

		<b>ADMINISTRATIVE PROCEDURE</b>	Allocation Centre 38A	Reference Number <b>KAG-001</b>	Rev <b>7</b>
<b>NNR: NO No.:</b>	<b>EMERGENCY EXERCISE MANAGEMENT AND ASSESSMENT</b>				PAGE 1
<b>KORC NO</b>	<b>ACCESS</b> Nuclear Restricted	<b>IMPORTANCE CATEGORY</b> NSA	<b>NEXT REVIEW DATE</b> 2025-08-31	<b>DATE AUTHORISED</b> 2022-08-31	

<b>COMPILED / REVISED</b>	<b>REVIEWED</b>	<b>AUTHORISED</b>
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EMERGENCY PLAN CO-ORDINATOR	SENIOR PHYSICIST EMERGENCY MANAGEMENT	EMERGENCY MANAGEMENT MANAGER
<b>DATE</b> 2022-08-31	<b>DATE</b> 2022-08-31	<b>DATE</b> 2022-08-31

**THIS PROCEDURE HAS BEEN SEEN AND ACCEPTED BY:**

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<b>FCA</b>  PROTECTION	<b>ALARA REVIEW</b>  YES 2022-08-11	<b>SUPERSEDES</b> KAG-001, Rev 6 dd. 2020-06-03 FULL REVIEW
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## 1.0 PURPOSE

- 1.1 To describe the planning and subsequent conducting of emergency exercises and drills at Koeberg Nuclear Power Station to allow for testing of the effectiveness of the Emergency Response Organisation, reporting on the results and recommending corrective actions for implementation.

## 2.0 SCOPE

- 2.1 Applicable to the Emergency Management group and all Koeberg Operating Unit line groups involved with Emergency Response functions.

## 3.0 DEFINITIONS AND ABBREVIATIONS

### 3.1 Definitions

- 3.1.1 **Emergency Plan Co-ordinator** – The Emergency Planning person responsible for co-ordination of emergency planning functions and developing the existing EP process.
- 3.1.2 **Exercise Checklist** – A checklist of all items that may be required or need to be considered to successfully conduct an emergency plan exercise.
- 3.1.3 **Exercise Co-ordinator** – The Emergency Management staff member is responsible for co-ordinating, arranging, monitoring and evaluating emergency exercises at Koeberg Nuclear Power Station.
- 3.1.4 **Exercise Scenario** – A postulated sequence of events that has been contrived in order to evoke a particular response from the Emergency Response Organisation. The Exercise Scenario may contain many individual discipline scenarios and elements in order to create the impression of a particular sequence of events that are deemed necessary to test the ability of the ERO to respond satisfactorily.
- 3.1.5 **Exercise Scenario Development Group (ESDG)** – A group of specialists from various disciplines both from on-site and off-site intervening organisations who assist the Exercise Co-ordinator in the planning and compilation of various scenarios to be included in a scenario, which will ensure comprehensive testing of the exercise objectives.
- 3.1.6 **Intervening Organisations** – All stakeholder Organisations that have a functional role to play in the Koeberg Emergency Plan, such as City of Cape Town, Western Cape Government, South African National Defence Force, South African Police Services, etc. who have responsibilities towards supporting the implementation of the Integrated Koeberg Emergency Plan.

- 3.1.7 **Standby Team Call-in Drill** – A pager / SMS test that's done outside of normal working hours. Emergency standby team members are expected to read the instructions on the SMS or the pager message and phone the given number within 15 minutes to confirm that they received the test. Those who don't phone the given number within 15 minutes will be phoned on their cell phones. All personnel are required to respond or to be reachable via phone within 35 minutes.
- 3.1.8 **Standby Team Call-out (touch-the-wall) Drill** – A pager / SMS call-out test that's done outside of normal working hours. Emergency standby team members are expected to read the instructions on the SMS / pager message and physically drive to and report at their emergency facility location as per their callout requirements. Responders are required to respond to the given location within the response time requirements for their standby position [REDACTED]
- 3.1.9 **Umpire** – An individual designated by the EP-Coordinator to assist with the conduct or evaluation of the exercise / drill.

## 3.2 Abbreviations

- 3.2.1 **CCT** – City of Cape Town
- 3.2.2 **CR** – Condition Report
- 3.2.3 **EM** – Emergency Management
- 3.2.4 **ERO** – Emergency Response Organisation
- 3.2.5 **ESDG** – Exercise Scenario Development Group
- 3.2.6 **HVCR** – High Voltage Control Room
- 3.2.7 **LAN** – Local Area Network
- 3.2.8 **NNR** – National Nuclear Regulator
- 3.2.9 **OSC** – Operations Support Centre
- 3.2.10 **OTG** – Operating Training Group
- 3.2.11 **TSC** – Technical Support Centre

## **4.0 REFERENCES**

### **4.1 Referenced Documents**

- 4.1.1 238-53, Rev 1: Emergency Preparedness and Response Requirements for Nuclear Installations
- 4.1.2 335-2, Rev 5: Koeberg Nuclear Power Station Management Manual
- 4.1.3 36-471, Rev 0: Management of Emergency Preparedness
- 4.1.4 KAA-500, Rev 14: The Process for Controlled Documents
- 4.1.5 KAA-811, Rev 3: The Integrated Koeberg Nuclear Emergency Plan
- 4.1.6 KSA-011, Rev 14: The Requirements for Controlled Documents

### **4.2 Applicable Documents**

- 4.2.1 KSA-038: Requirements for Quality Records
- ██
- ██

## **5.0 RESPONSIBILITIES**

- 5.1 The Emergency Management Manager is responsible for ensuring compliance with this procedure. Individual actions required will be delegated to the various Emergency Management staff members at the discretion of the Emergency Management Manager.
- 5.2 The ESDG members are responsible for ensuring that they provide a detailed scenario to test their functional area of the business as required. ESDG members are also responsible for the monitoring of performance within their functional areas during the conducting of an Emergency Planning Exercise.
- 5.3 The Emergency Planning Co-ordinator is responsible for co-ordinating all aspects of Emergency Plan Exercise Management as spelled out in this procedure.

## 6.0 PROCESS

### 6.1 Planning

- 6.1.1 An exercise plan must be developed for a five year period in advance, and all planned exercises will be captured on the 5 Year Exercise Plan [REDACTED]

**NOTE:** [REDACTED] – *The 5 Year Exercise Plan is a 'living document' and will be independently reviewed of this procedure at regular intervals in order to reflect the latest planning status of the exercise and drill programme.* [REDACTED]  
[REDACTED]

- 6.1.2 The exercise co-ordinator shall identify potential dates for exercises and drills that will be required to test the Emergency Response Organisation (ERO). The choice of these dates should take into account the maximum availability of staff. (Outage dates and major leave periods should be avoided to ensure participation of as many staff members as possible for exercise participation).
- 6.1.3 These dates should ideally make provision for each of the Operating Shifts to have an opportunity to participate in at least 1 exercise each year, and one of these dates shall be designated as the annual Koeberg Station Emergency Plan Exercise, providing it is mutually acceptable to all Intervening Organisations.
- 6.1.4 Once these dates have been set, they shall be entered onto the Koeberg Station Calendar to ensure that all aspects of the business have access to them for planning purposes.
- 6.1.5 The National Nuclear Regulator (NNR) will provide dates at approximately two yearly intervals for the conducting of Licensing Exercises.
- 6.1.6 All announced exercise dates should be regularly added to the Koeberg Station Calendar [REDACTED] and the Stakeholder Management Group to ensure advertising and timeous notification of planned exercises and drills.
- 6.1.7 Standby team call-out (touch-the-wall) drills shall be performed at least once biennial.
- 6.1.8 Standby team call-in drills shall be performed once every quarter.
- 6.1.9 Muster exercises shall be performed once every quarter.

## **6.2 Development**

- 6.2.1 The EM Manager will nominate Exercise Scenario development Group (ESDG) members based on the type of exercise and scenarios that may be required.
- 6.2.2 The ESDG will be convened by the Exercise Co-ordinator, and draft exercise objectives will be discussed based on requirements as determined by the following factors:
- Five Year Exercise Plan requirements.
  - Operational Experience from the nuclear industry.
  - Previous exercise findings and areas for improvement that have been identified.
- 6.2.3 The ESDG may be convened as many times as is required in order to finalise the exercise scenario appropriately.
- 6.2.4 The ESDG quorum consists of a representative of Emergency Management and Operating (or OTG) as 'n minimum. Representatives of the following groups / departments may need to be included in the ESDG, depending on the scenario:
- Radiation Protection – Any exercise in the controlled zone or with radiological implications
  - Engineering – For TSC exercises that involve engineering input / assistance.
  - Maintenance – OSC / Damage Control scenarios, the individual group representatives (EMS, MMS, IMS, MSS or E&S) need to be involved where there are damage control activities applicable to those groups.
  - Chemistry – OSC / Damage Control scenarios involving chemistry
- 6.2.5 Exercise scenario confidentiality shall be enforced by all members of the ESDG to a level appropriate to the type of exercise or drill being prepared for. Disclosure of scenario details to players will be at the discretion of the Exercise Co-ordinator and should be agreed upon at ESDG meetings.
- 6.2.6 Umpires should be members of the ESDG where appropriate.
- 6.2.7 The final decision for inclusion of exercise objectives will be at the discretion of the EM Manager.
- 6.2.8 The ground-rules for an exercise will be compiled into a package by the Exercise Co-ordinator, and these ground rules shall be communicated to all exercise participants prior to the exercise being conducted



6.2.9 The Exercise Co-ordinator shall use a checklist to ensure that all aspects and details of the exercise preparation which are catered for commensurate with the level of the exercise being conducted. The elements of the exercise scenario shall be co-ordinated and tracked by the Exercise Co-ordinator by means of an exercise checklist. Some examples of details required may be as follows:

- Individual discipline scenarios (e.g., Plant, Meteorological, Radiological, Plume, etc.)
- Provision of extra supplies for exercise purposes so as not to disturb emergency kits.
- Arrangements for catering, visitors access forms, transport, etc.
- Specific cues required for areas that require umpire guidance for exercise success.

### 6.3 Logistics

6.3.1 Scheduling of player participation in exercises will be performed by the Exercise Co-ordinator in consultation with the relevant representatives of the various intervening organisations.

6.3.2 Attendance of Eskom players required will be circulated by the EM clerk.

6.3.3 Individuals that are scheduled to participate, but are unable to attend, shall notify the EM Clerk timeously of their inability to attend. Ideally, a suitable replacement shall be arranged by the incumbent.

6.3.4 Notification of the press may be required for major exercises that have a potential public impact, and such notification of the press shall be conducted by the Stakeholder Management Group as required.

6.3.5 The Exercise Co-ordinator, in conjunction with the EP (Training) Co-ordinator and the EM Manager, shall nominate umpires as required for certain exercise in order to assist with assessment of the performance of exercise participants.

6.3.6 The Exercise Co-ordinator shall prepare suitable exercise packages as required for players and umpires, depending on the type and level of exercise or drill being conducted. Umpire packages should include scenario outlines and exercise objectives; player packages should include the necessary ground rules and expectation for players to ensure their successful participation. Such expectations may also be provided to players in a pre-exercise briefing.

**NOTE:** *These packages are not required to be kept as records.*

## **6.4 Conducting**

- 6.4.1 Exercises shall be conducted with as much realism as possible (within the scope and objectives of the exercise) in order to create as real an experience as possible for the exercise participants.
- 6.4.2 Player / participant performance shall be monitored and evaluated against the objectives that have been developed for that particular exercise by suitably qualified umpires wherever required and shall be documented accordingly. This documentary proof may be required / used for purposes of re-authorisation of individuals.
- 6.4.3 The Exercise Co-ordinator or Umpires must clarify scenario uncertainties with players should they arise during conduct of the exercise in order to ensure that exercise or drill objectives are adequately tested.
- 6.4.4 Scenarios should, when required, incorporate unexpected events and details into the scenario to ensure that the Emergency Response Organisation is sufficiently tested.
- 6.4.5 The Exercise Co-ordinator reserves the right to have certain aspects of the Exercise simulated.
- 6.4.6 Events that impact conventional or nuclear safety may require suspension of the drill / exercise (e.g., an actual emergency). The Exercise Co-ordinator will decide whether the drill should be suspended based on the ongoing situation on site and any other suspension criteria established as part of the exercise development.

## **6.5 Post Exercise Arrangements**

- 6.5.1 Emergency Plan facilities and resources that may have been used during the exercise should be replenished immediately, and all work areas should be restored to full functionality as soon as possible after the exercise.
- 6.5.2 Paperwork and electronic records created during the exercise must be collected and provided to the Exercise co-ordinator directly after the exercise. The exercise co-ordinator shall double-check documentation generated from exercises and actual events before record packages are compiled.
- 6.5.3 The Exercise Co-ordinator shall arrange for an umpire and player debriefing as soon as possible after the exercise.
- 6.5.4 Following all major exercises, the Exercise Co-ordinator and the ESDG members (if required) shall analyse results of the exercise and compile a report of the exercise outcomes within three months following the last exercise in an exercise cycle. Desktop drills and smaller exercises may not require formal reports but participants should be encouraged to discuss learning points after such drills.

6.5.5 An exercise report may be waived provided that a letter is drafted stating that all exercise objectives are met and no areas for improvement were identified. The waiver shall be approved by the Emergency Management Manager.

6.5.6 For standby team call-in and call-out drills, a CR shall be raised if an individual does not respond in accordance with the drill criteria in the definition.

## **6.6 Corrective Action Management**

6.6.1 Areas for improvement documented in the exercise report shall be registered on the Devonway database as applicable and shall be tracked to successful resolution.

6.6.2 Condition Report (CR) must be raised at the end of business day for objectives not met or other non-compliances being identified during an exercise that affects the successful outcome of the exercise.

6.6.3 Exercises issues and recommendations that fall outside the responsibility of EM, should be discussed at the EP Forum for allocation to line groups where applicable.

6.6.4 The Exercise co-ordinator shall ensure that the corrective actions that have been closed out are re-tested during future exercises as appropriate.

## **7.0 RECORDS**

7.1 All exercise related documentation shall be maintained in accordance with KSA-038 and the EM Quality Records List.

## **8.0 ATTACHMENTS**

Appendix 1 – Justification

## **APPENDIX 1**

### **JUSTIFICATION**

#### **Revision 6**

1. Added the statement that an exercise report may be waived provided that a letter is drafted stating that all exercise objectives are met and approved by the Emergency Management Manager (CR 109529-001 CA).
2. Added an instruction that a condition report must be raised the same day when critical issues or non-compliances are identified during Emergency Plan (EP) exercises that affect the successful outcome of the exercise (CR113496-001 CA).
3. Added definition for an Umpire
4. Added guidance for the termination of a drill or exercise.
5. Stated that umpires should be taken for the ESDG where appropriate

#### **Revision 7**

1. Removed references to Attachment 1 and replaced it with references to [REDACTED] which has replaced the 5-Year exercise plan spreadsheet (CR 132512-002 CA).
2. Added the definition and frequency requirements of standby team call-out drills (GA 40664).
3. Added the definition and frequency requirements of standby team call-ins drill (GA 40664).
4. Added the requirements with regards to frequency of muster exercises (GA 40664).
5. Minor editorial changes throughout the document.