Nuclear Restoration Services Limited (NRS)

Hinkley Point A Site

Environmental Management Plan

2023/2024

Executive Summary

In January 2002 Magnox Electric Ltd (now Nuclear Restoration Services Ltd - NRS) 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 the Office For Nuclear Regulation (ONR)) in July 2003 subject to 6 conditions. In compliance with condition 2, this Environmental Management Plan has been prepared to provide information relating to environmental risks and mitigations anticipated and arising during the decommissioning project.

This document is the twenty-third issue of the Hinkley Point A Environmental Management Plan which has been updated and issued annually, in compliance with condition 5 of the consent.

This document provides detail of the mitigation measures available at 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 during the decommissioning activities carried out on site.

Mark Pitts
Site Director
Hinkley Point A
October 2024

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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 six 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 and 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 these consent conditions.

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 engagement).

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 this 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

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

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

2. Scope of the Environmental Management Plan

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

Geographical Scope

The site is situated adjacent to Bridgwater Bay within the Severn Estuary and is located between a currently defueling nuclear site (Hinkley B) to the east and a new build nuclear site (Hinkley C) to the west.

Duration

Most recently a rolling programme of decommissioning for NRS sites has been developed which has included the submission to move away from the current strategy of deferred decommissioning to a rolling programme of decommissioning which will accelerate our final site clearance; the site expects this programme to be embedded over the next calendar year and the impact addressed in subsequent EMPs. However, the decommissioning project permitted under EIADR99 at Hinkley A continues to consist of a three phased approach. These three 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 future human intervention to maintain acceptable conditions, prior to final site clearance, is minimised.

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

This is a mainly quiescent phase expected to last for some decades and will require management, maintenance, and monitoring of Hinkley A 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 last 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 land use.

Fig. 1 Hinkley A (l) and Hinkley B (r) with Bridgwater Bay in the background.

This EMP is structured around these three phases. However, it is expected that the phasing mitigation measures may change in the future in light of experience and developing technologies. For the later phases of work 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 the changes made.

Topics

The Environmental Statement that accompanied the application for consent in 2001 summarised the environmental aspects of the decommissioning project and described potential beneficial and adverse environmental impacts of this project. The mitigation measures described in the Environmental Statement have been extracted and tabulated in Section 4.

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 Drainage**
- **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, as well as a road network within a high metal security fence. The remaining area consists of well-tended grassland.

Fig. 2 View of Hinkley A (l) and Hinkley B (r) from the Quantock Hills

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[1] type. The reactor cores are each contained in a large steel pressure vessel surrounded by a concrete biological shield. Boilers converted water to steam in order to drive the turbines located inside the turbine hall (demolished in 2019). 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 were connected to the turbine hall by means of large underground tunnels, which since been drained and sealed.

Other buildings and plant on the site include the ponds buildings, national grid substation, workshops, waste storage and processing areas, stores and offices.

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.

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-oxidising alloy) that surrounds each individual uranium metal fuel element.

Sensitivity of Receiving Environment

Hinkley A is situated 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 has been created by the Environment Agency and the Wildfowl and Wetlands Trust, approximately 6km from Hinkley A; the reserve fully opened in May 2015 and in 2022 it was declared part of the new 'Somerset Wetlands' – England's largest Super National Nature Reserve.

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.

Within a 10 km radius of Hinkley A there are two additional SSSIs: Ge-mare Farm Fields which lies 7 km southwest of the site and Berrow Dunes which lies to the northeast of the site.

There is one area of known archaeological interest close to the site boundary at Hinkley A, which is an early Bronze Age burial mound dating from around 1500BC. This site is known as Pixies Mound (Wick Barrow) and is a Scheduled Monument.

Fig. 3 Wick Barrow dating from 1500BC.

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) Regulations 2017 (TCP (EIA) 17), Environmental Statements (ES) were compiled in which potential impacts and key mitigation measures were identified for the three phases of decommissioning.

There have been no significant changes to the mitigation measures that were submitted in the Environmental Statements 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) 17 only are <u>underlined</u>.

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

Table 1: Care & Maintenance Preparations Phase

Mitigation measures already identified (Condition 3a)

Topic: AIR QUALITY and DUST	
Dust may be deposited within 100-200m of the site boundary. Apart from Hinkley B and Hinkley C there are no other commercial or residential properties within this distance that could be affected.	
Nature of impact	**Mitigation Measures Proposed**
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
Dust emissions during movement of vehicles	• Sheeting of lorries containing materials and spoil export • Provision of wheel washing for HGVs on leaving the site where relevant
Topic: ARCHAELOGY and CULTURAL HERITAGE	
There is no evidence that there are any features of archeological interest within the Hinkley A Licensed Site boundary and no associated works are proposed outside of this boundary.	
Nature of impact	**Mitigation Measures Proposed**
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 1999, with Historic England since formed in 2017* now providing this role.

Table 1 Continued: Care & Maintenance Preparations Phase

Mitigation measures already identified (Condition 3a) – continued

Topic: ECOLOGY	
From time to time there will be noisy operations, dust generation, incidental road wildlife mortality and the potential for accidental spillage or pollution. Although general levels of background noise are unlikely to change due to the continued activities at Hinkley B and the construction of Hinkley C, the greatest impact is likely to be noise disturbance of birds in neighboring areas, particularly Brandland Copse and areas of scrub to the south of the site.	
Nature of impact	**Mitigation Measures Proposed**
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 mounds • Landscape planting will provide some replacement habitat (See Landscape and Visual) • Retained areas of valuable habitat will be protected where practicable
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.*

Table 1 Continued: Care & Maintenance Preparations Phase

Mitigation measures already identified (Condition 3a) - continued

Topic: GEOLOGY, HYDROLOGY and SOILS	
Subject to appropriate control, there will be no significant impacts. Monitoring may be necessary to ensure that mitigation measures are effective. The removal of potential sources of pollution will yield slight benefits during this and subsequent phases.	
Nature of impact	**Mitigation Measures Proposed**
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 determined following discussion with the EA • 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 elevated pH water. Detailed proposals will be made for the collection and disposal of any potentially radiologically contaminated groundwater
Changes to groundwater quality through spills and leaks	• Utilisation of appropriate measures to prevent pollution • A spill response plan will be produced to deal with significant spillages to reduce the potential for environmental impact • Appropriate siting, bunding and drainage of fuel and oil tanks and concrete mixing facilities • Installation of adequately sized and designed oil separation units • Provision of spill control equipment
Changes to groundwater level	• Assurance of groundwater levels is undertaken by monitoring of boreholes

Table 1 Continued: Care & Maintenance Preparations Phase

Mitigation measures already identified (Condition 3a) - continued

Topic: LANDSCAPE and VISUAL

Visual impacts will occur as a result of the use of cranes, construction and demolition of buildings and foundations, site clearance activities, vehicle movement, and security lighting. Cranes will be visible from locations to the south of the Quantock Hills Area of Outstanding Natural Beauty. The main adverse visual impacts will be from local viewpoints such as Stolford, Wick, Shurton, Burton and Knighton.

Nature of impact	Mitigation Measures Proposed
Visual impact from the site wide construction and demolition activities.	• Planting scheme will be implemented where reasonably practicable to do so including: • Provision of a long-term visual softening in long views from the access road and mitigate the views from the south and the southeast by creating a wide hedgerow with trees. • Visual extension of Brandland Copse North by creating a 4m hedgerow along the north part of the western boundary. • Mitigation of the loss of grassland habitat resulting from the construction activities (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. • Design, siting of buildings and choice of colour of cladding materials will be developed with the aim of reducing the visual impact.

Topic: NOISE and VIBRATION

C&MP impacts will depend on the decommissioning methods adopted and generally on their proximity to people and buildings. Impacts at all properties will be slight to negligible. The greatest impacts will be confined to the site and Hinkley B and Hinkley C and nearby wildlife. Any such disturbance is likely to relate to individual noisy events or to occur for relatively short periods of time.

Nature of impact	Mitigation Measures Proposed
Noise related to transport	• *Maximum axle weights for transportation of plant materials and waste imposed by contract.*

Table 1 Continued: Care & Maintenance Preparations Phase

Mitigation measures already identified (Condition 3a) – continued

Topic: NOISE and VIBRATION - continued	
Nature of impact	**Mitigation Measures Proposed**
Noise from site activities (demolition and construction works)	• 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*
Topic: SOCIO-ECONOMIC	
There will be a progressive reduction in NRS employee levels during the C&MP phase. This reduction in employees will be countered by the requirement for additional contract personnel, a resource that will flex to meet the requirements of the decommissioning programme.	
Nature of impact	**Mitigation Measures Proposed**
Reduction in number of site personnel	• *Phasing of employment reductions* • *Maximising opportunities for employment continuity or redeployment within the Company for NRS personnel* • *Where possible, maximise the take-up of a voluntary severance scheme*
Change in employment level in local economy; change in level of local expenditure	• *Locally based contractors will be utilised where possible* • *Maximise the opportunities for locally based businesses to secure involvement as contractors, sub-contractors and suppliers*

Table 1 Continued: Care & Maintenance Preparations Phase

Mitigation measures already identified (Condition 3a) – continued

Topic: TRAFFIC and TRANSPORT	
When entering the C&MP, the number of cars on site will progressively reduce in line with employment levels. Lorry movements will broadly remain about the same as when the station was operational.	
Nature of impact	**Mitigation Measures Proposed**
Mud on public highways	• It is expected that normal good site practice with regards to wheel washing etc., if appropriate, will suffice.

Topic: SURFACE WATER QUALITY and DRAINAGE	
Measures will be put in place to control surface water drainage. Fuels and chemicals on site will be used in accordance with current best practice to minimise the risk of spillages or leakages. The impacts of the C&MP phase on the surface water flow regime, surface water quality and soil erosion and sediment loading are negligible. Indeed, the removal of potential sources of pollution will yield slight benefits during the works phase and all subsequent phases.	
Nature of impact	**Mitigation Measures Proposed**
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* • *Drainage from excavation areas will be collected and managed*
Changes to surface water quality through uncontrolled discharges of sediments and/or turbid water into surface drains and surface water courses	• 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 • Silt traps, balancing ponds and appropriately sized grills on drains
Changes to surface water quality through uncontrolled discharges of contaminated water through spills and leaks of non-radioactive material (e.g. concrete, cement, fuels, oils or other chemicals)	• 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 spill equipment to control spillages

Table 2 Care & Maintenance Phase

Mitigation measures already identified (Condition 3a)

Topic: ECOLOGY

The decrease in noise levels will be a slight benefit, although general levels of background noise are unlikely to change due to the construction and subsequent operation of Hinkley C. Habitat creation, as part of the restoration plan, could represent a considerable net benefit for nature conservation locally, in particular the potential to increase coastal grassland within the site boundary and outside the security fence. The site will be undisturbed and will become more attractive for wildlife, especially for birds.

Nature of impact	Mitigation Measures Proposed
Disturbance to birds from traffic noise	• Removal operations will be programmed sensitively
Increased road mortality for great crested newts	• 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

Topic: GEOLOGY, HYDROLOGY and SOILS

No activities will take place that will affect geology, hydrology and soils.

Nature of impact	Mitigation Measures Proposed
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

Topic: LANDSCAPE and VISUAL

The Site will remain visible. The architectural treatment and lack of lighting in particular will give rise to moderate visual benefits particularly at a local level, although the site will still be viewed in the wider context of Hinkley B and Hinkley C. New tree planting will enclose some views in the long term.

Nature of impact	Mitigation Measures Proposed
Visual impact from site activities (demolition and construction works)	• The planting management regime (e.g. replacing of trees and shrubs) would be agreed with the local planning authority, as relevant and appropriate

Table 2 Continued: Care & Maintenance Phase

Mitigation measures already identified (Condition 3a) – continued

Topic: SURFACE WATER QUALITY and DRAINAGE	
No activities will take place during the C&M phase that will affect surface water and drainage.	
Nature of impact	**Mitigation Measures Proposed**
Avoidance of localised 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)

Topic: ALL TOPIC AREAS	
This will take place ~100 years after station shut down. The works themselves are predicted to take ~ 10years and the impacts will be similar to those that occurred during the initial C&MP phase. Once the site is cleared, the removal of potential sources of contamination and lack of activity represents a benefit. The most significant benefit will be in terms of views of the site, following the demolition of the reactor buildings.	
Nature of impact	**Mitigation Measures Proposed**
It is predicted that the impact may be as those identified in Table 1	Mitigation measures proposed for this section are identical to those specified in Table 1

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.

4.3 Activities where mitigation measures may be required but cannot yet be identified and assessed (Condition 3c).

Currently no such work activities have been 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 (detailed in Section 4, Table 1) and describe their effectiveness. This chapter identifies these measures, explaining 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

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 Management System), ISO 14001 (Environmental Management System), ISO 45001 (Occupational Health and Safety Management System) and ISO 55001 (Asset Management System Standard).

Hinkley A's management system arrangements 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 both the design phase and with further assurance provided during the project proposal stage in accordance with robust company management control procedures. A template of questions (forming part of the Decommissioning Project Approval Form (DPAF) – see Appendix B) is used to determine whether further environmental assessment and mitigation is required (Appendix B).

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

Fig. 4 Environmental Monitoring - seaweed sampling at HPA

Processes for Determining Effectiveness of Mitigation Measures

The site continually monitors the effectiveness of mitigation measures over time, and where necessary reviews these to ensure the success of reducing significant environmental impacts. A key part of this process is the close interaction between the Project and the Environment Teams, ensuring that mitigation measures are considered, applied and, where relevant, reviewed throughout the lifespan of any site 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 and by considering the potential for significant adverse impacts.

2) Visual Evidence

Inspections of the work area prior to, during and after project works are used to assess the requirements for mitigation, ongoing suitability of the mitigations and overall success in minimising significant adverse impacts. Routine site tours by suitably qualified individuals are also used to identify areas of success and areas for improvement generally across the site and to monitor the on-going effectiveness of mitigations on environmental receptors.

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. Additionally, the site operates a robust system of internal event reporting called Operations Experience Feedback (OEF). With OEF, staff and contractors are encouraged to report conditions which are unsafe or pose a threat to the environment. These are then rectified, and the root causes investigated where necessary. Regular meetings are held at Hinkley A with the site regulators throughout the year where actions, complaints, and internal events, including near misses, are further discussed.

Examples of Completed Work Requiring Mitigation

Fig. 5 A section of the Gabion Wall to the north perimeter of the site had partially collapsed. Work to stabilise the wall included the removal of the top baskets with excavation behind the wall as a relief.

The majority of decommissioning and construction work being undertaken in the past 12 months has largely comprised of projects from inside existing buildings which have prioritised hazard reduction via waste retrieval, storage and disposal, building deplanting and demolition, as well as maintenance of essential services and the care and upkeep of welfare facilities.

The scope of the site work activities has resulted in a relatively small number of aspects with the potential to impact the environment requiring mitigation. Therefore, many of the measures described in the previous section have not been relevant or therefore required to be applied to these particular work activities.

However, all necessary mitigation measures which have been required and have been employed on site, during both project and routine works, were consistent with the assessment carried out for compliance with the decommissioning consent and other relevant aspects of within the EIADR99 regulations, non-radiological permits/consents, other relevant legislation and emerging environmental issues. Permission to commence these works was only provided via the decommissioning proposal approval process and only after all the necessary independent Suitably Qualified and Experienced Persons (SQEP) were satisfied that these and any other environmental issues have been addressed.

One hazard reduction landmark reached this year was the completion of the asbestos remediation of both R2A and R2B boiler house, marking the culmination of a significant amount of work by the plant and structures project and the Licenced Asbestos Removal Contractor, Altrad.

The scope of the project was to remediate the boiler house, and associated areas, of the residual asbestos hazard so that asbestos controls are no longer required to make general access and to negate the risk of asbestos entering the surrounding environment.

This has involved hundreds of thousands of hours of effort, with painstaking cleaning of every surface, to achieve the clearances required from the independent asbestos analyst/surveyor.

Included here are examples of work completed during the period and requiring mitigation measures designed to prevent, reduce and where possible offset any significant adverse environmental impacts of each decommissioning activity, following the assessment of potential impacts, identifying the source/s, pathway/s and receptor/s and the potential of impacts to the relevant key topic areas previously identified.

Air Quality and Dust

All applicable work activities are subject to dust suppression to reduce the risk of dust emissions to the environment. Work would be halted whenever wind speeds increased to the point that the dust suppressor would not be able to manage dust migration. Where required, dust monitoring stations are set up in multiple locations for monitoring and recording purposes. Additionally, lorries carrying materials likely to cause dust migration are fitted with load screens.

Fig. 6 Example of dust suppression previously used during building demolition.

Ecology

Due to the ecological importance of the area surrounding the site, Specialist Environmental Consultants have been employed to carry out habitat surveys and targeted protected species surveys of areas prior to the commencement of construction or demolition projects. These assessments concluded that there would be no likely significant effect on any potential impacts of the proposed works.

An ongoing ecological impact identified whilst carrying out routine safety related routines during decommissioning is the potential to disturb over wintering birds and the possibility of birds nesting on building roofs. An array of mitigation measures are employed across the site to deter birds from nesting and works which may have the potential to cause a disturbance to the birds are programmed to avoid periods of over wintering or breeding seasons. These mitigation measures are carried out in consultation with, and permitted by, Natural England which ensures that any controls are sensitively employed to protect certain species of wild birds, whilst ensuring that the activities specified by the sites mandatory permitted obligations continue to be fulfilled.

In September 2023 NRS instructed a specialist consultancy firm to undertake a detailed assessment of all areas and habitats at Hinkley A which are likely to be impacted during the current C&MP phase of decommissioning and to determine the potential risks from ecology which (if overlooked) could delay or prevent future planned works, and which also could compromise NRS's mission to decommission the site in a safe and sustainable manner.

However, habitat loss, caused by demolition of structures or clearance of vegetation, which is used for nesting or foraging by bird and insect species, has already been recognised and compensated by the rewilding of suitable areas around the site which are being allowed to return once again to their natural uncultivated state. Rewilding supports the sites focus on ecology by improving biodiversity and has been achieved with less mowing of available grassland and minimal use of pesticides and herbicides and supplemented by the provision of nest boxes and bug hotels (providing insects with a safe space to shelter, lay their eggs, raise their young, and seek refuge from predators).

Fig 8. A rewilding area at Hinkley Point A

Additionally, the site has constructed and now maintains a sustainability garden which further increases biodiversity on site whilst providing an area for the benefit to the physical and mental wellbeing of the workforce. This garden includes a 'wild area', left untouched to allow wildflowers crucial for pollinators to grow; composting the garden waste from the garden will utilise native decomposer organisms such as fungi and soil bacteria; and the planting a variety of plants and shrubs will allow native insects and birds to benefit from the food and cover.

Geology, Hydrogeology and Soils

Soil sampling and analysis is undertaken prior to any excavation. This substantiates previous borehole sampling which has been carried out to determine the extent of legacy ground contamination associated with Areas of Potential Concern (APC).

The potential for spills or leaks of materials leading to changes to soil and groundwater quality are mitigated by the implementation of management procedures which provide details for the controlled use and storage of oils and other liquids.

Spill kits are used to contain spillages and, although seen as a last line of defense for preventing pollution to ground or surface water, are made available in addition to other spill prevention measures. Note also that administrative controls are employed to assess the significance of any spills and releases in order to determine appropriate level of reporting to the regulator.

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, and evaluation of surface water is routinely carried out to assess and monitor the quality of its discharge into the environment.

Landscape and Visual

Projects with the potential to disturb the landscape or visual appearance of the site and surrounding area will be discussed in consultation with the local Town & Country Planning authority. A project such as the recent construction of a waste transit store is an example of this and where a Habitat Regulations Assessment, in support of the planning application, was undertaken to assess these potential impacts.

Noise and Vibration

All construction activities on site are subject to management controls which require implementation of relevant good practice standards and procedures. These include the use of modern noise-suppressed plant which is regularly maintained to minimise the noise and vibration output, and which when not in use were turned off to reduce further noise, vibration and fuel consumption. Main noise generating activities are normally restricted to between the hours of 08:00 and 17:00.

Noise monitoring is routinely carried out across the site, and further monitoring is conducted as required to scrutinise project activities which are identified as being likely to concerning cause noise levels.

Socio-Economic

The current phasing strategy will result in a progressive reduction in employment levels. The site aims to mitigate the impacts of this reduction in site personnel through redeployment within the company. However, due to the varied number of projects of differing scales currently being undertaken or planned at Hinkley A, there will be fluctuations in the total workforce with the requirement for additional contract personnel required at times of high demand.

All works are being completed by a largely local workforce, with the main ground works and mechanical and electrical subcontractors being based relatively close to the site. As a direct result of the knowledge and experience acquired at Hinkley A, some employees have used these skills to take up opportunities on the adjacent Nuclear Licenced Sites.

Hinkley A recognises its responsibility as a sustainable organisation that needs to support its local communities. Alongside a continued investment in its workforce, Hinkley A also works closely with local schools and colleges to provide information and encouragement to students who may be considering a career in the nuclear industry. Additionally, Hinkley A has delivered science, technology, engineering, and mathematics (STEM) outreach sessions to local schools and has hosted over 50 students to attend site and receive workplace experience within the nuclear industry. During the past year a further 4 apprentices very successfully passed out from their apprenticeship programme and into full time roles, whilst the site remains proud educators and mentors to a further 11 apprentices on various levels from level 3 (vocational) to level 6 (degree) courses. These students have been chosen to reflect the communities that we are part of and to continue this scheme which has resulted in a total of 12 previous participants completing their apprenticeships, with some receiving local and national recognition, and who all subsequently received full-time employment offers at Hinkley A. Also, by engaging with these young people the site has given a voice to the next generation, so that their views are reflected, and they can contribute to fostering nuclear legacies into opportunities into the future.

Hinkley Point A is committed to providing and enabling socio-economic support for the communities in which it operates. Funding aims to meet 3 objectives:

1. Mitigating the socio-economic impact of decommissioning,
2. Helping to build sustainable communities,
3. Being a good neighbour.

Funding is provided via the NRS Socio-Economic Scheme which has invested ~£54K in supporting key local community needs during the past year. Whilst financially assisting the needs of local clubs, associations and parish council initiatives, the vast majority of the total fund allocated during the past 12 months has been to support a 4-year plan to develop future talent by connecting employers with educational providers and encouraging young people to acquire these employability skills. The Somerset Education Business Partnership (SEBP) has been set up to help businesses by ensuring that the skills required by local employers are understood by the future workforce, particularly young people from disadvantaged backgrounds, who can be informed of these local training and employment opportunities, and with support provided to access them. The SEBP are also engaging with parents to assist them in supporting their children with their options. Individuals from Hinkley A have participated at many of these SEBP organized events.

Surface Waters

Evaluation of surface water is routinely carried out to assess and monitor the quality of its discharge into the environment. No changes to water quality as a result of current C&M preparations has been identified following routine sampling and assessment of surface water. Road drains are protected where there is a potential for mud and debris to be washed down the drains and site management procedures ensure oil and chemical storage areas are well managed; and with routine inspection and maintenance of tanks and oil interceptors.

During the reporting period approx ~3Km of the sites underground drainage systems was seviced to provided assurance towards the protection of the environment.

Traffic and Transport

All decommissioning operations involving transport will be managed so as to minimise the environmental effects of these operations, as far as is reasonably practicable. Fundamentally, the principles for achieving this are defined within the site's workplace transport management assessment & plan that assesses the environmental risk and puts in place sufficient control measures to reduce the likelihood of an incident from occurring.

Works carried out during this period have been completed by a largely local workforce and, where it was reasonably practicable to do so, minibuses are used to bring these operatives to site, thus minimising transport impacts. Concrete is purchased and transported from a local batching plant located close to the site, and a road sweeper is regularly used on site to prevent the transfer of mud from the site to the public roads.

Where possible, the Factory Acceptance Testing phase for several projects has been completed by using remote observations via video streaming to minimise travel.

Hinkley Point A has employed a freight consolidation service meaning that most deliveries are consolidated at an off-site collection hub. By utilising this off-site facility, the number of vehicles accessing the site has reduced from an average of 34 to <5 per week. In turn this reduced congestion on local roads and reduced vehicle emissions. Additionally, a new contract was awarded to provide decontamination and laundry services for the site which will replace the previous weekly delivery and collections with a fortnightly service, and effectively halved the transport burden further reducing the impacts on people and the environment.

Local traffic concerns are monitored and will be raised at the scheduled site stakeholder group meetings. Hinkley A management team has taken action to remind Hinkley A staff and contractors of the expectation that, where practical they should use the bypass which has been constructed to divert traffic away from the village of Cannington.

In addition, a reminder that adherence to speed limits is both an expectation from a stakeholder management perspective and a legal obligation has been issued by the Hinkley A Transport Management Committee, who are continually looking to provide enhanced road safety controls and optimise vehicle movements both in and around its site.

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 Hinkley A 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 A or requests for copies of this EMP should be addressed to:

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

In addition to the submission of this EMP to the ONR, NRS Ltd will provide copies to the:

- Hinkley Point A Site Stakeholder Group

Copies of this EMP may be viewed at the following local locations:

- Burnham and Highbridge Council
- Nether Stowey Library

Or via the internet at:

- www.gov.uk/guidance/magnox-publication-scheme

8. Definitions

AONB	Area of Outstanding Natural Beauty
APC	Area of Potential Concern
BAT	Best Available Technique
DPAF	Decommissioning Project Approval Form
EA	Environment Agency
EIADR99	Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999
EMP	Environmental Management Plan
HSE	Health and Safety Executive
ILW	Intermediate Level Waste
ISO 9001	Accreditation system for Quality Assurance
ISO 14001	Accreditation system for Environmental Management Systems
ISO 45001	Accreditation system for Occupational Health and Safety Management Systems
ISO 55001	Asset Management System Standard
NDA	Nuclear Decommissioning Authority
NNR	National Nature Reserve
NRS	Nuclear Restoration Services
ONR	Office for Nuclear Regulation
SAC	Special Area of Conservation
SLA	Special Landscape Areas
SPA	Special Protection Area
SSG	Site Stakeholder Group
SSSI	Site of Special Scientific Interest

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 (Issue 9)

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.				
5.2	**EIADR 99, ENVIRONMENTAL IMPACT AND OTHER REGULATORY COMPLIANCE** The following checklist must be completed by an **Environment SQEP** (with land quality / planning consultation as required). The assessment is for compliance with the EIADR 99 Regulations, Planning requirements, non-rad. Permits / consents, other relevant legislation and environmental issues including management of land quality.			
	PARAMETER	**CONSIDER POTENTIAL FOR:**	**YES**	**NO**
5.2.1	Decommissioning Baseline	Does this proposed modification represent a change from the Decommissioning Project baseline as described in the EIADR 99 Environmental Impact Assessment Baseline document (in particular, is it sufficient to trigger Regulation 13 determination)? If 'YES', (F-871 and F-872, as necessary) in accordance with S-159.	☐	☐
5.2.2	Planning	Does the proposal: • involve building or structures construction, external modification or demolition (planning permission)? • involve on-site / inter-site disposal / transfer of waste (including stockpiling) in any form? • change the permitted approved use of a facility? • result in the bounds of a permission being exceeded? If 'YES' confirm if permissions have been agreed, or identify how this will be addressed prior to implementation of proposal.	☐	☐
5.2.3	Non-radioactive Discharges & Waste	Could the proposal, if inadequately conceived or executed, lead to a breach of an existing Environmental Permit / consent, or other environmental licence / regulatory requirement (e.g. controlled activities regs, pollution control permit, wildlife management license, PCB registration, marine consent, waste management exemption)?	☐	☐
5.2.4	Non-radioactive Discharges & Waste	Is a change to an existing Environmental / PPC Permit, Licence or Consent or new Environmental Permit or registered waste management licence or exemption required for this proposal?	☐	☐
5.2.5	Land Quality	Will the proposed work involve 'breaking ground' or otherwise have the potential to affect the sub-surface or controlled waters? If 'YES', complete form F-158 in accordance with S-154, and ensure that any required mitigation measures are included in this DPAF.	☐	☐
5.2.6	Site End State	Will the proposal involve permanent deposition of non-radioactive waste or recovered waste (e.g. to backfill subsurface voids)?	☐	☐
5.2.7	Other Environmental Impacts	Could the proposal, if inadequately conceived or executed, lead to an unacceptable environmental impact? (Consider relevant legislation and formal guidance). If so, appropriate controls / mitigation must be specified.	☐	☐
5.2.8	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.			
5.2.9	**CONTROL MEASURES AND COMMENTS** Describe the control measures that will be used to ensure that environmental risks are adequately managed. Refer to environmental assessments, BAT / BPM studies where appropriate and consult the Site End State Technical Lead from the central team.			
5.2.10	**Potential Environmental Category with respect to EIADR 99 Compliance and all other environmental aspects:** Use the criteria identified in MCP-099, Appendix 1.			
	E1 ☐	E2 ☐	E3 ☐	
	Name: ***Environment SQEP***	Signature:	Date:	

Appendix B – Continued

Minimising Environmental Impacts — Decommissioning Proposal Approval Form (Issue 9)

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/PRSLA** and **EHSS&Q Manager** as appropriate.

5.3.1 ENVIRONMENTAL JUSTIFICATION / MITIGATION

Refer to control measures under 5.1 and 5.2, make a summary statement. Also consider if there is any conflict between mitigations that need to be addressed or if additional mitigations are required overall.

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:

Use the criteria identified in MCP-099, Appendix 1.

E1 ☐	E2 ☐	E3 ☐
Name: ***Environment SQEP/PRSLA***	Signature:	Date:

For category E1 modifications, two additional signatures are required:

1) Confirm awareness of the modification proposal.

Name: ***EHSS&Q Manager***	Signature:	Date:

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

Name: ***NRE***	Signature:	Date:

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 and the neighboring Hinkley Point B Power Station are represented and an update is provided on site works. The chair regularly meets with the Hinkley A Site Director and is also in regular contact with the Nuclear Decommissioning Authority (NDA).

In addition, regular meetings with the site regulators (EA and ONR) are held at HPA Site throughout the year.

The role of the Nuclear Decommissioning Authority (NDA)

The Energy Act 2016 Regulations 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 (Issue 1)

QUESTIONS TO BE ADDRESSED WHEN APPROVING PROPOSALS FOR WORK ON SITE

1. Does the proposed work have any potential for disturbance / mobilisation of existing contaminated ground and/or groundwater?	
1a. Will the proposed work involve 'breaking ground' or otherwise have the potential to affect the sub-surface? Such work may involve excavations, advancing of boreholes or piles, changes in ground cover, changes to surface water drainage, groundwater abstraction, ground de-watering.	Yes/ No*
If the answer to 1a is Yes: 1b. Is there any existing known or suspected ***contamination*** of land (ground and/or groundwater) that could be affected significantly by the proposed work? The answer to this question shall be based on the ***Site Land Quality Interface*** person consulting the site's ***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. If in doubt, consult the ***Land Quality Technical Lead*** for the site.	Yes/ No*
If the answer to 1b is Yes: Give details of the mitigation measures specified to eliminate / mitigate any potential impacts.	
Specified mitigation measures:	
Was specialist advice sought in answering Question 1?	Yes/ No*
Give details of who was consulted. Give name and role, e.g. ***Land Quality Technical Lead*** or Environmental SQEP:	
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?	Yes/ No*

This question should be answered with reference to the site's ***Land Quality Map*** and related ***Land Quality Register***. If yes, detail the measures to be put in place to provide adequate protection of the workers.	
Specified mitigation measures:	
Was specialist advice sought in answering Question 2?	Yes/ No*
Give details of who was consulted. Give name and role, e.g. COSHH Assessor / Accredited Health Physicist:	
Assessment prepared by (give name & role and date):	
Assessment approved by (give name & role and date):	
Completed form to be filed as appropriate - e.g. with relevant Decommissioning Proposal Approval Form (DPAF; F-142).	
Unexpected contamination: Any unexpected ***contamination*** identified during the works shall be reported to the Nominated Responsible Engineer, to the site's ***Site Land Quality Interface*** person and to the ***Land Quality Technical Lead*** for the site, who will provide initial advice on what action to take and whether to amend the ***Land Quality Map*** and ***Land Quality Register***.	

* Delete as applicable

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