

		WORKING PROCEDURE	Allocation Centre 38A	Reference Number KAG-003	Rev 15
NNR: NO No.:	MAINTENANCE AND INVENTORY CONTROL OF EMERGENCY MANAGEMENT FACILITIES AND EQUIPMENT				PAGE 1
KORC NO	ACCESS Nuclear Restricted	IMPORTANCE CATEGORY SR	NEXT REVIEW DATE 2027-02-28	DATE AUTHORISED 2024-02-29	

COMPILED / REVISED	REVIEWED	AUTHORISED
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DATE 2024-02-29	DATE 2024-02-29	DATE 2024-02-29

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ALARA RELATED

FCA PROTECTION	ALARA REVIEW YES 2024-02-13	SUPERSEDES KAG-003, Rev 14 dd. 2023-10-17 FULL REVIEW
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PAGE STATUS INDEX

	REVISION						
Page	14	15					
1	x	x					
2	x	x					
3	x	x					
4	x	x					
5	x	x					
6	x	x					
7	x	x					
8	x	x					
9	x	x					
10	x	x					
11	x	x					
12	x	x					
13	x	x					
14	x	x					
15	x	x					
16	x	x					
17	x	x					
18	x	x					
19	x	x					
20	x	x					
21	x	x					
22	x	x					
23	x	x					
24	x	x					
25	x	x					
END							

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	CONTENTS	PAGE
1.0	PURPOSE	4
2.0	SCOPE	4
3.0	DEFINITIONS AND ABBREVIATIONS	4
4.0	REFERENCES	6
5.0	RESPONSIBILITIES	7
6.0	EQUIPMENT CHECKS	7
7.0	EMERGENCY KITS AND INSTRUMENTS	11
8.0	PROCESS	13
9.0	EMERGENCY EQUIPMENT LIST (EITER LIST).....	14
10.0	RECORDS	16
11.0	ATTACHMENTS	16
	Appendix 1 – Work Flow Responsibility Matrix	17
	Appendix 2 – Emergency Equipment Issue Impact Assessment Process	24
	Appendix 3 – Justification	25

1.0 PURPOSE

- 1.1 To specify the maintenance and inventory control to ensure the continuous availability of adequate emergency equipment and facilities of the Emergency Management Group to support the Koeberg's Emergency Plan.

2.0 SCOPE

- 2.1 Applicable to the Emergency Management Group and other supporting groups at Koeberg.

3.0 DEFINITIONS AND ABBREVIATIONS

3.1 Definitions

- 3.1.1 **Cal Lab** – The subsection of the IMS department responsible for the calibration of radiation monitoring equipment.

- 3.1.2 PAIA section 38(b).Redacted as it contains sensitive information

- 3.1.3 **Emergency Network Equipment** – All network switches, IP telephones, routers, etc. that are part of the an emergency centers' (CAS, ECC, AECC and HVCR) communication backbone.

- 3.1.4 **Functional Check** – Check to ensure equipment functions as required.

- 3.1.5 **Maintenance** – General term used to describe the various Maintenance Departments, i.e. Mechanical, Electrical and Instrumentation.

- 3.1.6 **Maintenance Technology Services** – The Maintenance Technology Services Group, who will provide and ensure the availability of the appropriate resources, i.e. telephones, radios, sirens, etc.

- 3.1.7 **Preventative Maintenance** – Scheduled and routine maintenance undertaken on equipment prior to failure to ensure and preserve functionality.

PAIA section 38(b).Redacted as it contains sensitive information

3.2 Abbreviations

- 3.2.1 **ACP1** – Access Control Point 1 (Access point to Perimeter Protected Area)

- 3.2.2 **ACP2** – Access Control Point 2 (Access point to Plant Area)

- 3.2.3 **AECC** – Alternate Emergency Control Centre

- 3.2.4 **AESL** – Alternate Environmental Sampling Laboratory

- 3.2.5 **BGAN** – Broadband Global Area Network
- 3.2.6 **CAS** – Central Alarm Station
- 3.2.7 **CCT** – City of Cape Town
- 3.2.8 **CCTV** – Closed Circuit Television
- 3.2.9 **CR** – Condition Report
- 3.2.10 **DOC** – Disaster Operations Centre
- 3.2.11 **DRD** – Direct Reading Dosimeter
- 3.2.12 **EC** – Emergency Controller PAIA section 38(b).Redacted as it contains sensitive information
- 3.2.13 **ECC** – Emergency Control Centre
- 3.2.14 **EDF** – Electricité de France, French utility operating similar PWR Power Plants to Eskom
- 3.2.15 **ETER** – Equipment Important to Emergency Response
- 3.2.16 **EM** – Emergency Management Group
- 3.2.17 **EP** – Emergency Plan
- 3.2.18 **EPD** – Electronic Personal Dosimeter
- 3.2.19 **ERO** – Emergency Response Organization
- 3.2.20 **ESL** – Environmental Sampling Laboratory
- 3.2.21 **FSV** – Field Survey Vehicle
- 3.2.22 **GIS** – Geographic Information System
- 3.2.23 **HVCR** – High Voltage Control Room
- 3.2.24 **IM** – Information Management / Technology Group
- 3.2.25 **IP** – Internet Protocol
- 3.2.26 **ISDN** – Integrated Services Digital Network
- 3.2.27 **IT** – Information Technology / Management Group
- 3.2.28 **MTS** – Maintenance Technology Services
- 3.2.29 **NNR** – National Nuclear Regulator
- 3.2.30 **OSC** – Operations Support Centre
- 3.2.31 **PA** – Public Announcements

- 3.2.32 **PAZ** – Precautionary Action Zone
- 3.2.33 **PHO** – Plant Health Operational
- 3.2.34 **PNS** – Public Notification System
- 3.2.35 **QFD** – Quartz Fibre Dosimeter
- 3.2.36 **SM** – Shift Manager
- 3.2.37 **TLD** – Thermoluminescent Dosimeter
- 3.2.38 **TRCF** – Tygerberg Radiation Casualty Facility
- 3.2.39 **TSC** – Technical Support Centre
- 3.2.40 **UPS** – Uninterrupted power supply
- 3.2.41 **VOIP** – Voice Over Internet Protocol

4.0 REFERENCES

4.1 Referenced Documents

- 4.1.1 335-2, Rev 6: Koeberg Nuclear Power Station Management Manual
- 4.1.2 KAA-500, Rev 14: The Process for Controlled Documents
- 4.1.3 KAA-811, Rev 4: Integrated Koeberg Nuclear Emergency Plan
- 4.1.4 KLA-005, Rev 3: Koeberg Event Classification and Reporting Criteria Listing
- 4.1.5 KSA-011, Rev 14: The Requirements for Controlled Documents

PAIA section 38(b).Redacted as it contains sensitive information

5.0 RESPONSIBILITIES

- 5.1 The Emergency Management Manager is responsible for ensuring that the inventory and equipment control process is implemented and maintained.
- 5.2 The Facilities and Equipment Officer, with assistance from the relevant stakeholders, is responsible for implementing the process.
- 5.3 Remaining responsibilities are detailed in Appendix 1 – Work Flow Responsibility Matrix.

6.0 EQUIPEMENT CHECKS

Emergency equipment is kept at specific locations both on and off site for use by the Koeberg Emergency Plan. This procedure refers to equipment checks of all equipment listed in the following forms:

PAIA section 38(b).Redacted as it contains sensitive information

NOTE: *Checks are allowed to be performed by contractors as long as a detailed reports / checklists (indicating the exact equipment checked and the manner in which it was checked) are supplied to Eskom.*

The EM Facilities and Equipment Officer must ensure that the abovementioned documents are completed in accordance with the requirements listed in this procedure.

6.1 PNS Siren System Checks

- 6.1.1 The following siren checks are performed based on guidance from and the

- Report (Poll) Test
- Quiet Test

- 6.1.2 A siren is declared inoperable if after any test:

- An MC6 type (omni) has 3 amplifier or driver failures (75% capacity)
- A UV6 type siren (omni) has 2 amplifier or driver failures (67% capacity)
- A UV1 type siren (farm) has an amplifier or driver failure
- Failure to communicate with any siren.
- Both Audio A and Audio B fail.

6.1.3 Sirens found to be inoperable shall be communicated to the NNR by raising a CR in accordance with the KLA-005 process.

6.1.4 The public notification system will be declared inoperable if both the following condition

PAIA section 38(b).Redacted as it contains sensitive information

- The [redacted] s inoperable OR the ECC, HVCR (normal channel) and [redacted] sirens control stations are all unable to communicate with operational sirens;

AND

- The HVCR control station, when set to the simplex channel, is unable to transmit to (and receive communication back from) all the operational sirens within the PAZ in under ten minutes.

6.1.5 If a public notification system defect could potentially challenge the Emergency Plan specified notification times, then a compensatory measure needs to be put in place (e.g. assigning a dedicated person to operate the sirens) to ensure that the public notification time frames will be met.

6.2 Pager Test

6.2.1 Pager tests are performed on a weekly basis using guidance in

6.2.2 The pager test response acceptance criteria are in accordance with the Pager Test Expectations and

PAIA section 38(b).Redacted as it contains sensitive information

6.3 Telephone Checks

6.3.1 A telephone is considered functional if it can place a call to its intended locations. This could be an internal call or an external call.

6.4 VOIP Recording

6.4.1 The [redacted] VOIP phone recorder records all phone calls made on the EP network phones (CISCO / IP Phones). The [redacted] application is considered functional if it recorded a recent known phone call with sufficient quality to interpret the conversation from the recording.

6.5 BGAN Airtime

6.5.1 BGAN airtime is checked by confirming the current balance with the airtime provider, which is an external company.

6.5.2 The airtime balance update should be considered at 50 units or lower for the FSVs and 100 units or lower for the base units (ECC and KILO1).

6.5.3 Additional BGAN airtime needs to be purchased to prevent existing airtime from expiring.

6.6 Fax Checks

- 6.6.1 A fax machine is considered functional if it can send or receive a fax to (or from) the machine's programmed location(s).
- 6.6.2 During fax machine checks ensure that each machine has enough paper to receive at least 20 fax pages.
- 6.6.3 A fax modem / server is considered operable if it can send faxes to another working fax machine.

6.7 ISDN Lines

- 6.7.1 The EP ISDN lines are considered operable if the ISDN lines are listed as active on the cisco router.

PAIA section 38(b).Redacted as it contains sensitive information

6.9 Lapel Microphones

- 6.9.1 The lapel microphone is considered functional if the recording is captured with sufficient quality to interpret the conversation from the recording.
- 6.9.2 EM shall ensure that each lapel microphone has a set of batteries.

6.10 TRCF Walkdown

- 6.10.1 Walkdown checks at Tygerberg Radiation Casualty Facility for any irregularities or visible defects.

6.11 Control Centre PA systems

- 6.11.1 A facility's PA system is considered operable if an announcement made from any microphone (including the cordless microphones) can be heard at all workstations within the facility.

PAIA section 38(b).Redacted as it contains sensitive information

6.13 Smart board

6.13.1 The following must be done during the smart board check:

- Ensure link to █████ is operable. PAIA section 38(b).Redacted as it contains sensitive information
- Calibrate the smart board.

6.14 Satellite Phone Checks

6.14.1 A satellite phone is deemed functional if it can register on the respective network and place a call to another working phone.

6.14.2 The satellite airtime must be replenished when below 90 minutes (1.5 hours talk time) or if the airtime is soon to expire.

6.15 Network Infrastructure

6.15.1 The EP network infrastructure is checked via

6.15.2 █████ is considered operational if the █████ web report has been updated within the last 30 minutes.

6.15.3 The █████ report is checked on a weekly basis.

6.15.4 IT network defects will be resolved internally if possible, else it will be referred to the IT/IM group for assistance.

6.16 Cell Phone Checks

6.16.1 Cell phone is deemed functional if it can register on the respective network and can make a phone call to intended location.

6.16.2 During cell phone checks ensure the battery capacity is more than 50% if not place the phone on charge.

6.17 Emergency Kits and Instruments

6.17.1 See Section 7.0.

7.0 EM EMERGENCY KITS AND INSTRUMENTS

7.1 Equipment in Sealed Kits

- 7.1.1 Sealed kits is a collection of inventory that is sealed i.e. haversacks, trunks, trailers etc.
- 7.1.2 Sealed kits require visual and physical confirmation that the seals are still intact. If the seals are intact no other actions are required.
- 7.1.3 Sealed kits' entire contents must be checked once every 12 months.
- 7.1.4 Kits of which the seals are broken (or kits that don't have seals) must be checked monthly, and should be sealed again.

7.2 Non-Instruments

Any piece of equipment or inventory item that isn't an instrument (called non-instruments) needs to be checked according to the requirements below.

- 7.2.1 Check against contents of the non-instruments table of the relevant section in the _____
- 7.2.2 Visually inspect all items for irregularities.
- 7.2.3 Check the operation of all electronic and electrical items listed in the relevant non-instruments table.
- 7.2.4 Check filter canisters and dosimeters' (EPDs, QFDs and TLDs) regularly for expiration or calibration due date; and note the date on _____

7.3 Instruments

PAIA section 38(b).Redacted as it contains sensitive information

Instruments must be checked according to the requirements below.

- 7.3.1 Checks should be performed according to contents of the instruments table of the relevant appendix of _____
- 7.3.2 The calibration sticker needs to be checked to ascertain that the calibration is valid for period up to recalibration.
- 7.3.3 The instrument serial number (SERIAL NO.) and next recalibration date (RE CAL DATE) need to be filled into the Instruments table of the relevant appendix of _____
- 7.3.4 Instruments requiring recalibration shall be delivered to the calibration laboratory for recalibration. Calibration is outside the scope of this procedure.
- 7.3.5 A simple functional check should also be performed on each instrument. See section 7.5

7.4 Instrument Classification

7.4.1 Radiation measurement instruments designated for use during nuclear emergencies are divided in to three categories: count rate meters, dose rate meters and teletectors. The instruments are listed by type in the associated inventory and equipment check sheets (e.g.

7.4.2 The following instruments are Count Rate Meters

- Automess 6150 with SHP 360 probe
- Automess 6150 with SHP 180 probe
- Automess 6150 with AD-17 probe
- Ludlum L-177 (Frisker)
- ASP2-e with pancake probe or scintillation probe
- PCM5/1

7.4.3 The following instruments are Dose Rate Meters

- Automess 6150 with SHP 270 probe
- Any other ion chamber dose rate meter e.g. RO-2, Ludlum 9-4 or PDM-1

7.4.4 The following instruments are Teletectors

- Automess 6150 with a Teletector probe
- Automess 6112B

7.5 Functional Check

7.5.1 A functional check for EP Instruments involves the following actions:

- Switch on the instrument
- Perform a Battery check; replace battery if below 30% or if indicating Low.
- Switch the instrument to the lowest reading range (if not automatic) and check if the reader needle (or digital display) detects background radiation.
- If the instrument doesn't detect background radiation, then use an appropriate check source (e.g. gas mantle) to check instrument response.

7.5.2 If the instrument doesn't respond to the check source it is defective, see section 7.8.

7.6 Training and Exercises

7.6.1 Check and replenish equipment used during training and on exercises as soon as possible after the event.

7.6.2 Sealed Emergency Preparedness kits should preferably not be used for training. Specific items should rather be obtained from the ESL store for this purpose.

7.7 Calibration and Tests

- 7.7.1 Routine test and calibration of equipment will be carried out in accordance with the applicable routine schedule in Appendix 1.

NOTE: Calibration of radiation surveillance equipment shall be performed in accordance with [REDACTED] Control and Operation of Measuring and Test Equipment at Koeberg Nuclear Power Station.

7.8 Defective equipment

- 7.8.1 Defective equipment shall be replaced by the Supplementary Emergency Equipment (in [REDACTED]). Defective unit(s) needs to be separated from the operational units and submitted for repair or recalibration when possible.

PAIA section 38(b).Redacted as it contains sensitive information

7.9 Equipment quantities and excess equipment

- 7.9.1 The equipment quantities specified in [REDACTED] need to be maintained.
- 7.9.2 [REDACTED] has a section for listing excess equipment that is kept by in the ESL EP store but is not required for the emergency plan to function effectively.
- 7.9.3 Defective or uncalibrated equipment can be stored in the ESL EP store provided that the equipment (or the area in which the equipment is stored) is clearly demarcated.

8.0 PROCESS

- 8.1 The equipment test, maintenance and inventory control process is described in the Work Flow Responsibility Matrix, Appendix 1.
- 8.2 An Inventory list of Emergency Equipment must be displayed at specified EP equipment storage locations.

NOTE: The inventory of emergency equipment can be reduced to below the minimum specified levels only if a compensatory measure is in place to ensure the function for which the equipment was intended can still be achieved. The compensatory measure shall be approved by the EM Manager and documented in the form of a CR.

9.0 EMERGENCY EQUIPMENT LIST (EITER LIST)

9.1 Content of the EITER List

9.1.1 A list of emergency response equipment will be kept in the form of an Excel spreadsheet – this will be called the EITER list.

9.1.2 Equipment listed in the EITER list shall have the following characteristics listed or indicated:

- Name;
- Status of the specific equipment;
- Status of the set of equipment if a specific piece of equipment is part of a set of equipment that have redundancy;
- Comments on the status, etc.;
- Owner;
- Place of storage, where applicable (mobile / portable equipment);
- Function, use, application or purpose;
- If degraded or inoperable, the date that the degraded or inoperable state was identified;
- If degraded or inoperable, the date when the equipment is expected to be restored / returned to service;

NOTE: *Restoration dates will be included on the EITER list once provided by responsible group.*

9.1.3 The status of a set of equipment in the EITER list will be indicated by a number from 1 to 4 and a colour that corresponds to the number. The meaning of the numbers and colours are as follows:

- 1 – Red – Inoperable or not yet purchased;
- 2 – Yellow – Degraded but operable;
- 3 – Green – Operable, for redundant equipment no additional redundancy available;
- 4 – Blue – Operable with redundancy and/or no anomalies .

9.1.4 The EITER list is updated on a weekly basis as part of the standby handover presentation preparation.

9.1.5 A printed version of the EITER list is to be kept in the TSC Leader's file.

- 9.1.6 If there are any changes to the EITER list, the printed version shall be updated within a week.

9.2 EP Equipment Issues

- 9.2.1 A summary EP equipment issues shall be compiled into a single list, which includes:
- Date of identification
 - Equipment Description
 - Issues Description
 - Resolution Lead
 - Compensatory Measure
 - Resolution Date
 - Impact on Emergency Response Capabilities
- 9.2.2 A CR shall be raised whenever emergency equipment defects are initially identified.
- 9.2.3 For new equipment defects the impact on emergency response capabilities shall be determined using Appendix 2 – Emergency Equipment Issue Impact Assessment Process.
- 9.2.3.1 In the abovementioned process the cumulative impact on the emergency response capabilities shall be assessed by taking new and existing equipment defects into account.
- 9.2.3.2 The impact will be graded as Low, Medium or High. A higher grading will have more stringent response in accordance with Appendix 2.
- 9.2.4 The resolution times of degraded or inoperable items shall be decided on an ad-hoc bases by the relevant owner of the equipment in consultation with the Emergency Management.
- 9.2.5 The EP equipment issues list shall be included in the daily communication pack and shall be sent out weekly to the Shift Managers, ERO (as the standby presentation) and the Nuclear Services Manager.
- 9.2.6 EP equipment defects shall be tracked by the PHO and the EM manager or delegate shall attend the PHO meeting.
- NOTE:** Long term issues and projects shall be tracked by the EP Forum.
- 9.2.7 A CR shall be raised whenever there is a slip in resolution date.

10.0 RECORDS

10.1 Inventory check documents will be kept as per the EM Quality Records List.

11.0 ATTACHMENTS

Appendix 1 – Work Flow Responsibility Matrix

Appendix 2 – Emergency Equipment Issue Impact Assessment Process

Appendix 3 – Justification

WORK FLOW RESPONSIBILITY MATRIX							APPENDIX 1						
R – Responsible A – Approve F – File • – Outside Matrix Scope Y/N or N/Y – Decision C – Concur I – Informed S – Service [] – Mandatory Requirement () – As Appropriate/Required Flow Path:  Main Flow  Secondary Flow	ORGANISATION / FUNCTION												NOTES & REFERENCES
	N/A	EM OFFICER, FACILITIES AND EQUIPMENT	EM OFFICER, TRAINING AND DEVELOPMENT	EP CO-ORDINATOR	EM CLERK	EM MANAGER	IT / IM GROUP	MAINTENANCE TECHNOLOGY SERVICES	CALIBRATION LABORATORY	TRANSPORT	RELEVANT SUPPORT ORGANISATION	EM TECHNICIAN (ELECTRONIC SYSTEMS)	
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
1.0 EMERGENCY CONTROL CENTRES													
1.1 Perform regular visual checks of the ECC, TSC, HVCR and AECC.		[R]		(S)	[S]	(S)						(S)	
1.2 Report any defects on SAP as necessary.		[R]			[S]	(I)	(S)	(I)			(I)	(S)	Add defects to EM defect list
1.3 Maintain, repair or replace existing MTS responsible equipment with like for like.		[S]						[R]					Detailed siren maintenance outside the scope of
1.4 Install new equipment.		[R]		(I)		(C)					(S)		
1.5 Ensure the equipment complies with conventional safety standards.		[R]											Safety records
2.0 COMMUNICATIONS EQUIPMENT													
2.1 Radios													
2.1.1 Perform weekly radio functional checks.		[R]											
2.1.2 Hand defective radios to MTS for repair.		[R]						[S]					Defect list
2.2 Telephones & IP Network													
2.2.1 Perform weekly checks of the EP IT infrastructure using the report.		(S)		(I)		[I]	(I)					[R]	EM Manager to be informed of defects and anomalies and IT assistance requested where applicable.
2.2.2 Perform maintenance on EP Network backbone equipment when requested by EM.		(S)		(S)		[I]	[R]						Performed by IT / IM.
2.2.3 Perform monthly functional checks of all the ECC and AECC telephones and headsets.		[R]		(S)	(S)	(S)							
2.2.4 Report conventional telephone defects to MTS		[R]					(I)	[S]					Defect list

WORK FLOW RESPONSIBILITY MATRIX							APPENDIX 1						
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	N/A	EM OFFICER, FACILITIES AND EQUIPMENT	EM OFFICER, TRAINING AND DEVELOPMENT	EP CO-ORDINATOR	EM CLERK	EM MANAGER	IT / IM GROUP	MAINTENANCE TECHNOLOGY SERVICES	CALIBRATION LABORATORY	TRANSPORT	RELEVANT SUPPORT ORGANISATION	EM TECHNICIAN (ELECTRONIC SYSTEMS)	
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
2.2.5 Report emergency IP equipment defects / problems to IT / IM.		(S)				(S)	[I]					[R]	IT must be informed Defect list
2.2.6 Ensure that calls to and from the Cisco voice over IP phones are recorded and logged by the application.		[R]				[S]							A monthly test of _____ sufficient. PAIA section 38(b).Redacted as it contains sensitive information
2.3 Satellite communications													
2.3.1 Every two months, check backup satellite communication links between the ECC, AECC and DOC.		[S]				(I)	[R]				(S)		
2.3.2 Check monthly that the airtime balance of each BGAN unit is sufficient.		(S)				(I)						[R]	Inform EM Manager if balance is insufficient
2.3.3 Perform a monthly functional check of the EERI satellite phone handsets.		[R]				(I)							_____ Inform EM Manager of defects
2.3.4 Perform a verify check quarterly the _____ on the satellite network.		[S]				(I)					(S)	[R]	Inform EM Manager of defects
2.4 Facsimile Machines													
2.4.1 Perform monthly functional checks of the ECC,HVCR and AECC fax machines.		[R]				(S)						(S)	KFG-004
2.4.2 Report defective machines/lines to MTS or machine contractors.		[R]				(S)		(I)			(I)		Defect list
2.4.3 Perform a monthly functional check of the ECC and AECC electronic fax server.		(S)				(S)						[R]	KFG-004
2.4.4 Report defective lines, machines or modems to MTS or machine contractors as applicable.		[R]				(S)		(I)			(I)	(S)	Defect list

WORK FLOW RESPONSIBILITY MATRIX						APPENDIX 1							
R – Responsible A – Approve F – File • – Outside Matrix Scope Y/N or N/Y – Decision C – Concur I – Informed S – Service [] – Mandatory Requirement () – As Appropriate/Required Flow Path: Main Flow Secondary Flow	ORGANISATION / FUNCTION												NOTES & REFERENCES
	N/A	EM OFFICER, FACILITIES AND EQUIPMENT	EM OFFICER, TRAINING AND DEVELOPMENT	EP CO-ORDINATOR	EM CLERK	EM MANAGER	IT / IM GROUP	MAINTENANCE TECHNOLOGY SERVICES	CALIBRATION LABORATORY	TRANSPORT	RELEVANT SUPPORT ORGANISATION	EM TECHNICIAN (ELECTRONIC SYSTEMS)	
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
2.4.5 Ensure the availability of adequate stocks of fax machine paper at the ECC,HVCR and AECC.		(S)			↓ [R]								Order and replace as required
2.5 Other checks													
2.5.1 Every two months, perform send & receive facsimile and telephone test with Framatome.		(S)			[R]	(S)							Check links between TSC, ECC and Framatome
2.5.2 Perform a Quarterly check of the estimated runtime of the ECC and AECC UPS.		[S]				(S)						↓ [R]	
2.5.3 Perform monthly check of the ISDN lines.		[I]				(I)	(S)	(I)			(S)	↓ [R]	Defects to be raised with MTS and escalated to Telkom if required.
3.0 EMERGENCY KITS													
3.1 Perform monthly inventory checks of emergency kits including the FSVs.		↓ [R]				(I)							
3.2 Replenish exhausted stocks used in emergency kits.		↓ [R]		[S]									EP Coordinator to assist when stocks were used for training
3.3 Replace out-of-calibration instruments.		↓ [R]							[S]				
3.4 Perform a quarterly functional test of the FSVs and the other emergency field survey kits.		[S]										↓ [R]	
4.0 INSTRUMENTS													
4.1 Calibrate radiation instruments as per instrument requirements.		[S]					[I]		•				Outside scope of
4.2 Perform a monthly functional check of the EP instruments.		↓ [R]											
4.3 Replace spent batteries.		↓ [R]							(S)				

WORK FLOW RESPONSIBILITY MATRIX						APPENDIX 1							
R – Responsible A – Approve F – File • – Outside Matrix Scope Y/N or N/Y – Decision C – Concur I – Informed S – Service [] – Mandatory Requirement () – As Appropriate/Required Flow Path:   Main Flow Secondary Flow	ORGANISATION / FUNCTION												NOTES & REFERENCES
	N/A	EM OFFICER, FACILITIES AND EQUIPMENT	EM OFFICER, TRAINING AND DEVELOPMENT	EP CO-ORDINATOR	EM CLERK	EM MANAGER	IT / IM GROUP	MAINTENANCE TECHNOLOGY SERVICES	CALIBRATION LABORATORY	TRANSPORT	RELEVANT SUPPORT ORGANISATION	EM TECHNICIAN (ELECTRONIC SYSTEMS)	
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
4.4 Update the inventory lists.		[R]				(I)							
4.5 Collect and deliver off-site organisation instruments for calibration.		[R]							[C]		(S)		Access to be arranged via the relevant off-site intervening organisation.
5.0 VEHICLES													
5.1 Provide vehicles for emergency radiation surveillance.		[S]				[I]				[R]			
5.2 Equip vehicles with equipment for emergency radiological surveillance.		[R]											Inventory list
5.3 Refuel emergency vehicles if the fuel quantity is less than ½ a tank.		[R]								[S]			Vehicle logbook
5.4 Renew vehicle licences annually.		[S]								[R]			Record expiry date
5.5 Perform routine maintenance service of emergency vehicles.		[C]								[R]			
5.6 Repair defects on emergency vehicles.		[S]				[I]				[R]			
5.7 Provide additional vehicles to supplement the emergency fleet.		[C]								[R]			
5.8 Renew vehicle petrol cards biennially		[S]								[R]			Record expiry date
6.0 PUBLIC NOTIFICATION SYSTEMS													
6.1 Testing													
6.1.1 Perform weekly “silent” test from ECC control station to determine the condition of individual sirens and ECC control station.		[R]				(I)		(I)					

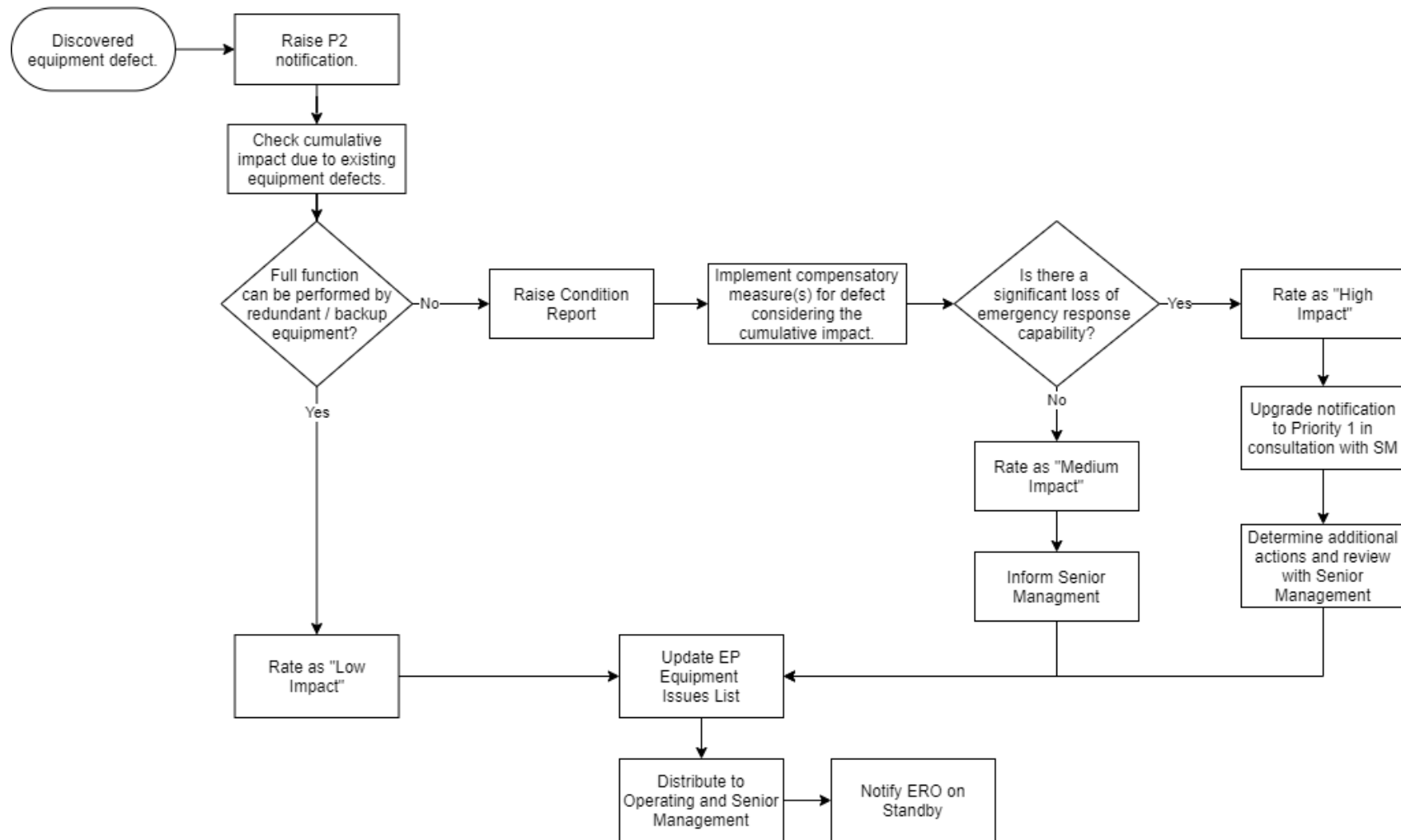
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ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
6.1.2 Perform a monthly control station "report" test from the HVCR.		[R]						(I)					
6.1.3 Perform a monthly control station "report" test from the AECC and CCT.		[R]						(I)					
6.1.4 Arrange annual "full power" test.		[R]		[S]		[S]		[S]					
6.1.5 Conduct the "full power" siren test.		[R]		(S)	(S)	[S]		[S]		(S)	(S)		Transport to provide vehicles for siren observers.
6.1.6 Raise defects to MTS arising from any failures from the above tests.		[R]						[I]					P2 – Control station defects or siren defects leading to inoperability P3 – Siren defects that don't lead to inoperability
6.1.7 Notify the CCT and NNR of inoperability.		[R]				[I]						[I]	Distribute the siren status sheet or raise a CR within five working days.
6.1.8 Attend to defects. Report possible extended times to Emergency Management.		[I]						[R]					
6.2 Control Stations													
6.2.1 Perform functional tests of all control stations and associated "high" sites.		[I]						[R]					Test Report
6.2.2 Raise P2 defects and report any failures identified during tests to Emergency Management		[S]				[I]		[R]					EM may also raise the defects SAP entries
6.3 Sirens													
6.3.1 Perform battery and solar system condition tests.		[I]						[R]					Test Report
6.3.2 Perform functional tests.		[I]						[R]					Test Report
6.3.3 Perform conditional inspections.		[I]						[R]					Inspection Report

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ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
6.3.4 Perform battery equalisation service.		[I]						[R]					Service Report
6.3.5 Raise defects and report any failures identified during tests to EM		[I]						[R]					EM may also raise the defects
6.4 PNS Inoperability													
6.4.1 ECC and / or HVCR control station not communicating OR inoperable.		[R]				[I]		[I]					Test could have been performed by another qualified individual
6.4.2 Request the _____ to test the _____ siren control station.		[R]				(S)					[S]		Can be performed by any other qualified individual
6.4.3 CCT DOC siren control station communicates successfully?											Y/N		to perform test Y – PNS still operable
6.4.4 Raise P2 defect to resolve ECC and / or HVCR communication issues.		[R]				[S]	[I]	[I]					MTS to be informed.
6.4.5 Test the sirens from the HVCR simplex channel within 2 hours.		[R]				(S)		(S)					Can be performed by any other qualified individual
6.4.6 HVCR simplex channel can communicate with all the operable sirens within the PAZ in 10 min?		N/Y											Y – PNS still operable N - PNS inoperable
6.4.7 Inform Shift Manager and raise priority 2 defect to restore defective equipment.		[R]				[S]	[I]	[I]					OPS will need to sound the sirens on CCT's behalf.
6.4.8 Inform CCT, Duty EC and Nuclear Services Manager.						[R]							
6.4.9 Inform SM and raise P1 defect with permission from SM.		[R]				[S]	[I]	[I]					Declare PNS inoperable
6.4.10 Inform CCT Duty EC and Nuclear Services Manager.						[R]							

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ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
7.0 FOODSTUFFS IN ECC													
7.1 Ensure sufficient supplies of food, hygiene products and water to cater for 7 days of minimum staffing.		[R]			(S)	(I)							Record the amount and expiry date of food and water at ECC and OSC. Order additional supplies if needed.
8.0 AUDIO-VISUAL EQUIPMENT													
8.1 Perform a <u>monthly</u> function check of the recording system.		(S)				(I)						[R]	Inform EM manager of defects.
8.2 Perform a quarterly function check of the lapel microphones.		[S]				(I)					[S]	[R]	Inform EM manager of defects.
8.3 Ensure that each lapel microphone has 2 sets of batteries available for use. Ensure that all batteries are within their recommended storage life.		[R]			(S)								
8.4 Perform monthly function check of cordless microphones		[R]											
8.5 Perform a monthly function check of the ECC PA system		[R]											
8.6 Perform a monthly function check of the system		[R]		(S)							(I)		Inform EM Technician of any failures.
8.7 Perform quarterly check of the smart board		[R]									[S]		
9.0 PAGER SYSTEM													
9.1 Perform weekly functional check of the pager system		[S]			[R]	(S)							<u>Standby List</u>
9.2 Raise defects or replace pagers for any failures identified from the test.		[R]			(S)		(I)						Defect list

APPENDIX 2

EMERGENCY EQUIPMENT ISSUE IMPACT ASSESSMENT PROCESS



APPENDIX 3

JUSTIFICATION

Revision 14

1. Added TRCF walkdown checks on Equipment checks as 6.10.1(page 9)
2. Changed service(s) activity 4.5 in appendix 1 from EM technician to relevant support organisation.

Revision 15

1. Added 8.2 under processes, “An Inventory list of Emergency Equipment must be displayed at specified EP equipment storage locations”.