



**Emergency Arrangements**

**Approval of the revised Trawsfynydd Site Emergency Plan – Issue 12**

Project Assessment Report ONR-DFW-PAR-15-009  
Revision 0  
9 December 2015

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## EXECUTIVE SUMMARY

### Approval of the revised Trawsfynydd Site 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 Trawsfynydd site 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 (REPPPIR) is no longer reasonably foreseeable. As a consequence, the licensee intends to revise its extant emergency plan to remove 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 May 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 527 be issued for Magnox Ltd Trawsfynydd site 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)
EPGMS	Emergency Perimeter Gamma Monitoring System
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

## TABLE OF CONTENTS

1	PERMISSION REQUESTED .....	6
2	BACKGROUND .....	6
3	ASSESSMENT AND INSPECTION WORK CARRIED OUT BY ONR IN CONSIDERATION OF THIS REQUEST .....	6
4	MATTERS ARISING FROM ONR'S WORK.....	7
5	CONCLUSIONS .....	8
6	RECOMMENDATIONS.....	8
7	REFERENCES .....	9

## **1 PERMISSION REQUESTED**

1. Magnox Ltd (The Licensee) has requested ONR's 'Approval' under Licence Condition 11(3) for its proposed changes to the Trawsfynydd site emergency plan [1]. The proposed changes to the emergency plan are documented in draft issue of the emergency plan [2].
2. The licensee currently has an emergency plan [3], which is at issue 11. 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 [4].

## **2 BACKGROUND**

4. As required by the REPPiR (Regulation 5(1) and 6(4)) [5], the licensee provided ONR with a revised Report of Assessment (RoA) / Hazard Identification and Risk Evaluation (HIRE) [6]. This RoA / HIRE and supporting information provided by the licensee [7], [8] and [9] 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 [10] and [11], ONR agreed that a radiation emergency is not reasonably foreseeable at Trawsfynydd [12]. REPPiR (Regulation 7) [5] states that if a radiation emergency is not reasonably foreseeable then there is no requirement for an off-site emergency plan.
6. ONR informed Gwynedd Council that there is no longer a requirement on the Council to prepare, review and test an off-site emergency plan that takes into account a possible radiation emergency for Trawsfynydd under REPPiR (Regulations 9(1) and 10(1)) [13].
7. As required under its arrangements, the Licensee has written to ONR to request approval of its proposed changes to the emergency plan for Trawsfynydd [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 [3] and proposed plans [2]. I have confirmed that the proposed plan is compliant with the requirements of ONR's guidance [14] and [15]. 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 [2] 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. The elements removed included the provision of an extended off-site survey capability, the need for a radio system that covers the surrounding area and the site interactions with the Strategic Co-ordination Centre. There is also no requirement for an Emergency Perimeter Gamma Monitoring System (EPGMS).

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 emergency response personnel are unchanged, their emergency roles have been amended to concentrate on on-site emergencies. Whilst the revised plan does have the intent of protecting the public, I identified that the specific requirement for the licensee to preserve a capability to respond to events involving small releases of radioactive material from the site, by carrying out radiological monitoring of off-site areas that are local to the site, was not addressed in the draft emergency plan [16]. The licensee accepted this omission and has modified the wording in the emergency plan to specify this requirement [17]. Detailed implementation of the off-site monitoring capability will be specified in the Emergency Handbook which is subordinate to the Trawsfynydd Site Emergency Plan.
12. An inspection of the implementation of the emergency plan showed that there was a shortfall in the level of health physics monitoring expertise available on shift [17]. The site accepted this omission and has provided an adequate training plan that will ensure that shift personnel are trained and authorised against the required health physics monitoring standard [18].
13. An updated and authorised Trawsfynydd Emergency Plan Issue 12, Revision 2 [1] was provided that addressed the other minor editorial amendments to the draft plan [16] and [17].

### **3.2 OTHER CONSIDERATIONS**

14. The licensee demonstrated the on-site nuclear incident arrangements included in its existing emergency plan to ONR's satisfaction at the recent Level 1 Exercise 'Spitfire' on 19<sup>th</sup> May 2015 [19]. Whilst some areas for improvement were identified the site provided a satisfactory demonstration of its on-site emergency arrangements.
15. As the sections of the existing arrangements [3] 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.
16. I have checked the licensee's proposed emergency plan against the requirements of the Safety Assessment Principle (SAP) AM.1 [14] and Technical Inspection Guide (TIG) 11 [15]. I consider that it meets the requirements of those documents.
17. 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 [1].

### **3.3 SUMMARY**

18. 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 ONR guidance, and does so in a way that makes Magnox's response to an accident or emergency at Trawsfynydd easy to understand.

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

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

## 5 CONCLUSIONS

20. 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.
21. The licensee successfully demonstrated the sections of the existing arrangements concerned with on-site nuclear incidents to ONR in May 2015.
22. 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

23. I recommend that the Deputy Chief Inspector for the Decommissioning, Fuels and Waste programme:
  - Accepts this PAR and endorses the licensee's request for Approval of the Trawsfynydd Site Emergency Plan Issue 12 Revision 2, dated 12<sup>th</sup> November 2015, [1];
  - Should sign Licence Instrument number 527 [20] that grants Approval of Trawsfynydd Site Emergency Plan, TRWAS/05/43, Issue 12 Revision 2, dated 22<sup>nd</sup> October 2015 and withdraws Approval of Trawsfynydd Decommissioning Emergency Plan, Issue 11, dated December 2005.



## 7 REFERENCES

1. TRA 50829R, Request for Approval to Amend the Trawsfynydd Site Emergency Plan Under licence Condition 11(3) of Schedule 2 Attached to Nuclear Site Licence No. 81, 12<sup>th</sup> November 2015, (Enclosing Trawsfynydd Site Emergency Plan, TRAWS/05/43, Issue 12 Revision 2, 22<sup>nd</sup> October 2015). (TRIM reference 2015/432933)
2. NP/SC 5277, Proposed Changes to the Trawsfynydd Site Emergency Plan Post REPIR Regulation 9, 20<sup>th</sup> May 2015, (TRAWS/05/43, Trawsfynydd Site Emergency Plan Issue 12, 19<sup>th</sup> May 2015). (TRIM reference 2015/336414)
3. TRAWS/05/43, Magnox Electric Limited Trawsfynydd Decommissioning Site Emergency Plan, December 2005, Issue 11. (Reference NUC 304/70/11 P2 E20)
4. MXL32269N, Minutes of the Joint Meeting of the Magnox Limited Berkeley, Bradwell, Chapelcross, Dungeness A, Hinkley Point A, Hunterston A, Sizewell A and Trawsfynydd Nuclear Safety Committees held on Tuesday 2 June 2015 (TRIM reference 2015/230086)
5. L126 A guide to the Radiation (Emergency Preparedness and Public Information) Regulations 2001. (<http://www.hse.gov.uk/pubns/priced/l126.pdf>)
6. Magnox Ltd: M/EF/TRA/REP/0003/13 Issue 2, dated September 2013. Trawsfynydd Site: REPIR Regulation 6(4) Hazard Identification and Risk Evaluation Assessment Report. (TRIM reference 2013/435466)
7. Magnox Ltd: M/EF/TRA/REP/0002/13 Issue 1, dated June 2013. Trawsfynydd Site: Review of Safety Case Fault Schedules in Support of the REPIR HIRE Report of Assessment. (TRIM reference 2013/435619)
8. Magnox Ltd Letter: MXL32212/R, dated 22 May 2014. Additional public dose estimates in support of Magnox Limited HIREs. (TRIM reference 2014/204413)
9. Email: Magnox Ltd – [REDACTED], 8<sup>th</sup> July 2014. Trawsfynydd HIRE assessment questions. (TRIM reference 2014/257401)
10. [REDACTED] ONR-DFW-AR-14-010, Fault Studies Assessment of Trawsfynydd REPIR Hazard Identification and Risk Evaluation (HIRE) 2013. 5<sup>th</sup> December 2014. (TRIM reference 2014/355445)
11. ONR-COP-PAR-14-004, Determination of the Requirement for Off-site Emergency Planning and Public Information Areas for the Trawsfynydd Nuclear Licensed Site: Radiation (Emergency Preparedness and Public Information) Regulations 2001. 25<sup>th</sup> March 2015. (TRIM reference 2015/51785)
12. ONR Letter, REPIR 2001, Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPIR), Trawsfynydd Off-Site Emergency Planning and Prior Information Areas, ONR-EPR-15-48, [REDACTED], 27<sup>th</sup> March 2015. (TRIM reference 2015/97507)
13. ONR Letter, REPIR 2001, Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPIR), Trawsfynydd Off-Site Emergency Planning and Prior Information Areas, ONR-EPR-15-49, [REDACTED], 27<sup>th</sup> March 2015. (TRIM reference 2015/97514)
14. Safety Assessment Principles for Nuclear Facilities. 2014 Edition Revision 0. November 2014 (<http://www.onr.org.uk/saps/saps2014.pdf>)

15. NS-INSP-GD-011 Revision 3 LC 11 – Emergency Arrangements. January 2015 ([http://www.onr.org.uk/operational/tech\\_insp\\_guides/index.htm](http://www.onr.org.uk/operational/tech_insp_guides/index.htm))
16. Trawsfynydd Licence Condition 11 Emergency Plan – Draft Issue 12 Clarification Points – 9 September 2015. (Trim reference 2015/336702).
17. ONR-DFW-CR-15-183, Contact Report, Approval of LC 11 Emergency Plan and Other Meetings, 29 September 2015. (TRIM reference 2015/377981)
18. Email, Trawsfynydd - Shift Health Physics Training Programme - LC 11 Emergency Plan Approval - 3 December 2015, (TRIM reference 2015/459138)
19. ONR-DFW-IR-15-020, Trawsfynydd – Decommissioning Magnox Site - Level 1 Exercise ‘Spitfire’, 18 to 19 May 2015. (TRIM reference 2015/172826)
20. Trawsfynydd Site – Licence Instrument – LI527 – Approval of Trawsfynydd Site Emergency Plan, TRAWS/05/43, Issue 12 Revision 2. (Trim reference 2015/434218)