



**Harwell Emergency Arrangements
Approval of Revised Harwell Site Emergency Plan**

Project Assessment Report ONR-SDFW-PAR-16-009
Revision 0
28 July 2016

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Published 09/16

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EXECUTIVE SUMMARY

Approval of Revised Harwell Emergency Arrangements

Permission Requested

Magnox Ltd (the licensee) has written to the Office for Nuclear Regulation (ONR) requesting approval of a revised Harwell site emergency plan.

Background

As required by its site licence arrangements, the licensee has undertaken a three yearly review of its emergency arrangements at Harwell. The current emergency plan identifies the Incident Response Service that is currently provided by a contractor. The licensee's review has concluded that the services provided by the Incident Response Service to the emergency plan can be transferred to existing resources identified in the emergency plan on site and the Incident Response Service disbanded.

In April 2015, Harwell was relicensed to Magnox Ltd. Since relicensing, Magnox Ltd has started to introduce consistent processes and working arrangements across its twelve sites. The licensee has taken this opportunity to re-write its emergency plan into the Magnox generic format.

As required by LC11 (3), the licensee has written to ONR to request approval of its revised emergency arrangements that are set out in the emergency plan.

Assessment and inspection work carried out by ONR in consideration of this request

I have assessed the differences between the proposed new plan and the existing approved plan. The principal change to the licensee's emergency plan is the withdrawal of the Incident Response Service and transfer of its responsibilities to existing resources identified in the emergency plan.

The licensee demonstrated the aspects of the proposed emergency arrangements that it proposes to change to ONR's satisfaction by staging a demonstration exercise.

I have confirmed that the licensee's proposals meet the requirements of ONR's guidance.

Matters arising from ONR's work

There are no matters arising from this project assessment report.

Conclusions

I am satisfied that the revised emergency plan introduces only one material change to the extant arrangements, the withdrawal of the Incident Response Service and transfer of its responsibilities to other available emergency resources. The licensee has also identified adequate resources within its emergency organisation to take on the remaining Incident Response Service duties

The licensee successfully demonstrated the aspects of the proposed emergency arrangements that it proposes to change to ONR in July 2016.

Finally, I consider that the proposed emergency plan will provide suitable and sufficient detail to enable the licensee to safely deal with an on-site emergency should the need arise.

Recommendation

I recommend that licence instrument number 504 be issued to approve the revised Magnox Ltd Harwell emergency plan. This licence instrument will also withdraw approval of the existing emergency plan.

LIST OF ABBREVIATIONS

ALARP	As low as reasonably practicable
BSL	Basic Safety level (in SAPs)
BSO	Basic Safety Objective (in SAPs)
CNS	Civil Nuclear Security (ONR)
HOW2	(Office for Nuclear Regulation) Business Management System
HSE	The Health and Safety Executive
IAEA	The International Atomic Energy Agency
IRS	Incident Response Service
MxL	Magnox Limited
NDA	Nuclear Decommissioning Authority
NOFA	Nuclear Occupational First Aider
ONR	Office for Nuclear Regulation
PCER	Pre-construction Environment Report
PCSR	Pre-construction Safety Report
PSA	Probabilistic Safety Analysis
PSR	Preliminary Safety Report
RGP	Relevant Good Practice
SAP	Safety Assessment Principle(s)
SFAIRP	So far as is reasonably practicable
SSC	Structure, System and Component
TIG	Technical Inspection Guide (ONR)
TAG	Technical Assessment Guide (ONR)

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1 PERMISSION REQUESTED

1. Magnox Ltd (The Licensee) has requested ONR's 'Agreement' under Licence Condition 11(3) for its proposed changes to the Harwell site emergency plan [Ref 1]. This revision is documented in issue 5 of the plan [Ref 2].
2. The licensee currently has an emergency plan [Ref 3], which is at issue 4. Licence Condition (LC) 11(3) requires the licensee (in this case, Magnox Limited) to ensure that no alteration or amendment is made to an approved emergency plan unless the Office for Nuclear Regulation (ONR) approves that alteration or amendment. This report presents the basis for ONR approval of the licensee's proposed new arrangements.
3. The proposed changes to the plan have been through the licensee's due process and have been considered by its nuclear safety committee [Ref 4].

2 BACKGROUND

4. As required by its arrangements, the licensee has undertaken a three yearly review of its emergency arrangements at Harwell. From this review it has concluded that the services provided by the Incident Response Service (IRS) to the emergency plan can be transferred to existing resources on site and IRS disbanded. IRS is currently employed to provide a first response which includes medical first aid anywhere on site until the causality can be handed over to South Central Ambulance Service.
5. In compliance with its arrangements for Licence Condition (LC) 36, the licensee has justified organisational changes whereby the services and duties currently delivered by the IRS can be provided through alternative arrangements so that IRS can be disbanded [Ref 4 and 6]. In order to fully implement this organisational change, the licensee needs to revise its emergency plan to re-assign IRS's role within the site's incident response capability.
6. In April 2015, Harwell was relicensed to Magnox Ltd (MxL) [Ref 7]. Since relicensing, MxL has started to introduce consistent processes and working arrangements across its twelve sites. The licensee has taken this opportunity to re-write its emergency plan into the Magnox generic format.
7. As required by LC11 (3), the licensee has written to ONR to request approval of its revised emergency arrangements [Ref 1].

3 ASSESSMENT AND INSPECTION WORK CARRIED OUT BY ONR IN CONSIDERATION OF THIS REQUEST

8. In my assessment of the proposed emergency plan I have considered the differences between the extant [Ref 3] and proposed plans [Ref 2].
9. The licensee demonstrated the aspects of the proposed emergency arrangements that it proposes to change to ONR's satisfaction by staging a demonstration exercise.
10. I have confirmed that the proposed plan is compliant with the requirements of our own guidance [Ref 8] [Ref 9]. I have also considered the licensee's performance in its most recent Level 1 emergency exercise [Ref 10].

3.1 KEY CHANGES TO EXISTING ARRANGEMENTS

11. The principal change to the licensee's emergency plan is the withdrawal of the IRS. IRS provides a first-response to investigate designated alarms on the Site. IRS is also competent and equipped to:

- Evaluate incidents and determine likely plan of action and resources required;
 - Interact with external emergency services;
 - Provide medical first-aid response anywhere on site;
 - Deploy control measures and tactics within their capability to prevent escalation of the incident or medical treatments.
12. I consider the most significant change to be the provision of medical first-aid. The licensee proposes that immediate first aid and casualty care will be undertaken by volunteer trained staff who will replace the service provided by IRS. The licensee intends to replace the IRS function with Nuclear Operational First Aiders (NOFAs) in operational areas and First Aiders in office areas.
13. I have considered the licensee's arrangements to ensure that Harwell has adequate numbers of NOFAs and First Aiders to respond. Each work area has completed a first aid needs assessment that identifies the minimum number of NOFAs and First Aiders. I am content that the licensee's proposed changes will continue to provide sufficient medical first-aid response anywhere on site.
14. I have also considered the level of training and competence of NOFAs and have found that they are staff with operational experience that are trained by the British Red Cross to an equivalent standard to IRS. In addition, NOFAs have also been trained in wound decontamination.
15. The emergency plan identifies additional duties that can be undertaken by IRS (as described previously). The extant plan identified alternative staff including the Site Incident officer and Local Incident Controller that could also be deployed to:
- Evaluate incidents and determine likely plan of action and resources required;
 - Interact with external emergency services;
 - Deploy control measures and tactics within their capability to prevent escalation of the incident or medical treatments.
16. The revised emergency plan also identifies the same roles to undertake the same responsibilities. I have reviewed the proposed emergency plan and consider that the licensee has identified adequate resources within its emergency organisation to take on the remaining IRS duties.
17. The licensee has taken this opportunity to re-write its emergency plan into the Magnox Ltd generic format that has been adopted by Magnox reactor sites. ONR has considered emergency plan revisions for other Magnox reactor sites and is content with this generic emergency plan template. I have checked the licensee's proposed emergency plan against the requirements of the Safety Assessment Principle (SAP) AM.1 [Ref 8] and Technical Inspection Guide (TIG) 11 [Ref 9]. I consider that it meets the requirements of those documents.
18. I therefore consider that the licensee's proposed arrangements to transfer the duties undertaken by IRS to be acceptable. I also judge that the arrangements as expressed in that plan to be adequate and, as they form the basis of the revised plan, I have a commensurate level of confidence in the revised plan.

3.2 DEMONSTRATION OF PROPOSED EMERGENCY PLAN

19. The licensee demonstrated the aspects of the proposed emergency arrangements that it proposes to change to ONR's satisfaction by staging a demonstration exercise Kestrel on 5 July 2016 [Ref 10] [Ref11].
20. Whilst ONR considered that the licensee had demonstrated that it could deal with an emergency a number of minor improvements were recommended.

3.3 SUMMARY

21. Overall I consider the organisational changes proposed by the licensee are appropriate and that the licensee has demonstrated that its new emergency arrangements are effective. I consider that the revision of the emergency plan into a common MxL format has produced a suitable document, and see no reason to withhold approval or request any changes to this plan. It reflects our own guidance, and does so in a way that makes Magnox's response to an accident or emergency at Harwell easy to understand.

3.4 LEGAL ASPECTS

22. I have drafted Licence Instrument (LI) 504 [Ref 12] in response to the licensee's request for Approvals under Licence Condition 11(3) of the revision to the emergency plan. This LI is one of the standard formats given within ONR procedures and so they do not require review by Treasury Solicitor's Department.

4 MATTERS ARISING FROM ONR'S WORK

23. There are no matters arising from this project assessment report.

5 CONCLUSIONS

24. I am satisfied that the revised emergency plan introduces only one material change to the extant arrangements, the withdrawal of the IRS and transfer of its responsibilities to other available site emergency resources.
25. The licensee has provided an adequate justification both for the proposed revision to the emergency plan and for the revised arrangement to replace the IRS including providing assurance that it has adequate resources within its emergency organisation to carry out the duties currently performed by the IRS.
26. The licensee successfully demonstrated the aspects of the proposed emergency arrangements that it proposes to change to ONR in April 2016.
27. Finally, I consider that the proposed emergency plan will provide suitable and sufficient detail to enable the licensee to safely deal with an on-site emergency should the need arise.

6 RECOMMENDATIONS

28. I recommend that:
 - Licence instrument 504 be issued under site licence number 101 to approve, Harwell Site Emergency Plan, HAR-EMPLAN, Issue 5, dated 12 July 2016.
 - ONR thereby withdraws Licence instrument 515 issued under site licence number 85 for the approval of Harwell Site Emergency Plan, RSRL SWP (13), Issue 4 dated 3 December 2013.

7 REFERENCES

1. Magnox/HAR-50024Y, Letter from Magnox Ltd Harwell, Request for Approval of the revised Harwell Site Emergency Plan (Issue 5), 27 July 2016. (TRIM reference 2016/301467).
2. HAR-EMPLAN, Magnox Ltd, Harwell Site Emergency Plan Issue 5, dated 12 July 2016. (TRIM reference 2016/301460).
3. RSRL SWP (13) P34 Harwell Site Emergency Plan (Issue 4). 3 December 2013 (TRIM ref. 2013/463546)
4. MXL32317N Minutes of the Joint Meeting of the Magnox Limited Berkeley, Bradwell, Chapelcross, Dungeness A, Harwell, Hinkley Point A, Hunterston A, Sizewell, Trawsfynydd and Winfrith Nuclear Safety Committee - Meeting held on 26 July 2016 (TRIM reference 2016/296960).
5. LC36 Baseline Organisational Change Management Form, Harwell Assurance Incident Response Capability Project 419, Magnox Ltd, December 2015. (TRIM reference 2016/112722).
6. Management of Organisational Change Harwell Incident Response Capability, Assurance/15/00053, issue 1.1, Magnox Ltd, 20 November 2015. (TRIM reference 2016/301838).
7. ONR-DFW-PAR-14-018 Relicensing Research Sites Restoration Limited Sites to Magnox Limited, April 2015. www.onr.org.uk/pars/2015/harwell-winfrith-14-018.pdf
8. Safety Assessment Principles for Nuclear Facilities. 2006 Edition Revision 1. January 2008. www.onr.org.uk/saps
9. NS-INSP-GD-011 Revision 2 LC 11 – Emergency Arrangements. May 2013 www.onr.org.uk/operational/tech_insp_guides/ns-insp-gd-011.pdf
10. Exercise Operational Order Harwell Safety (IRC Demonstration) Exercise Exercise Kestral 5 July 2016 Magnox Ltd. (TRIM reference 2016/277078)
11. ONR-SDFW-IR-16-064 Harwell Compliance Inspection, dated 7 July 2016. (TRIM reference 2016/276525)
12. Site Licence No: 101, Licence Instrument No: 504. August 2016. Nuclear Installations Act 1965 (As Amended). Approval Granted under Condition 11(3) of Schedule 2 attached to Nuclear Site Licence No: 101. Harwell. (TRIM 2016/296960)