



**Emergency Arrangements**

**Approval of the revised Chapelcross Emergency Plan**

Project Assessment Report ONR-DFW-PAR-15-011  
Revision 1  
October 2015

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## EXECUTIVE SUMMARY

### Approval of the revised Chapelcross Emergency Plan

#### Permission Requested

Magnox Ltd (the licensee) has written to the Office for Nuclear Regulation (ONR) requesting approval of its proposed changes to the Chapelcross emergency plan.

#### Background

The licensee has previously demonstrated to ONR's satisfaction that a radiation emergency as defined by the Radiation Emergency Preparedness and Public Information Regulations (REPPIR) is no longer reasonably foreseeable. As a consequence, the licensee intends to revise its extant emergency plan to remove the both the current requirement and the capability to deal with an off-site nuclear emergency.

As required by their own arrangements, the licensee has written to ONR to request approval of their proposed changes.

#### 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 emergency plan is the removal of the capability to deal with an off-site nuclear emergency. No changes have been made to the licensee's existing arrangements for on-site nuclear incidents.

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

I have considered the licensee's performance in its most recent Level 1 exercise, which ONR considered to be an adequate demonstration of the licensee's arrangements.

#### 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 removal of the capability to deal with an off-site nuclear emergency. This revision to the emergency plan is justified as the licensee has previously demonstrated to ONR's satisfaction that a nuclear emergency is no longer reasonably foreseeable.

The licensee successfully demonstrated to ONR in March 2015 the relevant section of the existing arrangements concerned with on-site nuclear incidents.

Finally, I consider that the proposed emergency plan provides a suitable overview of the licensee's arrangements in their entirety and is a useful document.

#### Recommendation

I recommend that licence instrument number 534 be issued for Magnox Ltd Chapelcross to approve the revised emergency plan, and thereby 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
NDA	Nuclear Decommissioning Authority
ONR	Office for Nuclear Regulation
PCER	Pre-construction Environment Report
PCSR	Pre-construction Safety Report
PSA	Probabilistic Safety Assessment
PSR	Preliminary Safety Report
RGP	Relevant Good Practice
SAP	Safety Assessment Principle(s) (HSE)
SFAIRP	So far as is reasonably practicable
SSC	System, Structure and Component
TAG	(ONR) Technical Assessment Guide

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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 Chapelcross site emergency plan (ref 1). This revision is documented in issue 7 of the plan attached to the requesting letter (ref 1).
2. The licensee currently has an emergency plan (contained within ref 2), which is at issue 6. Licence Condition (LC) 11(3) requires the licensee (in this case, Magnox Limited) to ensure that no alteration or amendment is made to the approved emergency arrangements unless the Office for Nuclear Regulation (ONR) has approved such 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 (NSC). A copy of the minutes of the NSC is attached to the letter requesting the approval of the amendment (ref 1).

## **2 BACKGROUND**

4. As required by the REPIR (Regulation 5(1) and 6(4)) (ref 3), the licensee provided ONR with a revised Report of Assessment (RoA) (ref 4) after site defueling had been completed. This RoA concluded that it is not reasonably foreseeable that a member of the public could be exposed to a dose in excess of 5 mSv as a result of a radiation emergency.
5. Following assessment (ref 5), ONR agreed that a radiation emergency is not reasonably foreseeable at Chapelcross (ref 6). REPIR (Regulation 7) (ref 3) states that if a radiation emergency is not reasonably foreseeable then there is no requirement for an operator's off-site emergency plan.
6. ONR also informed the licensee that there is no longer a requirement on Dumfries and Galloway County Council to prepare, review and test an off-site emergency plan that takes into account a possible radiation emergency for Chapelcross under REPIR (Regulations 9(1) and 10(1)) (ref 3).
7. As required under its arrangements, the Licensee has written to ONR to request approval of its proposed changes to the emergency plan for Chapelcross (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 2) and proposed plans as part of the request for approval (ref 1). I have confirmed that the proposed plan is compliant with the requirements of our own guidance (refs 7, 8 & 11) and is in line with previous similar permissions on other Magnox sites (ref 12). I have also considered the licensee's performance in its most recent Level 1 emergency exercise.

### **3.1 CHANGES TO THE EMERGENCY PLAN**

9. I have reviewed the licensee's proposed plan (ref 1) and I am satisfied that the principal changes to the emergency plan are to remove the requirement for the processes, staff and equipment that would be required to deal with an off-site nuclear emergency.

10. The text introduces no changes, other than cosmetic amendments, to the licensee's existing arrangements for on-site nuclear incidents. The ability for the licensee to call upon external organisations in the event of an emergency remains unchanged.
11. Whilst the Licensee's emergency response personnel are unchanged, their emergency roles have been amended to concentrate on on-site emergencies only. Whilst the revised plan does have the intent of protecting the public, I have found that no specific contingency plan was included in the licensee's supporting emergency arrangements that allow the licensee to contact the local authority with regard to an event on site. It has been confirmed by the licensee that this duty has been placed on Police Scotland to contact the local authority (ref 9).

### **3.2 OTHER CONSIDERATIONS**

12. The licensee demonstrated the on-site nuclear incident arrangements included in its existing emergency plan (Issue 6) to ONR's satisfaction at Level 1 Exercise "Quincey" on 11<sup>th</sup> March 2015 (ref 10). Although a number of areas for improvement were identified from this exercise, they were all at a level of detail below that contained in the existing emergency plan and thus have no significant safety impact.
13. As the sections of the existing arrangements concerned with on-site nuclear incidents will be carried forward unchanged to the proposed emergency plan, I consider that this exercise gives a commensurate level of confidence in the revised plan.
14. I have checked the licensee's proposed emergency plan against the requirements of the Safety Assessment Principle (SAP) AM.1 (ref 7) and Technical Inspection Guide (TIG) 11 (ref 8) and ONRs guidance for the Regulation of Emergency Arrangements at Magnox Reactor Sites (Ref 11). I consider that it meets the requirements of those documents. I have also considered this permission in line with similar previous permissions granted to Magnox sites recently (ref 12) and find the situation to be consistent with such previous permissions.
15. I therefore consider 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, which will be enacted in a demonstration exercise, currently intended to be undertaken in March 2016.

### **3.3 SUMMARY**

16. Overall I consider the revised emergency plan to be 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 Chapelcross easy to understand.

## **4 MATTERS ARISING FROM ONR'S WORK**

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

## **5 CONCLUSIONS**

18. I am satisfied that the revised emergency plan introduces only one material change to the extant arrangements, namely the removal of the capability to deal with an off-site nuclear emergency. This revision to the emergency plan is justified as the licensee has previously demonstrated to ONR's satisfaction that a nuclear emergency is no longer reasonably foreseeable.
19. The licensee successfully demonstrated the sections of the existing arrangements (issue 6) concerned with on-site nuclear incidents to ONR in March 2015 (ref 10).

20. 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**

21. I recommend that:
- Licence instrument 534 be issued for site licence number Sc 15 to approve the Chapelcross Emergency Plan, CX/EP Issue 7 dated December 2014
  - ONR thereby withdraw approval of the Chapelcross Emergency Plan, CX/EP Issue 6 dated January 2013.

## 7 REFERENCES

1. CX50512R, Request for Approval of the Chapelcross Emergency Plan, 28<sup>th</sup> April 2015. (TRIM reference 2015/161533)
2. CX50373, Request for the withdrawal of approval of operating rules made under Licence Condition 23(4) of Schedule 2, 31<sup>st</sup> July 2013 (TRIM reference 2013/291436).
3. L126 A guide to the Radiation (Emergency Preparedness and Public Information) Regulations 2001. (<http://www.hse.gov.uk/pubns/priced/l126.pdf>)
4. CX50278N Magnox – Chapelcross: REPPiR Regulation 6(4) Hazard Identification Risk Evaluation: Report of Assessment NP/SC 5140 Rev 1, 17<sup>th</sup> August 2012 (TRIM reference 2012/336473)
5. ONR-DFW-AR-13-067, Technical Assessment of Chapelcross REPPiR Hazard Identification and Risk Evaluation (HIRE) 4<sup>th</sup> November 2013 (TRIM reference 2014/70008)
6. ONR Letter EPR 2014/210 – ONR-COP-EPR- REPPiR Chapelcross determination letter to Magnox by [REDACTED] dated 8<sup>th</sup> December 2014 (TRIM reference 2014/449856)
7. Safety Assessment Principles for Nuclear Facilities. 2014 Edition Revision 0 November 2014. (<http://www.onr.org.uk/saps/saps2014.pdf>)
8. NS-INSP-GD-011 Revision 3 LC 11 – Emergency Arrangements. January 2015 ([http://www.onr.org.uk/operational/tech\\_insp\\_guides/ns-insp-gd-011.pdf](http://www.onr.org.uk/operational/tech_insp_guides/ns-insp-gd-011.pdf))
9. Re: emergency plan- informing the Local Authority e-mail 7<sup>th</sup> September 2015 (TRIM reference 2015/353887)
10. IR ONR-DFW-IR-14-205 – Chapelcross Site inspection – 10 to 13 March 2015 – [REDACTED] (TRIM reference 2015/104078)
11. ONR-DFW-PAR-15-004 - Review of ONR's Regulation of Emergency Arrangements at Magnox Reactor Sites, June 2015 (TRIM reference 2015/161756)
12. ONR-DFW-PAR-14-002 – Approval of the revised Dungeness A Site emergency Plan, July 2014 (TRIM reference 2014/193395)