse illustrated the operations of the Fire and Rescue Services with photographs.

Question by Mr Mayhew

Mr Mayhew acknowledged that Fire and Rescue Services participate in exercises that have been predetermined, but queried whether the Fire and Rescue Services are ready to assume their roles in a real nuclear emergency.

Response by Mr Abrahamse

Mr Abrahamse responded that in the case of a nuclear emergency all State entities will work together to effect the necessary road blocks to ensure that Fire and Rescue services are able to reach their destinations.

Question by Mr Mayhew

Mr Mayhew enquired about the contingencies in the event that key role players are not available.

Response by Mr Abrahamse

Mr Abrahamse responded by providing names of colleagues which have the same training.

Comment by Mr Pillay

Mr Pillay added that the Fire and Rescue Services respond daily to emergency situations and are not deterred by traffic jams or obstructions. Furthermore in a nuclear emergency all resources are directed towards a common goal which makes it possible to effect the nuclear emergency plan efficiently.

Question by Mr Mayhew

Mr Mayhew enquired whether Fire and Rescue Services will be able to control two-way traffic during a nuclear emergency.

Response by Mr Abrahamse

Mr Abrahamse responded that with the assistance of the military, traffic can be managed accordingly.

8. Protection of the thyroid gland – Ian Trollope*Purpose of the thyroid gland*

- The thyroid provides the central nervous system maturation during the first months of life and its functioning in adult.
- Metabolism (basal, carbohydrate, lipid, protein and hydro mineral).
- The cardiac rhythm.
- Controls the contraction of muscle and metabolism of creatine.
- Promotes the gastrointestinal transit.
- Regulation of the development of blood cells and iron metabolism.

Methods of uptake of iodine

- Inhalation
- Ingestion

Effects of iodine uptake

- Increased risk of thyroid cancer
- Other thyroid diseases

Risks

Risks associated with the uptake of radioactive iodine are age-related with children being at highest risk.

Emergency planning response

- The priority for emergency planning is the protection of children and adolescents aged 18 years and under.
- Planning should emphasise the priority of administration to these age groups.
- Iodine prophylaxis is a low risk counter-measure with the potential for large benefits.
- Ensure persons who are allergic to iodine are identified prior to issuing, if possible. Where not possible, medical staff are available at Mass Care Centres to attend to allergic reactions.
- Timely administration to the public is a critical consideration.
- Currently the iodine tablets are found at Mass Care Centres, various checkpoints and schools within the 16km radius of Koeberg. As a way forward planning, pre-distribution initiatives to households in the 5km radius of Koeberg are being considered, as well as availability to pharmacies and clinics.

Question by KPSIF member

One of KPSIF member inquired what the most adverse effects of consuming the iodine tablet are.

Response by Mr Trollope

Mr Trollope responded that the most adverse effect is that of anaphylactic shock, which is easily reversible.

Question by KPSIF member

One of the members enquired whether there is an age limit for consumption of iodine tablets.

Response by Mr Trollope

Mr Trollope responded that in some documentation, individuals older than 45 years of age are advised against consuming the tablets as doing so could fully saturate the thyroid and create hypothyroidism. Koeberg has not adopted this approach so all members of the public affected will be issued with tablets.

Question by Mr Isophakis

Mr Isophakis inquired whether an underactive thyroid in a nuclear environment is more or less susceptible to hypothyroidism.

Response by Mr Trollope

Mr Trollope responded that hypothyroidism is basically an underactive thyroid. In the event of thyroid cancer, as a result of exposure to radioactive iodine, this could and possibly will further affect the ability of the thyroid gland to function normally.

Question by Mrs Kleynhans

Mrs Kleynhans asked what the expiry date of the iodine tablets is.

Response by Mr Trollope

Mr Trollope responded that the expiry date of the current batch is 2015. He added that the manufacturing company, Aspen, will be testing them in the beginning of 2015 and ensure that the tablets have a life span of five years.

Question by Mrs Kleynhans

Mrs Kleynhans asked whether Koeberg and the CoCT keep records of the iodine tablets and their expiry dates.

Response by Mr Trollope

Mr Trollope responded that the Koeberg Emergency Control Centre provides this function and replaces tablets accordingly.

9. Date of the next meeting

The next KPSIF meeting is scheduled to take place at 19:00 on 18 September 2014 in the Nuclear Auditorium, Bulk Stores at Koeberg Power Station. .

10. Proposed agenda points for next meeting

- The Fuel and Radiation Waste Management
- The NSRB Feedback
- Clarifying the false perception of Eskom claiming money from suppliers for consequential damage

11. Closure

The KPSIF Meeting was adjourned at 21:00.