



# Office for Nuclear Regulation

## Request for ONR Approval under Licence Condition 11 (3) of Berkeley Emergency Arrangements

Project Assessment Report ONR-SDFW-PAR-17-020  
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## EXECUTIVE SUMMARY

### Berkeley Emergency Arrangements

This report presents the findings of the Office for Nuclear Regulation's (ONR) consideration of Magnox Limited's request for ONR's Approval to withdraw the Berkeley Site Emergency Plan and replace it with the Berkeley Site Approved Accident and Emergency Arrangements.

### Permission Requested

Magnox Limited, the licensee for Berkeley power station, has written to ONR requesting an Approval under Licence Condition (LC) 11, emergency arrangements, for amendment to the site's Emergency Plan.

### Background

LC 11, emergency arrangements, requires the licensee to make and implement adequate arrangements for dealing with any accident or emergency arising on the site and their effects. In order to comply with this requirement the licensee issues an Emergency Plan.

ONR has previously approved the Berkeley Site Emergency Plan using primary powers under LC 11(2). To comply with LC 11(3) the licensee needs to obtain ONR Approval for alteration or amendment to Approved arrangements.

Berkeley site ceased power generation in 1989 and the defuelling of the reactors was completed in 1992, thereby removing most of the nuclear hazard from the site. Magnox Limited is now in the process of decommissioning the site.

In July 2017, ONR wrote formally to the licensee to inform it that Radiation (Emergency Preparedness and Public Information) Regulations (REPPiR) requirements for off-site emergency planning and prior information to the public no longer applied. ONR's conclusion was based on its technical judgement that a radiation emergency (as defined in REPPiR) was no longer foreseeable at Berkeley.

The licensee has revised its emergency arrangements to reflect the recent changes to its removal from the scope of REPPiR. It has now written to ONR requesting Approval of these amended arrangements.

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

ONR has carried out a programme of work that includes inspection of the licensee's proposal to ensure it is consistent with the requirements of LC 11; this included ONR's observation of a demonstration of the proposed amended arrangements.

### Matters arising from ONR's work

There are no unresolved issues remaining from ONR's assessment and inspection work.

### Conclusions

In my opinion the licensee's proposed alteration or amendment of the Berkeley emergency arrangements is adequate to satisfy the requirements of Licence Condition 11. In formulating my opinion I have taken into account the following:

- ONR's interventions with site staff on the proposed new arrangements, and an adequate demonstration of the new arrangements.

- ONR's satisfaction with the licensee's submissions such that the REPPIR off-site emergency area for the purposes of public protection no longer apply.
- The proposal has followed the licensee's due process and is supported by its Nuclear Safety Committee.

### **Recommendation**

I recommend that the Superintending Inspector for the Decommissioning, Fuel and Waste (DFW) sub-division:

- Accepts the regulatory judgements in this report that justify issuing Licence Instrument 514, an Approval.
- Approves this report for publication after redaction as appropriate.
- Signs Licence Instrument 514 giving effect to ONR's Approval of the proposed amendments to the Berkeley emergency plan under LC 11(3) in accordance with current delegated authorities.

## LIST OF ABBREVIATIONS

DFW	Decommissioning Fuel and Waste
HIRE	Hazard Identification and Risk Evaluation
LC	Licence Condition
MxL	Magnox Limited
ONR	Office for Nuclear Regulation
REPPIR	Radiation (Emergency Preparedness and Public Information) Regulations
RoA	Report of Assessment

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## 1 PERMISSION REQUESTED

1. Magnox Limited (MxL), the licensee for Berkeley power station, has written to the Office for Nuclear Regulation (ONR) requesting ONR's Approval under Licence Condition (LC) 11 (Ref. 1), emergency arrangements, to implement the withdrawal of the Berkeley Site Emergency Plan, TSBH/REP/003/93 Issue 16, and replace it with the Berkeley Site Approved Accident and Emergency Arrangements, BNLS-MIS-EMP-0296 Issue 1 dated 10 July 2017. This report presents the findings of ONR's consideration of MxL's request.

## 2 BACKGROUND

2. LC 11, emergency arrangements, requires the licensee to make and implement adequate arrangement for dealing with any accident or emergency arising on the site and their effects. In order to comply with this requirement the licensee issues an Emergency Plan.
3. ONR has previously Approved (Ref.2) the extant Berkeley Site Emergency Plan using primary powers under LC 11(2). To comply with LC 11(3) the licensee needs to obtain ONR's Approval for alteration or amendment to the Approved arrangements.
4. Berkeley power station ceased power generation in 1989 and the defuelling of the reactors was completed in 1992, thereby removing most of the nuclear hazard from site. MxL are now in the process of decommissioning the site.
5. The Radiation (Emergency Preparedness and Public Information) Regulations (REPPiR) places duties on MxL that include having an operators' emergency plan and off-site emergency plan. In 2016, MxL submitted to ONR a combined Report of Assessment (RoA) and Hazard Identification and Risk Evaluation (HIRE) (Ref.3) in accordance with REPPiR.
6. The RoA/HIRE submission considered that there had been a substantial reduction in both hazard and risk of a radiation emergency at site due to the defuelled status of the reactors with all spent fuel removed from site.
7. MxL concluded that it was not reasonably foreseeable that a member of the public could be exposed to a dose in excess of 5 mSv from the facilities at the Berkeley site. It asserted that a REPPiR Regulation 9 off-site plan and associated Detailed Emergency Planning Zone at 1 km are sufficient, but arguably excessive. ONR's assessment of the RoA and HIRE submissions for Berkeley (Ref. 4) concluded that it was content with MxL's judgment.
8. In September 2017, ONR wrote to the Berkeley Site Director (Ref.5) in respect of the REPPiR off-site emergency planning and prior information area. The letter included notification that the REPPiR off-site emergency planning area was no longer required. Also, MxL was no longer required under the regulations to specify an area where it must provide prior information to the public.
9. To reflect the reduced radiation hazard at Berkeley site, MxL is proposing to replace its Emergency Plan with the Berkeley Site Approved Accident and Emergency Arrangements. The proposed new plan is supported by a Contingency Handbook. The proposal has followed MxL's due process, which included consideration by its Nuclear Safety Committee.
10. The site emergency organisation has been revised to reflect the proposed change in accident and emergency arrangements.

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

11. ONR has engaged with MxL on its proposed alteration / amendment to the Berkeley emergency arrangements. In September 2017, ONR inspected LC 11 which included an evaluation of the proposed arrangements and the subsequent observation of a level 1 emergency exercise demonstration. The ONR inspector who witnessed the exercise concluded that the exercise comprised an adequate demonstration of the proposed arrangements (Ref. 6).

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

12. There are no unresolved issues remaining from ONR's assessment and inspection work.

### **5 CONCLUSIONS**

13. In my opinion the licensee's proposed alteration or amendment of the Berkeley emergency arrangements is adequate to satisfy the requirements of Licence Condition 11. In reaching my opinion I have taken into account of the following:
  - ONR's interventions with site staff on the proposed new arrangements, and the adequate demonstration of the new arrangements.
  - ONR's satisfaction with the licensee's submissions such that the REPPIR off-site emergency area for the purposes of public protection no longer apply.
  - The proposal has followed the licensee's due process and is supported by its Nuclear Safety Committee.

### **6 RECOMMENDATIONS**

14. I recommend that the Superintending Inspector for the Decommissioning, Fuel and Waste (DFW) sub-division:
  - Accepts the regulatory judgements in this report that justify issuing Licence Instrument 514, an Approval.
  - Approves this report for publication after redaction as appropriate.
  - Signs Licence Instrument 514 giving effect to ONR's Approval of the proposed amendments to the Berkeley emergency plan under LC 11(3).



## 7 REFERENCES

1. Magnox Ltd (2017). *Request for Approval of Emergency Arrangements*. 27 September 2017. TRIM Ref. 2017/373693.
2. ONR (2016). *Licence Instrument No. 511: Approval granted under Condition 11(3) of Schedule 2 attached to Nuclear Site Licence No. 92*. 24 March 2016. TRIM Ref. 2016/129709.
3. Magnox Ltd (2016). *Berkeley Site: REPPiR Regulation 6(4) Hazard Identification and Risk Evaluation: Report of Assessment*. NP/SC 5303 Rev 1. 03 February 2016. TRIM Ref. 2016/69315.
4. ONR (2017). *Determination of the Requirement for a Local Authority Off-site Emergency Planning Area and Operator's Prior Information Area in Relation to the Magnox Ltd. Berkeley Site in Accordance with Regulations 9(1) and 16(1) of the Radiation (Emergency Preparedness and Public Information) Regulations (REPPiR) 2001*. 10 July 2017. TRIM Ref. 2017/225214.
5. ONR (2017). *Berkeley Off-Site Emergency Planning and Prior Information Area*. 13 September 2017. TRIM Ref. 2017/246533.
6. ONR (2017). *Berkeley site emergency exercise [REDACTED] and Update on retrievals and conditioning of ILW at Berkeley*. ONR-SDFW-IR-17-139 Rev. 0. 20-21 September 2017. TRIM Ref. 2017/376545.