Magnox Limited

Hinkley Point A Site

Environmental Management Plan

2019/2020
Executive Summary

In January 2002 Magnox Electric Ltd (now Magnox Ltd) applied for consent to decommission Hinkley Point A Nuclear Power Station under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (as amended).

Consent was granted by the Health and Safety Executive (HSE) (now Office For Nuclear Regulation (ONR)) in July 2003 subject to 6 conditions. In compliance with condition 2, an Environmental Management Plan was prepared to provide information relating to environmental risks and mitigations anticipated and arising during the project.

This document is the seventeenth issue of the Hinkley Point A Environmental Management Plan which has been updated annually in compliance with condition 5 of the consent.

This document provides detail of the mitigation measures available to Hinkley Point A to prevent, reduce, and where possible offset any significant adverse environmental effects of the decommissioning work, and provides an update on how these measures have and will be implemented on site during decommissioning activities carried out in 2019/20.

Peter Montague
Closure Director
Hinkley Point A
October 2018
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1. Introduction

Hinkley Point A Reactor Site (hereafter Hinkley A) ceased generation in 1999 and was formally shut down in May 2000 after generating electricity since 1965.

The site entered a phase of decommissioning in accordance with the consent issued by the Health and Safety Executive (HSE), now the Office for Nuclear Regulation (ONR) in 2003 under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (as amended) (EIADR99).

The consent (Appendix A) details 6 conditions that apply to the decommissioning project, including a requirement for the preparation, implementation and review of an Environmental Management Plan (EMP) that shall describe preferential mitigation measures to prevent, reduce and where possible offset any significant adverse effects on the environment. In addition, the plan shall describe how such measures have been employed during the various phases of the decommissioning project including where appropriate the effectiveness of and changes to such mitigations in the light of experience giving reasons for such changes.

This issue of the EMP is structured in a way to clearly demonstrate how Hinkley A meets the requirements of the conditions of consent as follows:

- Condition 3: This document lists the mitigation options and work activities expected to be required at the various stages of decommissioning.
- Condition 4: This document identifies the mitigation measures that have been carried out including a description of effectiveness and any significant changes.

Other supporting information which may be of interest to the public but is not directly required by the consent conditions is also located in the Appendices (e.g. stakeholder management).

A detailed decision report describing the content of the conditions attached to the consent and the main reasons and considerations for the decision was prepared in 2003. Copies of the document are available from:

Office for Nuclear Regulation
Building 4
Redgrave Court
Merton Road
Bootle
Merseyside
L20 7HS
Tel: 0151 951 4000
email: EIA.Team@onr.gsi.gov.uk

Or via the internet from:
http://www.onr.org.uk/hinkley.pdf

Any queries relating to decommissioning activities at Hinkley A or requests for copies of this EMP should be addressed to:

Closure Director
Hinkley Point A Site
Nr Bridgwater
Somerset
TA5 1YA

Main Entrance - Hinkley Point A
2. Scope of the Environmental Management Plan

Geographical Scope

The site is situated adjacent to Bridgwater Bay within the Severn Estuary and is located between a currently generating nuclear site (Hinkley Point B) and a new build nuclear site (Hinkley Point C – see picture).

This EMP details the mitigation measures employed on site to prevent, reduce and, where possible, offset any significant adverse effects on the environment throughout the decommissioning of Hinkley A.

Duration

The decommissioning project at Hinkley Point A consists of a phased approach. These phases are summarised below:

- **Care & Maintenance Preparations (C&MP)**

  During this current phase of decommissioning, most of the radioactive and non-radioactive plant and buildings on the site will be dismantled. Intermediate level radioactive waste (ILW) will be retrieved from current storage locations as appropriate, processed and then placed into purpose-built storage. Upon completion of C&MP, the site will have been put into a passively safe state where the need for human intervention to maintain acceptable conditions is minimised, i.e. the Care and Maintenance phase (C&M).

- **Care & Maintenance (C&M)**

  This is a mainly quiescent phase expected to last for some decades and will require the management, maintenance and monitoring of the Hinkley A site to ensure that it remains in a passively safe and secure state. The site will continue to be the subject of a Nuclear Site License during this phase.

- **Final Site Clearance**

  The final phase of decommissioning is expected to last approximately 10 years and will include the dismantling of the remaining structures, including the reactor buildings, the clearance of any residual radioactivity to the applicable standards at the time and the de-licensing of the site so that it can be made available for alternative use, as appropriate.

This EMP is structured around these three phases. However, it is expected that mitigation measures may change in the future in light of experience and developing technologies. Where mitigation measures are still to be identified, developed in more detail, or require changes, these will be described in subsequent issues of the EMP together with reasons for changes made.

The mitigation measures described in the Environmental Statement have been extracted and tabulated in Section 4.

Topics

The Environmental Statement that accompanied the application for consent in 2001 described potential beneficial and adverse environmental impacts of the Hinkley A decommissioning project.

These impacts were divided into 9 topic areas which have been used throughout this EMP and are listed below:

- **Air Quality and Dust**
- **Archaeology and Cultural Heritage**
- **Ecology**
- **Landscape and Visual**
- **Noise and Vibration**
- **Socio-Economic**
- **Surface Water Quality and Draining**
- **Geology, Hydrogeology and Soils**
- **Traffic and Transport**
3. The Site and Surrounding Area

Site Description

Hinkley A is located on the south west coast of England in the county of Somerset, approximately 13 km North West of the town of Bridgwater. The Nuclear Licensed Site occupies an area of approximately 26 hectares and consists of a number of buildings, hard standings and landscaped areas (wooded and grassy areas).

The two reactor buildings are the dominant features on the site, each 53 metres high. Each contains a reactor of the gas cooled, graphite moderated, Magnox type. The reactor cores are each contained in a large steel pressure vessel surrounded by a concrete biological shield. During operation the reactors were cooled using carbon dioxide. Boilers converted water to steam in order to drive the turbines located inside the turbine hall which has now been de-planted and is awaiting demolition. Cooling of the steam to return it to water was provided by seawater passed through condensing units. The cooling water intake and outfall structures are located offshore and are connected to the turbine hall by means of large underground tunnels which are now blanked off.

Other buildings and plant include the pond buildings, national grid substation, workshops, stores and offices.

Sensitivity of Receiving Environment

Hinkley A is located adjacent to the foreshore of Bridgwater Bay, a Site of Special Scientific Interest (SSSI) which is also designated a National Nature Reserve (NNR). The wider Severn Estuary is designated a Special Protection Area (SPA), a wetland of international importance under the Ramsar Convention and is a Special Area of Conservation (SAC).

A Nature Reserve in the Steart Peninsula was created by the Environment Agency and the Wildfowl and Wetlands Trust, approximately 10km from Hinkley A; the reserve fully opened in May 2015.

A County Wildlife Site (CWS) lies to the west and south of Hinkley A, within which lies Branland Copse north and south which are areas of broadleaved semi-natural woodland. The Quantock Hills lie 7 km south extending to the coastline at Quantock’s Head and have been designated as an Area of Outstanding Natural Beauty (AONB). The Exmoor and Quantock Oak woods are on the east side of the Quantock Hills and are designated as a Special Area of Conservation (SAC).

Within a 10 km radius of Hinkley A there are two additional SSSIs: Ge-mare Farm Fields which lies 7 km south west of the site and Berrow Dunes which lies near Burnham-on-Sea to the north east of the site.

There is one site of known archaeological interest at Hinkley Point, namely an early Bronze Age burial mound or tumulus dating from around 1500BC. This site is known as Pixies Mound (Wick Barrow) and is a Scheduled Monument.

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1 The term "Magnox" refers to the first generation of gas-cooled nuclear reactors used for electricity generation. It is derived from the cladding material (magnesium non-oxidizing alloy) that surrounds each individual uranium metal fuel element.
Transport Infrastructure

The main vehicular access to Hinkley A, from the M5 motorway to the east, is via the A38 which links with the motorway north and south of Bridgwater at junctions 23 and 24 respectively. At Bridgwater the A38 joins the A39 and the route continues west along the A39 to Cannington. From there the C182 leads north to a private site access road.

A bypass has been constructed to divert construction and other Hinkley traffic away from the village of Cannington.

Extensive upgrade work has also taken place in and around Bridgwater to upgrade the road network and to mitigate the traffic that impacts the area.

A free community bus service from West Somerset to Bridgwater is supplied to the surrounding villages, including Nether Stowey, which can access the site from the west via the A39 or via inter-connecting country lanes and which can also give access to the C182 either through Stogursey or Shurton.

There is no direct rail access to the site. The nearest rail access for passengers and freight is at Bridgwater involving vehicle movement through the center of Bridgwater and the village of Cannington to reach the site. Bridgwater station is on the main line between Exeter and Bristol extending to the wider national rail network.

The area around the site is served well by a network of public footpaths and bridleways. This includes the coastal path which runs along the shoreline, to the east of Hinkley A and B site.

Several miles of new off road footpaths and cycle ways have been created locally with the aim of encouraging more people to use these routes in future by providing a safe off-road route for cyclists and pedestrians to mitigate the risks imposed by vehicle movements.

Hinkley A site is supporting preparations for HPC’s dewatering activities, i.e. the installation of boreholes and supporting preparations for new electrical supplies to the HPC site. Hinkley A has established a specific liaison role which is the first point of contact and enables information passed in either direction to be directed to the correct personnel.

The closest access via water is currently at Combswich Wharf, which is owned by EdF Energy. There is a cross company agreement that gives Hinkley A access to the wharf.

Current works at Hinkley Point C have seen a steady increase to the number of vehicles using the site access road which are not related to decommissioning activities at Hinkley A. However, the Hinkley A Transport Management Committee is continually looking to providing enhanced road safety controls and optimise vehicle movements both in and around its site.

It is hoped to open the Hinkley C Southern Plaza by 2019 and this will have a major benefit to the traffic flows on the approach to the Hinkley A. Further relief should occur when the Northern Plaza is opened in Q1 2019. This will have the benefit of easing congestion and reducing vehicle emissions.
4. Mitigation Measures

4.1 Identified Impacts and Mitigation measures

In support of the application to decommission under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (EIADR99) and the Town and Country Planning (Environmental Impact Assessment) 1999 Regulations (TCP(EIA) 99), Environmental Statements were compiled in which potential impacts and key mitigation measures were identified for the three stages of decommissioning.

There have been no significant changes to the mitigation measures that were submitted in the Environmental Statement and reported in the previous issue of the Environmental Management Plan.

The mitigation measures identified in both Environmental Statements are presented in the tables in normal script, the mitigation measures identified in the ES under EIADR99 only are in italics and those mitigation measures identified in the ES under the TCP (EIA) 99 only are underlined.

The following tables list the mitigation measures identified for each phase of the decommissioning project separately (Tables 1 – 3).

Table 1: Care & Maintenance Preparations Phase
Mitigation measures already identified (Condition 3a)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Nature of impact</th>
<th>Mitigation Measures Identified</th>
</tr>
</thead>
</table>
| Air Quality and Dust         | Dust emissions during excavation, demolition and construction activities (including handling and storage of soil and material) | • Minimising unnecessary handling of materials and drop heights  
• Carrying out the activities during a period of poor dispersion conditions (i.e. very low wind speeds) and minimizing activities in dry/windy weather conditions.  
• Enclosing containers during loading and transport  
• Using water sprays to maintain damp surfaces during dry weather  
• Seeding surfaces of completed mounds  
• Construction of wind fences around dust sources |
| Archaeology and Cultural Heritage | Dust emissions during movement of vehicles                                       | • Sheetling of lorries containing materials and spoil export  
• Enclosing containers during loading and transport |

Archaeology and Cultural Heritage  
Impact on cultural heritage (decommissioning of buildings, structures and the technology housed within)  
A Royal Commission on the Historic Monuments of England (RCHME) level 1 survey of the affected site buildings to be undertaken prior to decommissioning. The RCHME was merged with English Heritage in April 1999.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Nature of impact</th>
<th>Mitigation Measures Proposed</th>
</tr>
</thead>
</table>
| Ecology | Loss of habitat (grassland) as a result of off-site storage of materials and equipment. Loss of foraging habitat for badgers, bats, birds and amphibians | • Grassland will be reinstated after removal of spoil mound  
• Landscape planting will provide some replacement habitat (See Landscape and Visual)  
• Retained areas of valuable habitat will be protected with appropriate fencing |
| Disturbance to nesting birds as a result of clearance of vegetation (or demolition of buildings) | • All clearance of vegetation and demolition of buildings, likely to be of value to nesting birds, to be undertaken outside the bird breeding season |
| Disturbance to birds from traffic and site noise | • If appropriate, fencing and other barriers will be erected to protect particular sensitive areas and close boarded fencing around the construction site will be erected to mitigate noise and human disturbance  
• Noisy operations may need be programmed sensitively |
| Increased road mortality for badgers, nesting birds and great crested newts | • Implement on site speed limits |
| Dust deposition on coastal grassland, species rich grassland and scrub along Branland Copse | See mitigation measures proposed under ‘Air Quality and Dust’ topic in this table |
| Pollution/sedimentation of freshwater habitats for water voles and otters | See mitigation measures proposed under ‘Surface Waters’ topic in this table |
| Habitat creation | • At final site clearance, a new pond will be created to provide additional breeding habitat for amphibians – see Table 3. |
| Geology, Hydrogeology and Soils | Changes to groundwater quality through disturbance of contaminated soils from excavation of subsurface structures and/or surfaces | • A programme of sampling and testing of soils during excavation will be agreed with the EA and HSE  
• Contract documents will seek to ensure that groundwater ingress to excavation and demolition areas will be controlled to minimise the volume of water subsequently requiring management  
• Management of contaminated soils to avoid leaching into previously clean soils and groundwater  
• The containment and off-site disposal of contaminated soils  
• Groundwater infiltration and drainage from areas used for temporary storage of demolition waste materials or soils would be controlled to minimise the risk of leaching of contaminants and generation of contaminated or high pH water. Detailed proposals will be made for the collection and disposal of any potentially radiologically contaminated groundwater |
<table>
<thead>
<tr>
<th>Topic</th>
<th>Nature of impact</th>
<th>Mitigation Measures Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes to groundwater quality through spills and leaks</td>
<td>• Utilisation of appropriate measures to prevention pollution</td>
<td>• A spill response plan will be produced to deal with significant spillages to reduce the potential for environmental impact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Appropriate siting, bunding and drainage of fuel and oil tanks and concrete mixing facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Installation of adequately sized and designed oil separation units</td>
</tr>
<tr>
<td>Changes to groundwater level</td>
<td></td>
<td>• Inert backfill (e.g. uncontaminated demolition rubble from the site) will be placed and compacted within underground structures and artificial drainage points created to prevent build-up of groundwater levels</td>
</tr>
<tr>
<td>Landscape and Visual</td>
<td>Visual impact from the site wide demolition activities and construction of Intermediate Storage Facility (ISF)</td>
<td>• Planting scheme will be implemented where reasonably practicable to do so including.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Provision of a long-term visual softening in long views from the access road and mitigate the views of the ISF from the south and the south east by creating a wide hedgerow with trees.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Visual extension of Branland Copse North by creating a 4m hedgerow along the north part of the western boundary.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mitigation of the loss of grassland habitat resulting from the ISF development (i.e. soil stockpile area). This adverse impact will be mitigated by restoring the grassland habitat. The area will be seeded with low-density indigenous grass mix, sown directly onto soil. Fertilisers would not be used.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Design, siting of buildings and choice of colour of cladding materials have been developed with the aim of reducing the visual impact.</td>
</tr>
</tbody>
</table>
Table 1 Continued: Care & Maintenance Preparations Phase
Mitigation measures already identified (Condition 3a) - continued

<table>
<thead>
<tr>
<th>Topic</th>
<th>Nature of impact</th>
<th>Mitigation Measures Proposed</th>
</tr>
</thead>
</table>
| Noise and Vibration  | Noise from site activities (demolition, construction of ISF, etc.)              | • All construction activities to be undertaken in accordance with good practice as described by British Standard 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites
• Main noise generating activities restricted to daytime hours (between 08:00 and 17:00), work outside these hours will be agreed with local authority
• Mitigation by distance and screening will be maximized where possible
• Use of concrete crushers rather than pneumatic hammers
• Use of equipment fitted with effective silencers/insulation
• Minimising unnecessary revving of engines, turning off machines when not required and routine maintenance of equipment
• Appointment of site supervisors to whom complaints/queries about construction activity can be directed – any complaints to be investigated and action taken where appropriate
• If piling is considered to be necessary, jacked or bored piling techniques to be used in preference to driven piling

<table>
<thead>
<tr>
<th>Noise related to transport</th>
<th>Maximum axle weights for transportation of plant materials and wastes could be imposed by contract</th>
</tr>
</thead>
</table>
| Socio-economic            | Reduction in number of site personnel                                                          | • Phasing of employment reductions
• Maximising opportunities for employment continuity or redeployment within the Company for site personnel
• Where possible, maximise the take-up of the voluntary severance scheme |

| Change in employment level in local economy; change in level of local expenditure | Use of locally based contractors
• Maximise the opportunities for locally-based businesses to secure involvement as contractors, sub-contractors and suppliers |

| Surface Waters           | Changes to surface water quality through uncontrolled discharges arising from excavations into contaminated soils | • Contract documents will seek to ensure that surface water ingress to excavation and demolition areas will be controlled to minimize the volume of water subsequently requiring treatment
• Any contaminated soil will be isolated and appropriately disposed of
• Drainage from excavation areas will be collected and managed |

*BS5228:1997 has been superseded by BS5228: 2009 parts 1 and 2.*
<table>
<thead>
<tr>
<th>Topic</th>
<th>Nature of impact</th>
<th>Mitigation Measures Proposed</th>
</tr>
</thead>
</table>
| Surface Waters (Continued) | Changes to surface water quality through uncontrolled discharges of sediments and/or turbid water into surface drains and surface water courses | - Follow EA’s “Is your site right?” checklist  
- Minimise stockpiling of loose materials  
- Seeding of the soil stockpile to reduce wash-off of suspended solids  
- Erosion protection using geotextile materials considered when stockpiling materials over long periods  
- Minimising movement of soil during wet weather  
- Cleaning of roadways, including use or recirculating wheel washers and road sweepers  
- Slit traps, balancing ponds and approximately sized grills on drains |
| Traffic and Transport | Mud on public highways | - Appropriate siting, bunding and drainage of fuel/oil tanks and concrete mixing facilities  
- Handling protocols for washing out of concrete mixing plant and refueling  
- Installation of adequately sized and designed oil separation units  
- A Spill Response Plan will be produced to deal with spillage and reduce the potential for oils to enter surface waters  
- Provision of sand, dispersants and oil booms to control spillages |

Road sweeping/road cleaning is routinely and frequently scheduled by Hinkley Point C, due to the predominating cause of mud on the public highway emanating from vehicles exiting their construction site.
### Table 2: Care & Maintenance Phase

**Mitigation measures already identified (Condition 3a)**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Nature of impact</th>
<th>Mitigation Measures Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology</td>
<td>Disturbance to birds from traffic, noise during removal of ILW</td>
<td>• Removal operations will be programmed sensitively</td>
</tr>
</tbody>
</table>
|        | Increased road mortality for great crested newts during removal of ILW           | • The presence or otherwise of great crested newts should be monitored as part of site management during the C&M phase  
|        |                                                                                  | • A detailed mitigation plan will be developed                                               |
| Geology, Hydrogeology and Soils | Changes to groundwater quality through disturbance of contaminated soils from excavation of subsurface structures and/or services | • A programme of sampling and testing of soils during excavation will be agreed with the EA and the ONR  
|        |                                                                                  | • Management of contaminated soils to avoid leaching into previously clean soils and groundwater |
| Landscape and Visual | Visual impact from the constructed ISF                                          | • The planting management regime (e.g. replacing of trees and scrubs) would be agreed with the local planning authority, as relevant and appropriate. |
| Surface Water | Avoidance of localized flooding                                                  | • Drainage facilities in place during and after C&M period to avoid localised flooding. Small land drains may need to be installed  
|        |                                                                                  | • Improvements to flood defences made as necessary to ensure continued protection of site until final clearance |

### Table 3: Final Site Clearance Phase

**Mitigation measures already identified (Condition 3a)**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Nature of impact</th>
<th>Mitigation Measures Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>All topic areas</td>
<td>It is predicted that the impact may be as those identified in Table 1</td>
<td>Mitigation measures proposed for this section are identical to those specified in Table 1</td>
</tr>
</tbody>
</table>

### 4.2 Future mitigation measures (Condition 3b and 3c)

Work activities beyond final site clearance phase have not yet been identified. As a result a list of mitigation measures required during any future phases cannot yet be identified.
5. Implementation of the Environmental Management Plan

It is a requirement of the conditions attached to the consent (Appendix A), to implement the mitigation measures and describe their effectiveness. This chapter lists the measures (identified in Table 1) which have been implemented, explains how the site measures their effectiveness in reducing environmental impacts and describes their use in some of the more recent and relevant projects.

Process for Implementation of Mitigation Measures

Hinkley A site procedures ensure that decommissioning activities are carried out in accordance with the mitigation measures set out in this plan. All decommissioning projects and modifications to plant are assessed during the proposal stage in accordance with robust company management control procedures. A template of questions (forming part of the Decommissioning Project Approval Form (DPAF)) is used to determine whether further environmental assessment and mitigation is required (Appendix C).

In addition, there are a number of other tools to ensure that all environmental impacts are minimised. The site has an integrated Management System which covers the requirements of ISO 9001 (Quality Assurance), ISO 14001 (Environmental Management Systems) and OHSAS 18001 (Occupational Health and Safety Management System).

Hinkley A also undertakes Best Available Techniques (BAT) optioneerig studies for those projects where it is deemed that there is potential for significant radioactive and non-radioactive discharges and dispositions from the site, e.g. site waste management, decommissioning or restoration projects and where it is required to demonstrate that these impacts are minimised through evaluation by a clear, systematic and transparent process.

Processes for Determining Effectiveness of Mitigation Measures

The site aims to continually monitor the effectiveness of mitigation measures over time and where necessary review these in order to ensure the success of reducing significant environmental impacts. A key part of this process is the close interaction between the Project Teams and the Environment Team, ensuring that mitigation measures are considered, applied and, where relevant, reviewed throughout the lifespan of the project. The effectiveness of the mitigations is monitored in a variety of ways as described below.

1) Environmental Performance Monitoring

Environmental performance monitoring (e.g. dust, noise, groundwater monitoring) is performed using specialist equipment. This allows assessment of environmental impacts post-mitigation in addition to being of use for determining baseline conditions. The main use of post-mitigation environmental monitoring will be for larger projects, such as the demolition of buildings or movement of large quantities of spoil. The requirement for this method of measuring effectiveness is determined on an individual project basis as appropriate.

2) Visual Evidence

Site photographs taken before the start of the project provide a good visual indication of the surrounding area and help to identify potential environmental receptors in the vicinity (e.g. surface drains) and hence highlight mitigation measures that need to be implemented. Visual inspections and photographs can also provide an indication on effectiveness of mitigation measures.

3) Review of Regulatory Action, Complaints and Internal Event Reporting

Regulatory actions, complaints and internal events including near misses are reported and investigated. Such investigations may provide recommendations for improvements where mitigation measures have not been effective or where further mitigations are required.

Seaweed sampling at HPA
Examples of Work Completed Requiring Mitigation Measures

Decommissioning and construction work undertaken during the period has resulted in only a few potential environmental impacts; therefore many of the mitigation measures described in the previous section have not been required.

Without environmental incident, Hinkley A has progressed the walls for the Intermediate Storage facility (ISF) and started construction of the Mobile Intermediate Level Waste Encapsulation Plant (MILWEP) whilst enabling works for the Pre-Conditioning Facility (PCF) is being delivered in the former De-Contamination Building (DCB).

Air Quality and Dust

Activities were subject to dust suppression to reduce the risk of dust emissions to the environment.

Ecology

A phase 1 habitat survey and targeted protected species survey was undertaken. The survey concluded that the site is a potential nesting site for a number of bird species. Ecology inspections are undertaken prior to any building demolition and expert advice sought as necessary.

Geology, Hydrogeology and Soils

Borehole sampling has been undertaken on the Hinkley A site to determine the extent of legacy oil ground contamination associated with Area of Potential Concern (APC) 9; a contract was, consequently, awarded to carry out remediation. This work to remediate has been successfully completed with all key functional requirements confirmed.

Mitigations have been employed on site during routine works consistent with the assessment carried out for compliance with the decommissioning consent and other relevant aspects of compliance with the EI/ADR99 Regulations, non-radiological permits/consents, other relevant legislation and environmental issues, and signed onto as part of the Decommissioning Proposal Approval process (as shown in Appendix B).

Additionally, part of the company procedure for identifying and implementing measures to prevent potentially contaminated soils leaching into ground or surface water is shown in Appendix D.

Landscape and Visual

Planting proposals outlined in Table 1 are to be considered following completion of the work around the south banks of the ISF and MILWEP site.

Noise and Vibration

All construction activities on site are subject to management procedures which require implementation of relevant good practice standards and procedures. All noise generating activities are normally restricted to between the hours of 08:00 and 17:00.

Any work which is likely to cause significant noise is managed to ensure that no nuisance is caused and to ensure no detriment to sensitive environments. No reports have been received relating to excessive noise for 2017/18.
Socio-Economic

The total workforce (staff, agency and contractors) on site has reduced in recent years but will flex during to reflect the current decommissioning status; ultimately a trend of overall workforce reduction will continue until C&M entry. The site aims to mitigate the impacts of reduction in site personnel through staff redeployment within the company and the voluntary severance scheme. Change in employment levels in the local economy is mitigated by maximising the opportunities for locally-based businesses and through employment of locally based contractors.

Surface Waters

Removal of redundant, legacy wastes continues on the site with conventional water treatment plant tanks drained, remedially cleaned and deplanted. This has had the effect of removing a significant volume of legacy caustic waste and has mitigated the significant environmental risk associated with legacy caustic liquids being stored indefinitely in redundant tanks.

Site management procedures ensure well managed oil and chemical storage areas and routine inspection and maintenance of tanks and oil interceptors.

Traffic and Transport

Transport levels in the local area will have increased due to the development of the Hinkley Point C site and the requirement for changes to the road layout immediately to the south of the site. Construction of the Cannington bypass was intended to help to alleviate traffic in the village.

Traffic concerns are raised at the SSG meetings; some complaints relating to speeding vehicles have been received through this forum. Coincident with EdF, the site management team has taken action to remind Hinkley Point A staff and contractors of the expectation that, where practicable, the bypass should be used. In addition, a reminder that adherence to speed limits is both an expectation from a stakeholder management perspective and legal obligation has been issued. Car sharing has also been encouraged to mitigate the adverse effects of increased levels of traffic.
6. Changes to the
Environmental Management Plan

There are no significant changes to the mitigation measures that were submitted in the Environmental Statement and reported in previous issues of the Environmental Management Plan. Hinkley A will notify the ONR of any significant change to a mitigation measure no less than 30 days before the change is made, or within such shorter time as the ONR may agree.

7. Distribution of the Environmental Management Plan

Any queries relating to the decommissioning activities at Hinkley Point A or requests for copies of this EMP should be addressed to:

The Closure Director
Hinkley Point A Site
Nr Bridgwater
Somerset
TA5 1YA

In addition to the submission of this EMP to the ONR, Magnox Ltd will make the document publicly available via the Magnox Website and will provide copies to the:

- Hinkley Point A Site Stakeholder Group
- Nether Stowey Library

This EMP may be viewed at the following locations:

- Burnham and Highbridge Council Hinkley Point A Site Stakeholder Group
- Nether Stowey Library
- www.magnoxsites.com/publications
# 8. Definitions

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AONB</td>
<td>Area of Outstanding Natural Beauty</td>
</tr>
<tr>
<td>APC</td>
<td>Area of Potential Concern</td>
</tr>
<tr>
<td>BAP</td>
<td>Biodiversity Action Plan</td>
</tr>
<tr>
<td>BAT</td>
<td>Best Available Technique</td>
</tr>
<tr>
<td>DPAF</td>
<td>Decommissioning Project Approval Form</td>
</tr>
<tr>
<td>EA</td>
<td>Environment Agency</td>
</tr>
<tr>
<td>EIADR99</td>
<td>Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999</td>
</tr>
<tr>
<td>EMP</td>
<td>Environmental Management Plan</td>
</tr>
<tr>
<td>HSE</td>
<td>Health and Safety Executive</td>
</tr>
<tr>
<td>ILW</td>
<td>Intermediate Level Waste</td>
</tr>
<tr>
<td>ISF</td>
<td>Interim Storage Facility</td>
</tr>
<tr>
<td>ISO 9001</td>
<td>Accreditation system for Quality Assurance</td>
</tr>
<tr>
<td>ISO 14001</td>
<td>Accreditation system for Environmental Management Systems</td>
</tr>
<tr>
<td>NAPL</td>
<td>Non Aqueous Phase Liquid</td>
</tr>
<tr>
<td>NNR</td>
<td>National Nature Reserve</td>
</tr>
<tr>
<td>OHSAS 18001</td>
<td>Accreditation system for Occupational Health and Safety Management Systems</td>
</tr>
<tr>
<td>ONR</td>
<td>Office of Nuclear Regulation</td>
</tr>
<tr>
<td>SAC</td>
<td>Special Area of Conservation</td>
</tr>
<tr>
<td>SLA</td>
<td>Special Landscape Areas</td>
</tr>
<tr>
<td>SPA</td>
<td>Special Protection Area</td>
</tr>
<tr>
<td>SSG</td>
<td>Site Stakeholder Group</td>
</tr>
<tr>
<td>SSSI</td>
<td>Site of Special Scientific Interest</td>
</tr>
</tbody>
</table>
Appendix A

Consent Conditions

NUCLEAR REACTORS (ENVIRONMENTAL IMPACT ASSESSMENT FOR DECOMMISSIONING) REGULATIONS 1999

CONDITIONS
Attached under regulation 8(4)
to Decommissioning Project Consent No. 1 granted under regulation 4(b)

HINKLEY POINT A POWER STATION

Condition 1
The project\(^1\) shall commence before the expiration of 5 years from the date of this Consent.

Condition 2
(1) The licensee is required to prepare and implement an environmental management plan to cover mitigation measures to prevent, reduce and where possible offset any significant adverse effects on the environment.

(2) The project shall not be carried out except in accordance with the environmental management plan.

Condition 3
Within 90 days of the date of this Consent, with reference to the Environmental Statement provided under regulation 5(1) and further information provided under regulation 10(9), the environmental management plan shall:

a. list the mitigation measures that are already identified;

b. list the options to implement work activities where mitigation measures may be required but where selection of an option will only be possible in the future;

c. list the work activities where mitigation measures may be required but where assessments to identify mitigation measures will only be possible in the future.

Condition 4
Subsequent to condition 3, the environmental management plan shall:

a. with reference to condition 3b, identify the mitigation measures for options that have been selected, giving reasons for their selection;

b. with reference to condition 3c, identify the mitigation measures from assessments carried out, giving reasons for their selection;

c. describe the effectiveness of the mitigation measures over time;

d. describe significant changes to the mitigation measures in light of experience, giving reasons for such changes.

\(^1\) Project as defined in regulation 2
Condition 5
The licensee is required to:

a. provide the environmental management plan to the Health and Safety Executive within 90 days of the date of this Consent and every year thereafter, or within such longer time as the Executive may agree;

b. make the environmental management plan available to the public within 30 days of the plan being sent to the Health and Safety Executive, or within such longer time as the Executive may agree; the plan may replace earlier versions.

Condition 6
The licensee is required to provide notice to the Health and Safety Executive of any significant changes to a mitigation measure to prevent, reduce and where possible offset any major adverse effects on the environment no less than 30 days before the change is made, or within such shorter time as the Executive may agree.

Dated: July 2003

For and behalf of the
Health and Safety Executive
Signed
M W Weightman
A person authorized to act in that behalf
## Appendix B

Minimising Environmental Impacts — Decommissioning Proposal Approval

### Form

#### PART 5 — ENVIRONMENTAL SAFETY ASSESSMENT

Both 5.1 and 5.2 are to be categorised individually before an overall environmental category is assigned in 5.3.

<table>
<thead>
<tr>
<th>5.2</th>
<th>EIA DR 99 ENVIRONMENTAL IMPACT AND REGULATORY COMPLIANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The following checklist must be completed by an Environmental SQEP/S*. The assessment is for compliance with the decommissioning consent and other relevant aspects of compliance with the EIA DR 99 Regulations, non-radiological permits/consents, other relevant legislation and environmental issues.</td>
</tr>
<tr>
<td></td>
<td>*Generally Environmental SQEP/S on site have competency to assess all aspects of 5.2, where this is not the case, the site must ensure that appropriate assessment is made.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CONSIDER POTENTIAL FOR:</th>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2.1 Decommissioning Baseline</td>
<td>Does this proposed modification represent a change from the Decommissioning Project baseline as described in the Environmental Impact Assessment Baseline document (in particular, is it sufficient to trigger Regulation 13 determination)? If 'YES', it is considered to be a change - complete the relevant Assessment Forms in accordance with S-159.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5.2.2 Management</td>
<td>Does the proposal challenge compliance with the EIA DR Regulations including adequacy of mitigation measures proposed?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5.2.3 Discharges &amp; Waste</td>
<td>Could the proposal, if inadequately conceived or executed, lead to a breach of an existing Environmental Permit, or other environmental license/regulatory requirement (e.g. wildlife management license, PCB registration, greenhouse gas trading permit, marine consent, waste management exemption)? (For Scottish sites, a breach of a Controlled Activities Regulations Discharge Consent, Pollution Prevention Control Permit, Waste Management / Exemption)?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5.2.4 Discharges &amp; Waste</td>
<td>Is a change to an existing Environmental Permit or new Environmental Permit required for this proposal? (For Scottish sites, a change to existing/or a new Controlled Activities Regulations Discharge Consent, IPC authorisation, PPC Permit, Waste Management / Exemption)?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5.2.5 Environmental Impacts</td>
<td>Could the proposal, if inadequately conceived or executed, lead to an unacceptable environmental impact (e.g. inadequate storage of oils and chemicals leading to on or off-site spill, disturbing known or suspect contaminated ground)? If so, appropriate controls/ mitigation must be specified</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5.2.6 If all answers are 'NO' then the proposal is Category E3. If 'YES' is answered to any questions above, then assess the environmental impacts and provide further information below.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 5.2.7 CONTROL MEASURES AND COMMENTS

Describe the control measures that will be used to ensure that environmental risks will be acceptable.

#### 5.2.8 Potential Environmental Category with respect to EIA DR 99 Compliance and all other environmental aspects:

<table>
<thead>
<tr>
<th></th>
<th>E1</th>
<th>E2</th>
<th>E3</th>
</tr>
</thead>
</table>

Name: ____________________________

Signature: ____________________________

Date: ____________________________

*Environment SQEP*
PART 5 – ENVIRONMENTAL SAFETY ASSESSMENT

Both 5.1 and 5.2 are to be categorised individually before an overall environmental category is assigned below.

### 5.3 OVERALL ENVIRONMENTAL ASSESSMENT

To be completed by the NRE, with signatures from Environmental SQEP and EHSS&Q Manager as appropriate.

### 5.3.1 ENVIRONMENTAL JUSTIFICATION / MITIGATION

---

### 5.3.2 OVERALL ENVIRONMENTAL CATEGORY

The environmental category is determined by reviewing the adequacy of the environmental hazard identification and assessment carried out and consider whether any other relevant aspects of the category definitions given in MCP-099 Appendix 1 are relevant. Select the relevant box below.

Environmental control and mitigation measures required have been identified above and will be incorporated in the design or working methods. Any further Environmental Justifications (e.g. BAT / BPM) should be attached.

#### RECOMMENDED ENVIRONMENTAL CATEGORY:

<table>
<thead>
<tr>
<th>E1</th>
<th>E2</th>
<th>E3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Signature:</td>
<td>Date:</td>
</tr>
<tr>
<td>Environment SQEP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For category E1 modifications, two additional signatures are required:

1) Confirm awareness of the modification proposal.

   Name: 
   Signature: 
   Date: 

EHSS&Q Manager

2) Confirm that the modification proposal has been reviewed by Head of Profession – Environment and that comments / recommendations have been addressed.

   Name: 
   Signature: 
   Date: 

NRE
Appendix C

Stakeholder Engagement

Whilst decommissioning represents a new phase in the lifecycle of the site, Magnox Ltd remains committed to engaging with stakeholders at all phases in the process.

The Site Stakeholder Group (SSG) is an open public meeting. It meets three times a year and is chaired by an independent chairman. Both the Hinkley A, B and C sites are represented and an update is provided on site works. The chair regularly meets with the Hinkley A Site Closure Director and is also in regular contact with the Nuclear Decommissioning Authority (NDA).

The role of the Nuclear Decommissioning Authority (NDA)

The Energy Act (2004, as Amended) requires that the NDA must prepare a strategy for carrying out its functions and from time to time to review that strategy. This strategy must set out the steps that the NDA proposes to take for:

- giving appropriate publicity to its responsibilities and strategy;
- explaining them both to persons having a particular interest in matters relating to the carrying out by the NDA of its functions and to the general public;
- ensuring that the NDA is kept informed at all times of the opinions about such matters of persons having such a particular interest;
- facilitating the communication by such persons of their opinions to the NDA.

The NDA is also required to give encouragement and other support to activities that benefit the social or economic life of communities living near those sites for which it has responsibilities, including Hinkley A.
# Appendix D

## Format of Land Quality Assessment Form

**QUESTIONS TO BE ADDRESSED WHEN APPROVING PROPOSALS FOR WORK ON SITE**

In considering proposals for work on a site (through Modifications approval or method statement approval processes), a number of questions relevant to land quality must be answered. These are set out below in a pro-forma, the layout of which may be adapted for use within an existing procedure.

<table>
<thead>
<tr>
<th><strong>1. Does the proposed work have any potential for mobilisation of existing contaminated ground or groundwater?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1a.</strong> Will the proposed work involve 'breaking ground' or otherwise have the potential to affect the sub-surface?</td>
</tr>
<tr>
<td>Yes/No</td>
</tr>
<tr>
<td>Such work may involve excavations, advancing of boreholes or piles, changes in ground cover, changes to surface water drainage, groundwater abstraction, ground de-watering.</td>
</tr>
<tr>
<td><strong>1b.</strong> Is there any existing known or suspected contaminated land that could be affected significantly by the proposed work?</td>
</tr>
<tr>
<td>Yes/No</td>
</tr>
<tr>
<td>The answer to this question shall be based on consultation of the Land Quality Map and related Land Quality Register, noting that indirect effects such as modification of groundwater pathways can mean that work in one area may affect contamination present in another area.</td>
</tr>
<tr>
<td><strong>If the answer to 1b is yes:</strong></td>
</tr>
<tr>
<td><strong>Give details of the mitigation measures proposed to eliminate/mitigate any potential impacts.</strong></td>
</tr>
<tr>
<td>Proposed mitigation measures:</td>
</tr>
<tr>
<td><strong>Was specialist advice sought in answering Question 1?</strong></td>
</tr>
<tr>
<td>Yes/No</td>
</tr>
<tr>
<td><strong>Give details of who was consulted. Give name and role, e.g. Intelligent Customer (land contamination) or Environmental SQEP:</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>2. Does the proposed work have any potential to result in exposure of those undertaking the work to contaminants at levels that should be taken into account in the Method Statements and Risk assessments for the work?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yes/No</strong></td>
</tr>
<tr>
<td>This question should be answered with reference to the Land Quality File. If yes, detail the measures to be put in place to provide adequate protection of the workers.</td>
</tr>
<tr>
<td><strong>Proposed mitigation measures:</strong></td>
</tr>
<tr>
<td><strong>Was specialist advice sought in answering Question 2?</strong></td>
</tr>
<tr>
<td>Yes/No</td>
</tr>
<tr>
<td><strong>Give details of who was consulted. Give name and role, e.g. COSHH Assessor/Accredited Health Physicist:</strong></td>
</tr>
<tr>
<td><strong>Assessment prepared by (give name &amp; role and date):</strong></td>
</tr>
<tr>
<td><strong>Assessment approved by (give name &amp; role and date):</strong></td>
</tr>
</tbody>
</table>
Appendix E

Principles for a Travel Plan

Objective

All decommissioning operations involving transport will be managed so as to minimise the environmental effects of these operations, as far as is reasonably practicable. The principles for achieving this are defined below.

Transport Management Principles

- The numbers of individual transport movements will be minimised as far as is reasonably practicable.
- Employees and contractors will be encouraged to use video and teleconferencing facilities as much as possible rather than travelling to other sites for meetings.
- Employees and contractors will be encouraged to share transport (or use public transport) when travelling to and from the Hinkley Point A Site.
- Employees and contractors will be given awareness training on the principles of eco driving to minimise the environmental effects of vehicle emissions.
- Magnox Ltd and its contractors will be required to maintain their vehicles in a good standard of condition.
- When appropriate, vehicles leaving the site will be subject to wheel wash and inspection to ensure that earth and other material is not unduly dispersed.
- On site roads will be swept as necessary to minimise the spread of material off site and/or into drains or watercourses.
- Signage will be provided at site exits to reinforce the contract requirements on vehicle drivers.
- Where practicable, transport distances will be minimised by the use of local disposal sites, recycling companies, etc.
- Most HGV transport movements will be undertaken during normal working hours.
- HGVs will be required to exit the site through the Hinkley Point A main gate and, where appropriate, to follow preferred routes to and from the strategic road network.
- In the event of the need for an abnormal load to be transported, a specific plan for this movement will be developed.