

NNR EMERGENCY EXERCISE REPORT

Emergency Preparedness and Response

KOEBERG REGULATORY NUCLEAR EMERGENCY EXERCISE 2022

PUBLIC REPORT

28 July 2023

1. Introduction

The National Nuclear Regulator (NNR) conducts biennial regulatory nuclear emergency exercises at the Koeberg Nuclear Power Station to ensure that adequate provisions for emergency planning are in place to effectively respond to nuclear accidents and radiological emergencies.

The purpose of this report is to present a summary of the findings and outcomes of the regulatory nuclear emergency exercise conducted at Koeberg Nuclear Power Station on 4 November 2022.

2. Aim of exercise

The aim of the regulatory nuclear emergency exercise was to test the adequacy of the on-site and off-site plans, procedures and preparedness arrangements for responding to a radiological emergency at the Koeberg Nuclear Power Station.

3. Findings and Outcomes

3.1 The key focus areas and outcomes of the exercise are summarised as follows;

3.3.1 Notification and Activation of the Emergency Control Centre

Protecting people, property and the environment.

Eco Glades Office Park, Eco Glades 2 Block G, Witch Hazel Avenue, Highveld Ext 75,
Eco Park, Centurion, South Africa | PO Box 7106 Centurion, 0046.

Outcome: All activities under this focus area were successfully implemented and supported the effective notification and activation of the Emergency Control Centre.

3.3.2 Communication between the Emergency Control Centre, Disaster Operations Centre and intervening organisations (City of Cape Town, City of Cape Town Disaster Management, Tygerberg Hospital).

Outcome: The communication between the onsite Emergency Control Centre and offsite Intervening organisations was sustained throughout the exercise. It was evident that the communications from the field survey vehicle was inaudible and therefore caused a delay in communication between the Disaster Operations Centre and the holding point.

The following area of improvement was noted:

- Radio communications systems to enable effective communications from the field survey vehicle.

3.3.3 Implementation of on-site and off-site protective actions

Outcome: It was noted that the on-site and off-site protective actions comprising of sheltering, evacuation, food ban and issuing of KIO₃ (iodine blocking agents) was successfully implemented.

3.3.4 Protection of emergency workers, including suitable radiation monitoring equipment, Personal Protective Equipment, etc.

Outcome: It was evident that the field teams remained in the plume for too long and some emergency workers were not wearing face masks.

The following areas of improvement were noted;

- Management of time spent in the plume by field teams.
- Wearing of face masks by nurses.

3.3.5 Operation and Capabilities of the Mass Care Centre

Protecting people, property and the environment.

Outcome: All necessary facilities such as the triage centre, counselling area, decontamination showers, evacuee registration stations, toilets were in place. The portable radiation monitoring equipment used for frisking of evacuees at the Mass Care Centre were calibrated and had up to date certificates. The availability of KIO₃ tablets with a valid expiry date was observed. The officials at the Mass Care Centre wore appropriate personal protective equipment.

It was evident that the Mass Care Centre was not completed on time. The observation also noted that the wastewater flowing from the showers were not contained.

The following areas of improvement were noted;

- Time management with regards to setting up and activating the Mass Care Centre.
- Safe management of wastewater flowing from showers.

3.3.6 Arrangements (Reception and Treatment) for Injured and Contaminated Patients at Tygerberg Hospital

Outcome: The Tygerberg hospital was barricaded with radiation trefoil symbol tape. The medical staff followed procedure when they received and treated the patient. The health physicist followed the required radiological protocols when dealing with a patient.

It was evident that the appointed medical practitioner was not initially available to receive the patient at the Koeberg Medical Centre. The appointed medical practitioner did not answer the phone when contacted by Tygerberg Hospital regarding patient information.

The following areas of improvement were noted;

- Management of safety measures specifically with regards to medical staff wearing correct personal protective clothing,
- Communications and responsiveness of medical personnel on duty.

5. Conclusion

- 5.1 Valuable information on the management of onsite and offsite radiological emergency arrangements was gathered by the NNR Umpires through observing the Koeberg regulatory nuclear emergency exercise.
- 5.2 The findings highlighted by this report present an opportunity for the relevant local intervening authorities to learn, share experiences, and work together to effectuate improvement to their emergency response arrangements.
- 5.3 The exercise was adequate in demonstrating the emergency arrangements against the requirements of Licence Condition 8 in NIL-01 Variation 19 and the specific exercise objectives.
- 5.4 Based on the results of this exercise, the NNR concluded that the responses are adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public in the event of an emergency at the Koeberg site.
- 5.5 The NNR wrote to the licensee detailing the 14 observed findings and a list of issues have been created to track the resolution of these. The licensee responded positively to the findings and submitted a corrective action plan to the NNR on 28 April 2023. The licensee and relevant intervening organisations are implementing the corrective actions in accordance with the approved plan.