Eskom	ADMINISTRATIVE PROCEDURE	Allocation Centre 38A	Reference Number KAA-632	Rev 11
NNR: NO No.:	ALARA PROGRAMME			PAGE 1

KORC	ACCESS	IMPORTANCE CATEGORY	NEXT REVIEW DATE	DATE AUTHORISED
NO	Nuclear Restricted	SR	2023-09-18	2020-09-18

COMPILED / REVISED	REVIEWED	AUTHORISED
(Sgd) A LEWIS	(Sgd) S PIETERSEN	(Sgd) T KARSTEN
A LEWIS	S PIETERSEN	T KARSTEN
SENIOR RADIATION PROTECTION ASSISTANT	SENIOR ENGINEER RADIATION PROTECTION	MANAGER RADIATION PROTECTION
DATE 2020-09-15	**DATE** 2020-09-17	**DATE** 2020-09-18

THIS PROCEDURE HAS BEEN SEEN AND ACCEPTED BY:

D de Villiers	Document Custodian
N Mokoto	Senior Licensing Physicist RP
J Groenewald	ALARA Co-Ordinator
P Sesinyi	Chemistry
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A Davis	EMS
L Singh	E&S
B Johnson	MMPS
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D Smith	IMS
Z Vanda	MMS
A Mthandi	I&T
K Phiri	MSS

FCA	ALARA REVIEW	SUPERSEDES
PROTECTION	YES 2020-09-03	KAA-632, Rev 10 dd. 2017-09-27 FULL REVIEW

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1.0 PURPOSE

1.1 To describe the process and responsibilities for the implementation of the formal ALARA programme.

2.0 SCOPE

2.1 Applicable to all work carried out in Radiological Controlled Zones at Koeberg Nuclear Power Station.

3.0 DEFINITIONS AND ABBREVIATIONS

3.1 Definitions

3.1.1 **Alpha Value** – The attribution of a monetary value or alpha value to dose saving in Eskom is a means of defining how much money in Rands may be spent to avert one Sievert.

3.1.2 **Controlled Zone** – An area containing radiological hazards to which access is restricted to authorised individuals.

3.1.3 **Radiation Protection Certificate** – A document summarising the radiological conditions of work locations and specifying the radiological precautions necessary to work in these locations.

3.2 Abbreviations

3.2.1 **ALARA** – As Low As Reasonably Achievable

3.2.2 **CR** – Condition Report

3.2.3 **KNPS** – Koeberg Nuclear Power Station

3.2.4 **MRC** – Management Review Committee

3.2.5 **POD** – Plan of the Day

3.2.6 **RP** – Radiation Protection

3.2.7 **RPC** – Radiation Protection Certificate

3.2.8 **SAC** – Station ALARA Committee

3.2.9 **SAP** – Senior Authorised Person (RP)

3.2.10 **SRPA** – Senior Radiation Protection Assistant

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4.0 REFERENCES

4.1 Referenced Documents

4.1.1 335-2. Rev 5: Koeberg Nuclear Power Station Management Manual

4.1.2 KAA-500, Rev 13: The Process for Controlled Documents

4.1.3 KSA-011, Rev 14: The Requirements for Controlled Documents

4.1.4 KWH-S-025, Rev 17: Containment Entries at Red Zone or Radiation Protection Locked Zone Conditions Including Emergency Entries into all Controlled Zones

4.2 Applicable Documents

4.2.1 238-34: Optimisation of Radiation Protection

4.2.2 238-54: Radiological Protection Licensing Requirements for Koeberg Nuclear Power Station

4.2.3 240-119528368: ALARA Screening form for Design Changes

4.2.4 240-102714621: KOU Portfolio Management Committees - Consisting of KPMC and MRC TORs

4.2.5 331-86: Design Changes to Plant, Plant Structures or Operating Parameters

4.2.6 KAA-501: Project Management Process for Koeberg Nuclear Power Station Modifications

4.2.7 KAA-721: Online Work Management Process

4.2.8 KAA-778: Station ALARA Committee Constitution

4.2.9 KAH-014: Shift Activities, Handover and Coverage of Radiation Protection Shift Vacancies

4.2.10 KFH-AL-020: Radiation Protection ALARA Plan Template

4.2.11 KFA-MS-005: Document Review Request

4.2.12 KSH-008: Radiation Protection Records, Data and Information Management

4.2.13 KSH-011: Radiation Protection Certificate (RPC) Programme Requirements

4.2.14 KSH-012: Radiation Protection Standards and Expectations

4.2.15 KWH-AL-004: Radiation Protection Formal ALARA Programme Criteria, Actions and Documentation

4.2.16 KWH-AL-007: Actions on Detecting Hot Spots

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5.0 RESPONSIBILITIES

5.1 The responsibilities for the ALARA programme are defined in the Work Flow Responsibility Matrix (Appendix 1).

5.2 Responsibilities of ALARA Champions in each group:

5.2.1 The functions of ALARA Champions will be to monitor and facilitate the improved dose and personnel contamination events' performances for each group.

5.2.2 Two Categories for ALARA Champions:

5.2.2.1 Advanced ALARA Champion

These ALARA Champions represent the line groups that pick up high annual dose and personnel contamination events and account for 95% of the dose and personnel contamination events at Koeberg. These line groups are I & T, IMS, MMS, MMPS, MSS, OPS, Nuclear Project Management, Radiation Protection, Chemistry, OPS Radwaste, EMS and E&S. The functions of these ALARA Champions are as follows:

Dose

- Based on the weekly work plan (per activity) for the line group, help establish the weekly dose estimate. This will require close communication with the ALARA Planners. ALARA prepares the weekly dose estimate based on the scheduled work plan. This dose estimate is then sent to the dose champion for concurrence or amendment, after which it becomes the official dose limit for the group for the week.
- Monitoring the actual dose picked up for the line group versus the weekly estimate.
- Communication to the line group staff on their dose performance.

Contamination

- Assessment/ oversight of assessment of personnel contamination events CRs from their respective groups or work sections.
- Monitoring and communication of personnel contamination events statistics in their respective groups or work sections.
- Act as a Liaison between RP and their respective groups or work sections with regards to contamination events.

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5.2.2.2 Standard ALARA Champion

These ALARA Champions represent line groups with low annual dose and personnel contamination events. The functions of these ALARA champions are as follows:

- Monitoring the actual dose and personnel contamination events for the line group.
- Communication to the line group staff on their dose and personnel contamination events performance.

  NOTE: *The line group has the discretion to appoint only one individual performing the contamination and dose roles of the ALARA champion or two individuals performing each role separately.*

- All line groups that perform work within the controlled zone should have an ALARA Champion. Until the line appoints someone specifically for Contamination, the ALARA Champion (Dose) already identified will inherit the duties of an ALARA Champion (Contamination).
- The ALARA Champion should raise practical ALARA suggestions to help improve the dose and personnel contamination events' performance of their group.

  NOTE: *All newly appointed ALARA champions, appointed in writing by the appropriate manager, must undergo a briefing with the ALARA Co-ordinator to discuss their roles and responsibilities. The appointment letter must be forwarded to RP ALARA.*

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6.0 ALARA REVIEWS

6.1 ALARA Design and Plant Modification Reviews

- ALARA Design and Plant Modification Reviews are performed for all designs or plant changes that may have a radiological impact.
- The designer should use guidance from KWH-AL-004, Appendix 1.
- The ALARA screening form and design checklist, 240-119528368 must be completed by the designer and reviewed by ALARA.
- KWH-AL-004 stipulates any other work that requires an ALARA review.

6.2 ALARA Pre Task Reviews

- An ALARA pre-task review is done in conjunction with the line group and includes the following actions:
  - A discussion between ALARA and the line group covering work scope, Operational Experience, dose reduction initiatives and historical data applicable to the task.
  - An ALARA plan (KFH-AL-020)
  - A detailed work plan/governing procedure as per KWH-AL-004
- ALARA pre-task reviews are required for all RP Dose Level 3, RP Dose Level 4, High Risk and Red Zone activities/RPCs. It is the responsibility of the line group to contact ALARA to discuss the work scope.

  NOTE: *For applicable online activities information for the pre-task review will be requested by RP as needed. For applicable outage activities the information will be requested by RP, the completed review and documentation should be with RP 30 days before start of outage.*

6.3 Post Job Reviews

- Line Groups must complete Post Job ALARA reviews for RP Dose Level 3, 4, High Risk and Red Zone tasks as specified in KWH-AL-004 and send it back to RP ALARA for capturing on Radpro.
- A CR must be raised by RP ALARA if the Post job reviews are not completed within 30 days.

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7.0 PROCEDURE

7.1 All requirements in terms of this procedure are defined in the Work Flow Responsibility Matrix (Appendix 1).

NOTE 1: *All new, or changes to existing procedures that have a direct or indirect radiological impact on the dose of the workers or public, or which by their implementation could result in radiological status changes in the plant, require an ALARA review before authorisation. This includes all relevant Level 2 and 3 procedures produced by the various technical disciplines.*

NOTE 2: *For Operating procedures, all full reviews, point of use reviews and partial reviews where the intent changes must have an ALARA review. For partial reviews where the intent does not change, the ALARA review must not be performed and the ALARA date on the front page will not change.*

NOTE 3: *The onus is on the procedure compiler to liaise with the ALARA Co-ordinator or if any doubt exists on whether the new procedure may have a radiological impact.*

8.0 RECORDS

8.1 All records produced must be in accordance with KSH-008 and as defined in the work flow responsibility matrix shown in Appendix 1.

8.2 Letters of Appointment generated are non-permanent records and must also be in accordance with KSH-008 requirements.

9.0 ATTACHMENTS

Appendix 1 – ALARA Programme – Work Flow Responsibility Matrix

Appendix 2 – Example of a Letter of Appointed for ALARA Champion

Appendix 3 – Example of a Letter of Appointment for Hot Spot Committee

Appendix 4 – Justification

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WORK FLOW RESPONSIBILITY MATRIX	**APPENDIX 1 – ALARA PROGRAMME**

R – Responsible
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Flow Path:
Main Flow Secondary Flow

ACTIVITIES	1	2 TECHNICAL GROUP MANAGERS	3 RP MANAGER	4 ALARA CO-ORDINATOR	5 POWER STATION MANAGER	6 STATION ALARA COMMITTEE	7 KORC	8	9	10	11	12	**NOTES & REFERENCES**
1.0 Establishment of the ALARA Programme													
1.1 Appoint the RP Manager.					[R]								
1.2 Establish a formal ALARA Programme.			[R]										238-34
1.3 Appoint ALARA Co-ordinator.			[R]										
1.4 Make sure that the resources necessary for achieving ALARA goals and objectives are made available.			[R]	[C]									238-34 ALARA goals and objectives. The Eskom target is less than 4 mSv for the annual average individual dose for the exposed work-force. The total dose received by an individual should not exceed 500 mSv over the assumed 50 year occupational exposure period.
1.5 Set annual dose targets for KNPS. Station dose targets are devolved down to the various groups.		(S)	[C]	[R]		[A]							
1.6 Station groups are responsible for managing their annual dose targets.		[R]											
1.7 Co-ordinate the resources and manpower which are necessary to achieve KNPS ALARA goals.		(S)	(S)		[R]	[S]							

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Flow Path:
Main Flow Secondary Flow

ACTIVITIES	1	2	3	4 ALARA CO-ORDINATOR	5 NUCLEAR PROJECT MANAGEMENT	6 DESIGN ENGINEERING	7 ALARA SRPA	8 SAC	9 SHIFT SRPA	10 PROJECT INITIATOR	11	12	NOTES & REFERENCES
2.0 Design and Plant Modification Review													
2.1 Obtain order of magnitude dose estimation for proposed project. For MRB decision process.				[C]						[R]			240-102714621
2.2 Acquire RP ALARA input to determine if RP must be included in Project Responsibility Matrix.					Y/N								KAA-501 No further ALARA input required
2.3 Compile the design package of the required modification. Apply ALARA principles to modification as part of design.						[R]							Use form 240-119528368 from procedure 331-86 KWH-AL-004
2.4 Send the design package to ALARA Co-ordinator for initial review.						[R]							331-86
2.5 Review the design package to ensure that ALARA principles have been applied and perform cost benefit analysis where required.				[R]		(S)	(S)						238-34 If required, the alpha value of R13, 000 per person mSv (2003) must be used for cost benefit analysis. ALARA may request assistance from RP Development.
2.6 Estimate job exposure. (Order of magnitude)				[R]		(S)	(S)						
2.7 Complete ALARA Design Review Checklist including RAM control requirements.				[R]		(S)	(S)						KWH-AL-004
2.8 Complete design package incorporating comments.						[R]	(S)						
2.9 Compile the package of the required modification.					[R]								
2.10 Send modification implementation / work plan to Alara for review.					[R]								
2.11 Perform ALARA review of Modification Work Plan.				[R]			(S)						KAA-501

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Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	1	2	3	4 ALARA CO-ORDINATOR	5 NUCLEAR PROJECT MANAGEMENT	6 DESIGN ENGINEERING	7 ALARA SRPA	8 SAC	9 SHIFT SRPA	10	11	12	**NOTES & REFERENCES**
2.12 Perform accurate dose estimate for modification implementation and update Alara Modification Review Checklist.				[R]	(S)		(S)						KWH-AL-004
2.13 Complete ALARA plan and Nuclear Project Management to take lead in presenting to Station ALARA Committee for modifications ≥ 20mSv or as requested by SAC/ALARA Co-Ordinator.					[R]		(S)	(A)					KWH-AL-004 KAA-778
2.14 Relevant RPCs are prepared and issued as required.				[R]			(S)		(S)				KSH-011
2.15 Perform ALARA task performance Monitoring if required.				[R]	(S)	(S)	(S)		(S)				KWH-AL-004
2.16 Perform ALARA post modification reviews for modifications that have gone to SAC.				(S)	[R]		(S)	(A)					KAA-778

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		COMPILER		ALARA CO-ORDINATOR		ALARA SRPA		GROUP PROCEDURE CUSTODIAN					
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
3.0 Procedure Reviews													
3.1 Individual Group procedure checklists to ensure ALARA impact is addressed.								[R]					Refer to paragraph 7.1, Note 2, of this procedure.
3.2 Procedure compilers to assess if new procedure has radiological impact.		[R]		(S)		(S)							Refer to paragraph 7.1, Note 2, of this procedure.
3.3 If there is a radiological impact, forward to ALARA co-ordinator.		[R]											
3.4 Perform an ALARA review.				[R]		(S)							Document, using form KFA-MS-005.

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Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORIGINATOR / LINE GROUP	RP MANAGER	ALARA CO-ORDINATOR	KORC	STATION ALARA COMMITTEE	ALARA SRPA	WORK SUPERVISOR	SHIFT SRPA	AUTHORISED PERSON (RP)	RP MONITOR	RP PLANT SUPERVISOR	RADIATION WORKER	NOTES & REFERENCES
	1	2	3	4	5	6	7	8	9	10	11	12	
4.0 Work Practice													
4.1 Ensure review of all operations and work orders within the controlled zone, or on a potentially radioactive system or area (on SAP).			[R]			(S)		(S)					Process / requirements are defined in KWH-AL-004
4.2 Arrange for additional training, briefings, etc.			(C)			(S)	[R]						RPC and pre-task ALARA review will identify need.
4.3 Liaise with other line groups to discuss appropriate strategies governing dose reduction methods.			[R]			(S)	(C)						
4.4 Arrange for applicable tasks to have an ALARA pre-task review in accordance with KWH-AL-004.			[R			(S)	(S)					(S)	KWH-AL-004
4.5 Perform RP risk assessment in accordance with KWH-AL-004.			[R]			(S)							KWH-AL-004
4.6 Complete Alara Plan and present to SAC if activity ≥ 20 mSv or as requested by SAC/ALARA Co-Ordinator.	[R]				(A)								KWH-AL-004 KAA-778
4.7 Prepare the required Radiation Protection requirements.						(S)		(S)	[R]				
4.8 Issue the RPC.						(S)		[S]	[R]				SAP(RP) approval for red zone and High Risk RPCs. (Refer to KWH-AL-004)
4.9 Determine weekly manpower requirements in accordance with KSH-012 and KAH-014			(S)								[R]		KSH-012 KAH-014
4.10 Issue weekly plan with the relevant RPC number to RP Plant.						[R]		(S)					KAA-721

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Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORIGINATOR / LINE GROUP (1)	RP MANAGER (2)	ALARA CO-ORDINATOR (3)	KORC (4)	STATION ALARA COMMITTEE (5)	ALARA SRPA (6)	WORK SUPERVISOR (7)	SHIFT SRPA (8)	AUTHORISED PERSON (RP) (9)	RP MONITOR (10)	RP PLANT SUPERVISOR (11)	RADIATION WORKER (12)	**NOTES & REFERENCES**
4.11 Review plan of the day and assign RP cover as required.			(S)			(S)		[R]					
4.12 Make sure that the required surveillance is maintained on task collective and individual doses.	(S)		[R]			(S)		(S)		(S)			
4.13 Halt any operation or practice that is deemed to be radiologically unsafe.		[I]	[I]				[I]	(C)		[R]		[I]	KWH-AL-004 Inform relevant line manager, RP Manager and the Duty Work Controller/outage coordinator of work stop.
4.14 Review job exposure records and recommend actions necessary to reduce radiation exposures.	[S]		[R]										
4.15 Investigate any daily individual unplanned exposure or unplanned collective exposure.			[R]			(S)							KWH-AL-004
4.16 Perform ALARA post modification reviews for modifications that have gone to SAC.	(S)		R			(S)	(S)	(S)					KAA-778
4.17 Negotiate weekly limits with the ALARA Co-ordinator.	[R]		[A]										
4.18 Cancel the RPC on job completion.			[R]			(S)							
4.19 Raise a CR if the weekly limits are exceeded.	[I]		[R]										
4.20 Raise a CR for tasks that exceed the collective dose estimate for the task.	[I]		[R]										

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ACTIVITIES	1	2 RP MANAGER	3 ALARA CO-ORDINATOR	4 RP PLANNER/ALARA SRPA	5 SHIFT SRPA	6	7 OUTAGE MANAGEMENT	8 LINE GROUP	9 OUTAGE PROJECT LEADERS	10	11	12	NOTES & REFERENCES
5.0 ALARA Outage Function													
5.1 Facilitate development of outage dose target.		(C)	[S]				[R]						Authorised RPC dose limit increase, including SRB to be allocated from emergent work dose.
5.2 Review outage workscope with respect to RP/ALARA impact.			[R]	(S)			[S]		[S]				
5.3 Arrange for all tasks to have formal ALARA pre-task reviews in accordance with KWH-AL-004.			[R]	(S)	(S)								KWH-AL-004
5.4 In conjunction with ALARA Co-ordinator assist with development of ALARA Plans per high dose task.			(S)				[R]	(S)	(S)				
5.5 Provide support (ALARA input) to outage communication strategy/ training.			[R]				(S)		(S)				
5.6 Review daily activity / task collective dose, provide daily feedback.			[R]		(S)								Daily Outage Meeting forum
5.7 Raise a CR for activities that exceed the collective dose estimate for the task.			[R]					[C]					
5.8 Make sure that Outage Reports are produced within two months of outage close.			[R]	(S)									238-54
5.9 Review, develop, and implement RP actions from Outage Lessons Learned.		[R]	(S)				[S]	[S]					

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	LINE GROUP		ALARA CO-ORDINATOR	ALARA SRPA	RP TRAINING									
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	13	
6.0 ALARA Training														
6.1 ALARA training will be addressed during Radiation Worker training.					[R]									
6.2 Provide specialised ALARA training to all levels of station staff as and when required.			(S)		[R]									
7.0 Service Notification Reviews														
7.1 Make sure that the service notifications are reviewed by RP.	[R]													
7.2 Perform RP review of service notifications.			[R]	(S)										

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Main Flow Secondary Flow

ACTIVITIES	1 STATION MANAGEMENT	2 RADIATION WORKER	3 LINE GROUPS	4 ALARA CO-ORDINATOR	5 RP DOSIMETRY	6 WORK SUPERVISORS	7 .ALARA SRPA	8 ENGINEERING	9 OPERATING	10 MAINTENANCE	11 CHEMISTRY	12	**NOTES & REFERENCES**
8.0 General Station ALARA Responsibilities													
8.1 Facilitate development of station annual dose KPI.	[R]		[S]	[S]									
8.2 Provide regular feedback on dose performance for line groups.				[R]			(S)						
8.3 Facilitate ALARA awareness and dose reduction initiatives.			(S)	[R]				(S)	(S)	(S)	(S)		
8.4 Produce monthly exposure reports and distribute to line groups.				[R]									
8.5 Manage individual worker dose within the section.						[R]							
8.6 Ensure that workers share the collective dose burden equally, as far as possible.						[R]							
9.0 ALARA Records													
9.1 Dose records of specific tasks are to be maintained for planning purposes.				[R]			[S]						238-54

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		SRPA		LINE JOB SUPERVISOR									
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
10.0 ALARA Pre-Job Briefing													
10.1 RPC indicates need for ALARA pre-job briefing.		[R]											KWH-AL-004
10.2 Make sure that all workers involved with the activity are present at the briefing.				[R]									

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		RP MANAGER	ALARA CO-ORDINATOR	RP PLANNER/ALARA SRPA	SHIFT SRPA		OUTAGE MANAGEMENT	LINE GROUP	OUTAGE PROJECT LEADERS				
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	
11.0 ALARA Dose Champions													
11.1 Dose champions are appointed by Line managers.								[R] ↓					
11.2 Appointment letters are completed and forwarded to ALARA Co-ordinator.			[I] ←					[R] ↓					
11.3 Newly appointed ALARA dose champions to undergo formal training.			[S] ←					[R] ↓					
11.4 The role of the ALARA dose champion to be in accordance with procedure.								[R]					KWH-AL-004 KAA-632

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Flow Path:

Main Flow Secondary Flow

ACTIVITIES	1 RADIATION PROTECTION MANAGER	2 ALARA CO-ORDINATOR	3 HOT SPOT COMMITTEE CO-ORDINATOR	4 OPERATIONS SUPPORT MANAGER	5 ENGINEERING PROGRAMMES MANAGER	6 MECHANICAL MAINTENANCE MANAGER	7 NUCLEAR SYSTEMS ENGINEERING MANAGER	8	9	10	11	12	NOTES & REFERENCES
ALARA PROGRAMME													
12.0 Establishment of the Hot Spot Committee													
12.1 Appoint the Hot Spot Committee Co-ordinator.	[R]	[C]											
12.2 Appoint Radiation Protection representatives.	[R]		[I]										
12.3 Appoint Operations Support representative.			[I]	[R]									
12.4 Appoint Maintenance representative.			[I]			[R]							
12.5 Appoint shielding evaluation technician.			[I]		[R]								
12.6 Appoint Nuclear Systems Engineering representative.			[I]				[R]						

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WORK FLOW RESPONSIBILITY MATRIX | **APPENDIX 1 – ALARA PROGRAMME**

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

ALARA PROGRAMME

ACTIVITIES	1 DUTY SHIFT RP MONITOR	2 DUTY SHIFT SRPA	3 HOT SPOT COMMITTEE CO-ORDINATOR	4 OPERATIONS SUPPORT REPRESENTATIVE	5 MECHANICAL MAINTENANCE REPRESENTATIVE	6 NUCLEAR SYSTEMS ENGINEERING REPRESENTATIVE	7 ENGINEERING PROGRAMMES TECHNICIAN	8 HOT SPOT COMMITTEE	9 SAC	10 SHIELDING CO-ORDINATOR	11 RP DECON SUPERVISOR	12 RADIATION PROTECTION MANAGER	NOTES & REFERENCES
13.0 Hot Spot Committee Work Practice													
13.1 Ensure that the monthly hot spot verification survey is performed.	(S)	[R]											
13.2 Upon notification of a hot spot, assess radiological risk and ensure that the appropriate immediate radiation protection actions are implemented i.e. signposting and barricading.	(S)	[R]											KWH-AL-007
13.3 Assign a unique number upon notification of a hot spot and track in the hot spot register.	(S)	[R]											KWH-AL-007
13.4 Fill in the Hot Spot Notification Form and forward it to the Hot Spot Committee Co-ordinator.		[R]	[I]										KWH-AL-007
13.5 Perform evaluation on hot spot as required by the Hot Spot Notification and Evaluation Form and inform Shielding Co-ordinator if shielding is required.			[R]							[I]			KWH-AL-007
13.6 Raise EWR if shielding is required.										[R]			
13.7 Perform a shielding risk evaluation (including scaffolding requirements) upon receipt of a EWR.							[R]						This may also be performed by authorised RP Development Engineers.
13.8 Implement installation of shielding with approval from authorised engineer for shielding approval.							[A]			[R]	(S)		
13.9 Perform post-installation inspections of shielding.							[R]						
13.10 Convene Hot Spot Committee Meetings on an as needed basis, with a minimum frequency of annually.			[R]										

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Flow Path:
Main Flow Secondary Flow

ALARA PROGRAMME

ACTIVITIES	1 DUTY SHIFT RP MONITOR	2 DUTY SHIFT SRPA	3 HOT SPOT COMMITTEE CO-ORDINATOR	4 OPERATIONS SUPPORT REPRESENTATIVE / OPS	5 MECHANICAL MAINTENANCE REPRESENTATIVE	6 NUCLEAR SYSTEMS ENGINEERING REPRESENTATIVE	7 ENGINEERING PROGRAMMES TECHNICIAN	8 HOT SPOT COMMITTEE	9 SAC	10 SHIELDING CO-ORDINATOR	11 RP DECON SUPERVISOR	12 RADIATION PROTECTION MANAGER	**NOTES & REFERENCES**
13.11 Prioritise hot spots intended for mitigation.			[R]										
13.12 Analyse necessary action(s) required for the removal of hot spots and ensure implementation.			[R]	(S)	(S)	(S)			[C]			(S)	
13.13 Raise notification on the appropriate support groups for mitigation of hot spots.			(R)	(S)	(S)	(S)			[C]			(S)	
13.14 Implement removal of hot spot by means of flushing.				(R)				[C]					As applicable
13.15 Implement isolation of hot spot for maintenance intervention.				(R)				[C]					As applicable
13.16 Implement removal of hot spot by appropriate means.				(R)				[C]					As applicable
13.17 Implement removal of hot spots by means of decontamination.								[C]			(R)		
13.18 Initiate removal of hot spot by means of modifications or other tools.						(R)		[C]					
13.19 Present the status of the hot spots to the SAC when requested.			[R]					[I]					
13.20 Maintain a trend analysis of applicable hot spots.			[R]										
13.21 Prepare and distribute monthly reports to relevant sections.			[R]										
13.22 Trend hot spots in the quarterly system health report.						[R]							
13.23 Provide regular feedback to the SAC on hot spot mitigation status and highlight concerns.									[I]			[R]	

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APPENDIX 2

EXAMPLE OF A LETTER OF APPOINTMENT FOR ALARA CHAMPION

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Date:

Enquiries:

Tel:

Fax:

APPOINTMENT AS ALARA CHAMPION

I hereby appoint you as the ALARA CHAMPION for……..Group.

1. Duties of the ALARA CHAMPION are stipulated in Procedure KAA-632.
2. Sufficient time will be provided for you to fulfil your duties.
3. Kindly provide a signed copy of this letter to the ALARA Co-Ordinator.

With effect from……..

Yours sincerely,

……

Group Manager

I ……UN:……accept appointment as ALARA Champion for……...Group.

Signature: …… Date: ……

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APPENDIX 3

EXAMPLE OF A LETTER OF APPOINTMENT FOR HOT SPOT COMMITTEE MEMBERS

Eskom

Date:

Enquiries:

Tel:

Fax:

APPOINTMENT TO HOT SPOT COMMITTEE

I hereby appoint you as the ……representative in terms of procedure KAA-632, ALARA Programme.

1. Duties are specifically stipulated as per KAA-632.
2. Kindly provide a signed copy of this letter to the Hot Spot Co-Coordinator.

With effect from……

Yours sincerely,

……
Group Manager

I, ……, UN: ……accept appointment as Hot Spot Committee member for the……Group.

Signature: …… Date: ……

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APPENDIX 4

JUSTIFICATION

Revision 10

1. Full review.

Revision 11

1. Full review.

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