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Nuclear Restoration Services (NRS)

Dungeness A

Environmental Management Plan (Decommissioning),

2025

Issue 20

DUNA/SED/045

Executive Summary

In October 2005, Magnox Electric Ltd applied to the Health and Safety Executive (HSE) for consent to decommission Dungeness A Nuclear Power Station in accordance with the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (as amended). An environmental statement accompanied the application.

After a period of public consultation, the HSE duly granted consent in July 2006. Conditions were attached to the consent, including a condition relating to the production and maintenance of an Environmental Management Plan covering the on-going mitigation measures to prevent, reduce and, if possible, offset any significant adverse environmental effects of the decommissioning work.

This document is the 20th issue of the Dungeness A Site Environmental Management Plan and provides an update on the activities undertaken so far, in addition to the details of the agreed mitigation measures. This document will be re-issued annually as agreed with the Health and Safety Executive.

As Site Director for Dungeness A, I look forward to a successful decommissioning project and on behalf of NRS (previously Magnox Ltd.); I give my commitment to minimising any adverse effect on the environment as a consequence of our decommissioning operations.

Ian Cuthbert

Site Director

Dungeness A

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1 Introduction

Dungeness A Nuclear Power Station generated electricity until the 31st December 2006. Dungeness A Site (hereafter referred to as Dungeness A) then, in accordance with Government Policy, entered a period of decommissioning.

During this time the fuel, plant and buildings associated with electricity generation will be systematically removed. Prior to commencement of this work Magnox Electric Ltd, the Licensee of the Site at the time (the licence was transferred to Magnox South Ltd in October 2008, to Magnox Ltd in 2011, and then to NRS in 2024), was legally required to seek consent from the Health and Safety Executive (HSE) to carry out the decommissioning project.

An application was therefore made to the HSE for consent in October 2005. In support of this application an Environmental Statement was provided, which assessed the impacts of the project on the environment.

Following an extensive public consultation HSE granted consent to carry out the decommissioning project at Dungeness A in July 2006, subject to certain consent conditions (Appendix 1).

Condition 2 of the consent requires the licensee to prepare and submit an Environmental Management Plan (EMP) annually to the regulatory authority. Although the original consent documents refer to HSE, regulatory responsibility for EIADR transferred to the Office for Nuclear Regulation (ONR) in 2014[1].

1.1 NRS Decommissioning Strategy Review

NRS decommissioning strategies are currently being reviewed and updated. However, these have not been finalised and therefore this EMP follows the previous strategy as commenced in 2016/17.

It is recognised that the current EIADR project description may not yet reflect alternative decommissioning strategies such as on-site disposal and rolling programme of decommissioning. These will be assessed in line with internal standards and incorporated into the NRS EIADR process.

This will be addressed in future issues of the EMP as and when appropriate.

1.2 Site Description

Dungeness A Power Station was commissioned in 1966. Its twin reactors and associated turbo-generators had a generating capacity of 450 megawatts (electrical) (MW(e)). The Site ceased generating on 31st December, 2006 after producing 120 TWh of electricity during 41 years of operation. It then became known as Dungeness A Site.

During 2012 the site successfully completed the defueling of both reactors and the ONR accepted the fuel free verification declaration following a detailed audit. This involved removing 55000 fuel elements (or 610 tonnes) which were dispatched in 332 fuel flasks following the cessation of generation on 31/12/2006.

[1] *ONR was previously part of HSE and now acts as the independent nuclear regulator, including for EIADR.*

Each reactor building contains one gas-cooled magnox reactor. Each defueled reactor is situated within a large concrete bio shield, the purpose of which was primarily to protect workers from the effects of the direct radiation from the fuelled reactors. The reactor pressure vessel is of spherical shape and made from steel, contained within each pressure vessel are the graphite core and a range of monitoring and control equipment. Each reactor has four boilers which converted water to steam in order to drive turbines that were located inside the Turbine Hall. Cooling of the steam to return it to water was provided by seawater passed through condensing units located on the floor of the Turbine Hall beneath the turbines. The cooling water intake and outfall structures are located offshore and were connected to the turbine hall by means of large underground culverts which have since been blocked at each end.

Since 2006 a number of buildings and plant associated with the operation of the site have been demolished including the cooling water pump house, the turbine hall and the old administration building. Other plant and buildings remain in place to support the site's continued operation including modular sewage plants, active effluent water treatment plants, stores, buildings and offices.

Decommissioning and waste management activities continue on the site. The Site's fuel storage ponds were drained of water in 2020 and bulk asbestos removal achieved in 2021.

Figure 1 Completed Turbine Hall Basement Infill

1.2.1 Sensitivity of Receiving Environment

The nearest settlements are Dungeness village to the east of the Site, Lydd-on-Sea to the north and the larger town of Lydd, 6km to the north-west.

The Dungeness A Site lies within the Dungeness Special Landscape Area (SLA). The Kent Downs and High Weald Areas of Outstanding Natural Beauty (AONB) lie to the north and west.

The following Sites of nature conservation interest are located within 10km of Dungeness:

- Dungeness, Romney Marsh & Rye Bay Site of Special Scientific Interest (SSSI) ;
- Dungeness to Pett Level Special Protection Area (SPA);
- Dungeness Special Area of Conservation (SAC);
- Dungeness Designated Ramsar Site (conservation of wetland);
- Dungeness National Nature Reserve (NNR);
- Kent Special Landscape Area (SLA); and
- Romney Marsh Local Landscape Area.

Dungeness, Romney Marsh & Rye Bay SSSI surrounds the site and within the site itself the SSSI is located to the north and north-east of the site and includes the beach which is adjacent to the site and forms part of the site licence boundary. The SSSI is principally designated for its nature conservation value and geological importance as the largest shingle structure in the UK . The site is particularly valued for its natural plant communities, and its invertebrate interest. Dungeness SAC is designated for its Annex I habitats, including annual vegetation of drift lines and perennial vegetation of stony banks, and for an Annex II species, great crested newt, which is known to occur in the gravel pits over 1km from the boundary of the licensed site. No part of the Dungeness A site is SAC.

The nearest Scheduled Monument is the Acoustic Listening Devices located near Lade. There are also no Listed Buildings on the Dungeness A Site. However, adjacent to the Site, the New and Old Lighthouse and Lighthousemens' Dwellings are Listed Grade II buildings. There are no parks or gardens of historic interest on or adjacent to the site. The nearest is at Port Lympne to the west of Hythe. There are no registered historic battlefields in Kent.

1.3 Scope Of The Environmental Management Plan

This EMP details the mitigation measures to prevent, reduce and, where possible, offset any significant adverse effects on the environment throughout the decommissioning of Dungeness A. It also includes measures that, although not associated with significant adverse effects, are nevertheless proposed.

A revised decommissioning strategy was inserted into the Lifetime Plan baseline for Dungeness A to commence during the financial year 2016/17. This strategy was approved by both the NDA (Nuclear Decommissioning Authority) and the Office for Nuclear Regulation (ONR). As a result the decommissioning programme is divided into three phases as follows:

- Deferral Period Preparations
- Deferral Period[2]
- Final Site clearance

1.3.1 Duration

This EMP is around the three phases listed above. This is predominantly because 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 the reasons for any changes made. Any changes will be subject to the Consent and associated Conditions issued by the HSE on 13/7/2006 (See Appendix 1).

Deferral Period Preparations

The first phase of decommissioning and is currently forecast to be complete by 2033. During this phase the focus is on hazard reduction such as asbestos thermal insulation removal (completed in 2021), passivation and storage of Intermediate Level Waste (ILW) and preparation of the site plant and systems for entry into the Deferral Period.

In 2020, the Lifetime Plan Baseline was updated to include a revised strategy for removing the Boilers, Boiler Annexes, Boiler Drum Houses, Blower Halls and Central Control Block prior to entering the Deferral Period.

Deferral Period

Under the site's current Lifetime Plan, the Deferral Period is expected to be 60 years. It will be a quiescent period with minimal staffing and the Site maintained in a safe, secure and environmentally compliant state, with periodic inspections and walk downs.

Figure 2 Reactor 2 South-side with partial completion and ongoing cladding works

[2] *The "Deferral Period" was previously known as the "Care & Maintenance" Period.*

Final Site Clearance

Final Site Clearance will be the final stage of decommissioning activity on Site. This will involve removing the remaining structures and the clearance of any residual radioactivity to the appropriate standards, and returning the site to shingle. It is anticipated that this phase will last approximately 10 years.

Figure 3 Completed New Stores Building, with mitigations listed in Table 5

2 EMP Process

It is a requirement of the conditions attached to the consent (See Appendix 1), to implement the mitigation measures and describe their effectiveness.

This section describes the process for implementing and measuring the effectiveness of the mitigation measures.

2.1 Process For Implementation Of Mitigation Measures

Dungeness A site procedures ensure that decommissioning activities are carried out in accordance with the mitigation measures set out in this EMP. All decommissioning projects and modifications to plant are assessed during the proposal stage in accordance with robust company management control procedures.

There are a number of tools used on Site to ensure that all environmental impacts are minimised. The site has an Integrated Management System, which will cover the requirements of ISO 9001 (Quality Assurance), ISO 14001 (Environmental Management Systems), ISO 45001 (Occupational Health and Safety Management System) and ISO 55001 (Asset Management).

For other companies working on site their contracts stipulate that all works shall be carried out in accordance with Dungeness A Environmental Management System (EMS).

It is stipulated in their contract that any contractor shall deliver the works in compliance with the Environmental Impact Assessment (Decommissioning Regulations) (EIADR) and in particular the Conditions detailed in Appendix 1.

The requirements above are reinforced at site meetings and training and checked through audits, inspections, visits etc.

An environmental risk assessment process is in place which was designed to identify at the planning stages, the environmental hazards and associated risks involved with project work on site. From the initial hazard identification, mitigations are proposed and a full environmental risk assessment is produced for the work, where appropriate. The mitigations are listed in the process and include mitigations related to our consent to decommission the site. (Section 7 provides examples where this process has been used).

2.2 Process For Determining Effectiveness Of Mitigation Measures

The site aims to continually monitor the effectiveness of the specified mitigation measures over time, and where necessary review these, in order to ensure the success of reducing significant environmental impacts. Critical to environmental protection is the close interaction between contractors and the supervision provided by site staff, who ensure that mitigations and other environmental requirements are considered, applied and reviewed, where relevant, throughout the lifecycle of the project from conception to completion. It also allows enabling supervision and practical evaluation of the effectiveness of the mitigation measure. Evaluations can provide valuable feedback on any difficulties encountered, changes required or highlight further mitigation requirements.

The effectiveness of mitigation measures are discussed with project managers and engineers. They are also assessed during regular project safety reviews and during the close out of decommissioning proposal quality plans.

The site measures the effectiveness of mitigations in a variety of ways:

2.2.1 Environmental Performance Monitoring

Environmental performance monitoring (e.g. noise and groundwater monitoring) using specialist equipment, allows the Site to understand baseline conditions and assess environmental impacts post-mitigation. Post-mitigation environmental monitoring will be used mostly to measure effectiveness of mitigation measures for larger projects on site, e.g. movement of large quantities of spoil or demolition of buildings. The requirement of this method of measuring effectiveness is determined on an individual project basis as appropriate.

Effectiveness of radiological mitigations is monitored with the Site Environmental Monitoring Programme (SEMP).

2.2.2 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 and hence highlight mitigation measures that need to be implemented.

Visual inspections and photographs during the project can also provide an indication on effectiveness of the mitigation measure. For example, the presence of mud on roads can be an indication of insufficient wheel washing of HGVs.

2.2.3 Review of Regulatory Action, Complaints, and Internal Event Reporting

The Site operates a robust system of internal event reporting, where workers are encouraged to report conditions which may be unsafe or pose a threat to the environment. These are then investigated and additional controls put in place where required.

Learning from experience is also regularly reinforced by the internal review of complaints, event reports raised and any regulatory actions received. Learning is then shared and communicated with all other NRS sites.

3 Mitigation Measures

The following tables list the mitigation measures for each phase of the decommissioning project at Dungeness A. Examples of how mitigations measures have been implemented during decommissioning activities are listed in Section 1.

Decommissioning work at Dungeness A is carried out on a project basis. The mitigation measures identified in the Environmental Statement of 2005 are listed here and unless otherwise stated, these measures have been successful in managing the potential environmental impacts so far.

Examples of how mitigations measures have been implemented during decommissioning activities are listed in Section 4.

3.1 Mitigation measures already identified (Condition 3a)

This section details the mitigation measures that have been identified for the lifecycle of decommissioning according to the topics that were identified in the original environmental statement.

3.1.1 Deferral Period Preparations Phase (Condition 3a)

Table 1 below outlines the possible environmental impacts during the Deferral Period Preparations and the proposed mitigation measures to address these.

Table 1: Deferral Period Preparations Phase (Condition 3a)

Deferral Period Preparations Phase (3a)		
Topic	Nature of impact	Mitigation Measures Proposed
Air Quality And Dust	Dust Emissions (from on-Site) Increase in Site dust emissions due to construction, demolition and waste/materials handling operations etc. which could impact on residential and industrial receptors.	As appropriate: • Use of the Building Research Establishment, Guidance on the Control of Dust from Construction and Demolition Activities (2003). • On-Site roads to be regularly cleaned of mud/dust deposits, including the use of re-circulating water wheel washers and road cleaners as appropriate; and sheeting of vehicles carrying potentially dusty loads. • Minimisation of unnecessary material and waste handling as far as practicable. • Use of water sprays for external demolition activities as appropriate • Use of water sprays during outside in-fill operations. • Avoidance of vehicular use of un-surfaced (soft) ground where possible and limits on vehicle speeds on such surfaces where it cannot be avoided. • Use of water sprays during particularly windy or dry conditions. • Use of water sprays to maintain damp surfaces during dry and windy weather (eg soil stockpiles, demolition rubble); or sheeting or seeding of surfaces of stockpiles of soil or other dusty materials • Sheeting or seeding of surfaces and/or use of wind fences as appropriate. • Covering of containers and/or use of wind
	Dust emissions due to use of explosives	Such activities will not be carried out under particularly dry or windy conditions, and local residents and Dungeness B will be informed in advance
	Dust (road side) Increase in dust at residential properties along traffic routes due to soiled vehicles or vehicles carrying dust load	As appropriate: • Sheeting of lorries carrying dusty loads • Provision of wheel washing for, as a minimum, heavy goods vehicles on leaving the Site
Archaeology And Cultural Heritage	No significant adverse environmental impacts identified arising from decommissioning activities.	NA
Ecology	Dungeness SSSI & NNR HGVs straying onto verges along access road and other roads around Site	Appropriate signs will be put in place to advise drivers not to access verges.
	Sussex Emerald Moth and its larval food plants Loss of and/or disturbance to habitat	• Minimisation of habitat loss where practicable. • Implementation of an agreed methodology for working on sensitive shingle habitats.

Deferral Period Preparations Phase (3a)		
Topic	Nature of impact	Mitigation Measures Proposed
		• An agreement with Natural England regarding the management of an area between the security fence and licensed Site boundary as a receptor area for larvae of this species found on site during this phase of decommissioning.
	Incidental mortality	Mitigation to minimize disturbance to shingle would also reduce the potential risk of incidental mortality.
	Dust deposition	See dust suppression measures above under Air Quality and Dust.
	Loss of vegetated shingle from construction areas	• All vegetation should be cut to a height of 100-150mm. Cuttings should be left on site for one week to allow all seed to drop and then removed. • Cut, pull or use herbicide 'spot' treatments to control the spread of undesirable vegetative species to below 5% of whole area. • Creation of bare ground using mechanical hand rotavator. Between 5 – 10% of the total area of vegetated shingle habitat to be returned to bare shingle. • Seeding of wild carrot in areas previously rotovated.
	Red Hemp-Nettle Loss of and/or disturbance to habitat/incidental mortality due to fence replacement	Minimization of areas of ground disturbance, winter working and the use of temporary trackways. Natural England consents are in place for the management of Red Hemp Nettle.
	Loss of vegetated shingle from construction areas	• Cut all vegetation to a height of 20-30mm. • Cut all vegetation to a height of 100-150mm. Cuttings should be left on site for one week to allow all seed to drop and then removed. • Cut, pull or use herbicide 'spot' treatments to control the spread of undesirable vegetative species to below 5% of whole area. • Creation of bare ground using mechanical hand rotavator. Between 10-20% of the total area of vegetated shingle habitat to be returned to bare shingle.
	Black Redstarts Loss of nest Sites/breeding habitat	Provision of additional, appropriately designed nest boxes prior to the commencement of Site works.
	Loss of foraging habitat	Minimization of habitat loss, where reasonably practicable. At any one time, parts of the Site will provide potentially suitable foraging habitat for Black Redstart. See also mitigation measures for Sussex Emerald Moth.
	Incidental mortality/noise (including explosions) and visual disturbance	Employee awareness programme and experienced individuals tasked with identifying active nest Sites.
	Lichens HGVs straying onto verges of the access road	Use of appropriate signs to inform drivers of the sensitivity of these areas
	Reptiles Incidental mortality	One-way reptile-proof fencing to be used to prevent reptiles from moving into working areas. Reptile-proof fencing should be installed prior to works commencing, allowing a period of time for reptiles to move out of the working areas.
Geology, Hydrogeology and Soils	Inadvertent or uncontrolled disturbance or spreading of existing contaminated soils, including movement by windblown dust, entrainment in runoff, attachment to vehicles and/or inappropriate soil handling operations	• Desk studies and Site investigation, if necessary, before works commence in order to determine the presence or absence of contamination, so that appropriate working practices can be adopted from the outset • Controlled access to or from known or potentially contaminated working areas as appropriate • Use of re-circulating wheel washers on HGVs leaving Site as appropriate • See below under 'Inadvertent contamination of soils and/or groundwater arising from temporary storage of contaminated soils, wastes or materials' • See also dust control mitigation measures
	Mobilization of existing contamination by direct rainwater infiltration due to changes in ground coverage	Investigation of contaminated soils prior to removal of hard-standings or buildings/foundations (possibly by desk study alone if appropriate), with prior remediation if necessary
	Mobilization of existing contamination by direct rainwater infiltration due to the creation of temporary open excavations	• Desk studies and Site investigation, if necessary, before works commence in order to determine the presence or absence of contamination, so that appropriate working practices can be adopted from the outset. • Excavation dewatering, if necessary, with monitoring and appropriate management/disposal of any waters arising. • Tenting of exposed areas or excavations, if necessary.

Deferral Period Preparations Phase (3a)		
Topic	Nature of impact	Mitigation Measures Proposed
	Creation of new contaminant migration pathways (eg due to the creation of boreholes, piles or excavations connecting previously unconnected geological strata)	Compliance with British Standard 5930 (Code of Practice for Site Investigations) and BS 10175 (Investigation of Potentially Contaminated Sites – Code of Practice). Compliance with EA Technical Report P5-065/TR (Technical Aspects of Site Investigation). Production of risk assessments, method statements and contingency plans.
	Inadvertent contamination of soils and/or groundwater arising from temporary storage of contaminated soils, wastes or materials	• Sampling and testing of soils, wastes and materials prior to storage as appropriate. • Segregation as appropriate. • Use of containment (e.g. membranes) to eliminate cross-contamination, as appropriate. • Management of rainwater run-off from storage areas for contaminated or potentially contaminated soil, wastes and materials.
	Inadvertent contamination of soils and/or groundwater arising from inappropriate use of contaminated soils, wastes or materials as in-fill materials	• Sampling and testing of potentially contaminated soils, wastes and materials prior to use as appropriate • Authorised disposal of unsuitable soils, wastes and materials.
	Changes in soil and groundwater quality due to spills or leaks of non-radioactive substances	• Bunding of chemical and fuel storage according to Statutory Regulations • Appropriate protocols for chemicals and fuel handling in line with Statutory Regulations, with trained staff only to operate facilities. • Emergency spill response planning according to contingency arrangements, including spill kits kept on Site and trained staff available.
	Inadvertent effects on groundwater flow and quality due to in-fill of deep basements and the breaching of basement structures to prevent 'ponding'	• Breach of residual basement structures on one side only and/or above maximum water table only. • If considered necessary by the EA, use of in-fill that does not exceed average permeability of in situ gravels.
	Inadvertent effects of local dewatering on groundwater resources and nearby abstractions, watercourses and Sites of conservation interest	If necessary: • Placement of physical barriers (eg sheet piles) and recharge barriers as appropriate (ie injection back into the ground of an equivalent volume of water to that extracted).
Landscape And Visual	Light spill	Any new lighting to be installed on site should be directional lighting.
Noise And Vibration	Local residential properties, recreational areas & industrial receptors General changes to noise directly from the Site and associated changes in traffic	• Use of noise barriers/screens around work areas. • Use of equipment fitted with effective silencers where practicable. • Appointment of a site contact to whom complaints/queries about construction/demolition activity can be directed - any complaints to be investigated and action taken where appropriate. • Local residents informed of exceptional activities. • No potentially significant external working outside of normal working hours (Monday to Friday 08.00 to 17.00) without prior agreement with the local authority. • All construction activity to be undertaken in accordance with good practice as described by British Standard 5228-2:2009 Noise and Vibration Control on Construction and Open Sites. This includes minimising unnecessary revving of engines, turning off machines when not required and routine maintenance of equipment.
	Noise & vibration caused by explosive demolition (if used)	Use of good blasting practice and warning members of the public and the operators of Dungeness B in advance of demolition activities using explosives.
Socio- Economic	Direct Employment Long-term loss of jobs	• NRS will attempt to re-deploy affected staff, provide opportunities for early retirement & support staff re-training/re-skilling. • NRS will encourage its contractors to make use of local labour, equipment and services as far as practicable.
Traffic And Transport	Impacts on safety etc. due to decommissioning traffic	A Travel Plan will be implemented with the objective of reducing the number of trips generated by the station throughout the entire decommissioning process.
	Impacts on safety etc. due to mud on roads	Wheel washing of HGVs as necessary.
	Turbid Water	Where necessary:

Deferral Period Preparations Phase (3a)		
Topic	Nature of impact	Mitigation Measures Proposed
Surface Water Quality And Drainage	Changes in sea water quality due to the potential release of turbid and/or contaminated water from decommissioning activities on the Site	• Wetting down (e.g. excavation or construction/demolition areas) to prevent windblown spread of dust into locations where subsequent washing into surface water drains would be likely, and appropriate management of wastewater arising • On-Site roads to be kept free from mud/dust deposits, including the use of re-circulating water wheel washers and road cleaners as appropriate • Sheeting or seeding of any stockpiles of soil or potentially contaminating materials • Careful design and siting of spoil mounds as necessary to manage run-off, including use of low walls around such mounds if appropriate • See also measures under Geology, Hydrogeology and Soils
	Changes in sea water quality due to minor spills and leaks of non-radioactive substances, if they occur	• Careful siting of fuel/chemical handling facilities, correct use of drains and inspection regimes according to the EA's pollution prevention guidance for businesses; • Emergency/spill response planning in accordance with site contingency plans and arrangements, including spill kits kept on site and staff trained in their use.

3.1.2 Deferral Phase (Condition 3a)

During the deferral phase no significant works are planned with the possible exception of recladding the reactor buildings (should this be required). It is anticipated that the reactors would be reclad in a similar material to that used at the start of care and maintenance hence the visual impact will remain unchanged

Table 2 below outlines the mitigation measures proposed to manage impacts to ecology during this phase.

Table 2 Deferral Phase (Condition 3a)

Deferral Phase (Condition 3a)	
Topic	Mitigation Measures Proposed
Ecology	• Ecological surveys will be carried out prior to ILW removal if deemed necessary, mitigation measures will depend upon findings of the surveys. • Field surveillance visits to demonstrate the prevention of biodiversity loss in compliance with the BEMP, will be carried out during the deferral period.

No other significant adverse environmental impacts were identified during the deferral period.

3.1.3 Final Site Clearance Phase (Condition 3a)

Most of the mitigations during this phase, will be the same as those identified in the deferral preparations phase. Table 3**Error! Reference source not found.** below outlines additional mitigation that are proposed during this phase of decommissioning.

Table 3 Final Site Clearance Phase (Condition 3a)

Final Site Clearance Phase		
Topic	Nature of impact	Mitigation Measures Proposed
Ecology	Dungeness SSSI & NNR and wildlife	Ecology surveys will be carried out prior to final site clearance and mitigation measures will depend upon the findings of the surveys
Landscape And Visual	Light spill	Any new lighting to be installed on site should be directional lighting.
Socio-Economic	Direct Employment – Long-term loss of jobs	NRS will attempt to re-deploy affected staff, provide opportunities for early retirement & support staff re-training/re-skilling.

3.2 Mitigation Measures Not Yet Selected (Condition 3b)

No such activities have been identified for the Deferral, or Final Site Clearance phases at this time. The Deferral Preparations phase mitigations are outlined below.

Table 4 Deferral Preparations Mitigations to be selected (Condition 3b)

Deferral Preparations Phase (3b)		
Topic	Nature of impact	Mitigation Measures Proposed
Historic Value	Historical value of Dungeness A	• A strategy to preserve the historical and industrial value of all NRS, Magnox reactor Sites, of which Dungeness A is one, is in progress. NRS will provide supporting information to the NDA as required to assist in making any decisions. Potential options include the following: • Conducting a Royal Commission of the Historical Monuments of England (RCHME) level 1 survey • Undertaking a comprehensive cataloguing of existing photographs and supplementing these with new photographs where appropriate • Retaining operational records and other documents of interest • Displaying items of plant of interest, *e.g.* panels from a control room, in a visitors centre and/or museum

3.3 Mitigation Measures Not Yet Identified (3c)

All activities have been assessed for deferral preparations and for the deferral period itself and therefore there are no examples for these phases.

Additional mitigation measures (or any changes required to those measures listed above) for activities during final site clearance will be based on the technologies available at that time, decommissioning experience and any future environmental assessment deemed necessary. Ecology and traffic surveys will be repeated prior to final site clearance; the former will include bat, protected species such as the Sussex Emerald Moth, and breeding bird surveys. This will be followed by a reconsideration of the appropriate mitigation measures

4 Effectiveness Of Mitigations

It is a requirement of the conditions attached to the consent (See Appendix 1) to describe the effectiveness of the mitigation measures that are implemented.

This section will discuss the measures which have been implemented, how the site measures their effectiveness in reducing significant environmental impacts and describes their use in some relevant projects which have been carried out during 2024/2025

Table 5 below shows some of the mitigations put in place to support work across 2024/25. There have been no significant environmental events related to this work and the mitigations applied have been effective and proportionate to the hazards present.

Table 5 Review Of Mitigations Applied in 2024-2025

Environmental Hazard	Works Description	Environmental Mitigation	Issues? (Y/N)	Effectiveness/comments
Groundwater contamination/ Drainage	Completion of Turbine Hall Basement Infill	See mitigations for risk of spills Weekly and monthly borehole reassurance monitoring	Y	The groundwater monitoring schedule has been effective. A temporary turbidity issue occurred during initial drain pit infilling which was quickly resolved by the contractor. Increased monitoring of turbidity levels at the Osso machine and Syphon Recovery Chamber was effective. No groundwater quality issues have been encountered since the Turbine Hall Drain pumps were switched off in February 2025. Groundwater pH is stable between 7 and 8.
	Borderline Wet Waste (BWW) enabling works	• Inground penetrating radar scans to be carried out before excavations and at 150mm depth during excavation. • Only hand-held equipment will be used during digging beyond the initial hand standing. • Maximum depth of digging shall be maintained at 600mm below ground level for lamp post removal, and 400mm for foul water line connection. • Any proposed changes to drains must be presented to an ESQEP and System Engineer. • If required, employ additional monitoring of the drainage network	N	Mitigations implemented. No issues reported.
Risk of spills to ground/surface drains	Completion of Turbine Hall Basement Infill	• Contractor to ensure spill kits are available at the work area and personnel are trained in their use • All vehicles to have plant nappies placed underneath when not in use • Perform pre-start checks on mobile plant and equipment, to identify wear or damage	N	Mitigations implemented. No issues reported.
	Construction of new site stores	• Work which will generate cement washing will be carried out in accordance with Regulatory Position Statement-287 (previously RPS-235) • Locate generators away from drains and unmade ground	N	Mitigations implemented. Two small spills of hydraulic oil from machinery did occur. The impact was negligible due to the swift action undertaken by personnel to deal with the spill.

Environmental Hazard	Works Description	Environmental Mitigation	Issues? (Y/N)	Effectiveness/comments
		• Refuelling must only occur on hard ground, away from potential traffic impact hazards or drains. • Where possible deploy drain covers prior to refuelling or working with mobile plant, and ensure working parties are aware of drains in the area		
	Characterization and de-planting of redundant active drains;	• Project to ensure spill kits are available and personnel are trained in their use • Cement washings will be minimised where possible and wash waters taken for appropriate off-site disposal • Grouting plant will be located on hardstanding with a plant nappy and situated away from surface water drains	N	Asbestos containing products were found in the active drain trenches and are being managed.
	Replacement of South Face cladding	• Inspect all storage containers and connecting pipework for signs of leaks, damage or degradation prior to use and on a regular basis when in use. • Drain covers must be used to protect any drains near to liquid storage areas or work areas handling liquids	N	No issues reported.
Risk of spills to ground/surface drains (cont)	Sewage plant - post operational cleanout (POCO)	This section to cover the works and hazards of the sewage liquid substances that are to be the main subject of the POCO project • Storage, removal and transport of sewage liquid and sludge waste products. • Removal from the current plant storage vessels of sewage waste liquids and sludges to a transport vessel. • Ensuring any spillage of waste materials, liquids etc is controlled, minimised and contained and cleared up and is prevented from entering the local ground water table. • Wastes are captured and cleaned from existing plant pipe and pumping installations which have been disassembled for this purpose • Temporary storage of oils and chemicals including generators and fuel tanks • Storage and use of chemicals and oils should be minimised. • Label all containers with contents, volume and contact details of responsible person. • Inspect all storage containers and connecting pipework for signs of leaks, damage or degradation prior to use and on a regular basis when in use, as per the requirements in section 4.10 of ENVDI/003DD. • Minimise pipe runs and use of secondary containment.	N	• Liquids stored in waste retrieval lorry and transported to temporary bulk store on site at sewage treatment plant retention tanks for later transport • Covered in contractors risk assessment with regard to handling of COSHH items. • No reports of any spillages or incidents. • Retention tanks used. • Bunded fuel stores not required.

Environmental Hazard	Works Description	Environmental Mitigation	Issues? (Y/N)	Effectiveness/comments
		• Regularly check secondary containment for the presence of liquid. Discharges of liquid in secondary containment should follow ENVDI/007DD. • Ensure bunds and drip trays are covered to prevent ingress of rainwater. • Ensure spill kits and drain covers are available in the work area which should be provided by the project team and ensure working party is aware of the location of the nearest spill kits, and what they are appropriate for		
	Retrieval of Cyclone Dust, Desiccant & Catalyst Waste Material from Vessels	• Spill kits made readily available adjacent to generators and fuel tanks at all times. • The project to replace used spill kits as and when required. • Project to ensure staff know the location of the spill kits and are suitably trained in their use. • During refuelling operations, drain covers are to be deployed.	N	Mitigations implemented. No issues reported.
	Borderline Wet Waste (BWW) enabling works	• Spill kits to be provided by the project and staff suitably trained in their use. • Drain covers to be deployed to protect drains near work areas handling liquids. • Work to be designed to minimise cement washing generation and maximise reuse of water as much as possible. • Cement washings must not be discharged to drains. • Cement sediments to be swept up and disposed of. • Oil waste containers to be sampled and characterised prior to storage and disposal. • Drums to be assessed for leaks and damage. • Drums to be bunded and stored within an ISO during storage and transportation.	N	Mitigations implemented. No issues reported.
Release of dust to atmosphere	Completion of Turbine Hall Basement Infill	• Ensuring delivery vehicles are sheeted to minimise spread of dust • Use of a water bowser during windy conditions • Use of wind fencing • Replacing the top 150mm of the infill layer with a Type 1 material that is less susceptible to dust issues	Y	Some vehicles were initially reported as un-sheeted leaving the site. Communication with the suppliers and contractors quickly resolved this issue. The water bowser was ineffective at dust suppression during extremely windy conditions. Replacing the top 150mm of the infill layer with Type 1 material has been successful. No further issues with dust have been reported.
	Construction of new site stores	• Ensure any vehicles carrying dust producing materials are sheeted up prior to leaving the site.	N	Mitigations implemented. No issues reported.

Environmental Hazard	Works Description	Environmental Mitigation	Issues? (Y/N)	Effectiveness/comments
		• Limit dust producing work if expecting high winds. • Deploy drain covers to protect drains during dust-producing works		
Increased noise from construction activities	Construction of new site stores	• Use of equipment fitted with effective silencers where practicable • No working outside normal working hours • Minimise unnecessary revving of engines, turning off machines when not required • Local residents informed of exceptional activities	N	Mitigations implemented. No issues reported.
	Replacement of South Face cladding	No working outside normal working hours	N	No issues reported.
Increased site traffic from deliveries	Completion of Turbine Hall Basement Infill	Project to implement a Traffic Management Plan (TMP)	Y	A minor breach of the Transport Management Plan (TMP) occurred on the first day of deliveries with the number of HGV deliveries exceeding 30. The contractor quickly re-implemented the TMP. No further traffic-related issues were reported.
Diesel Generator Use	Completion of Turbine Hall Basement Infill	Contractor to use a diesel generator for cabins until NRS was able to connect cabins to site supplies	N	The diesel generator was removed from site in March 2025. No issues were reported. The Energy Supply Hierarchy was successfully implemented.
	Use of generators in various areas to support project work	• Use of the energy supply hierarchy – if it was determined that the site supplies were insufficient for the operational needs of the project, then other sources of power would be explored with the use of diesel generators being the last option considered • Only to be operated within normal working hours (08:00-17:00) • Generators and remote fuel tanks to be stored on hard standing and away from drains. • Project to supply spill kits within the vicinity of the units. • Inspections of generators, diesel storage containers and connecting pipework for signs of leaks, damage or degradation prior to use and on regular basis while in use. • Ensure necessary COSHH risk assessments have been completed and that a printout is readily available to the operators. • Project ESQEP to be provided with monthly fuel usage date for generators (fuel type, amount used etc.)	Y	A couple instances of late reporting – generators brought to site without Environmental SQEP knowledge. Environment team made aware by security / site engineers upon arrival. Appropriate forms filled out before use. Energy supply hierarchy was still adhered to despite this.

Environmental Hazard	Works Description	Environmental Mitigation	Issues? (Y/N)	Effectiveness/comments
Ecology	Replacement of South Face cladding	Protective netting shall enclose the exposed building face to mitigate the likelihood of birds nesting within it If birds or bats are spotted within the area, contact an ESQEP for advice	Y	Bird netting on the reactor roofs minimizes birds nesting. However, bird netting has shown limitations, particularly where it was not installed to the edges of buildings, allowing some birds to bypass the barrier. Additionally, there have been instances of birds becoming trapped in the netting. Roof walking has proven to be an effective deterrent during the most recent breeding season, successfully preventing nest formation. Funding has now been secured for upgraded bird netting, which is expected to enhance the overall effectiveness of bird mitigation measures.
	Sewage plant - post operational cleanout	A biodiversity management area surrounds the location of the works. Most of the work can be undertaken without affecting these areas. Any unforeseen effects to the biodiversity area should be reported. Works effecting these areas should cease and await Magnox SQEP advice. Mitigations are listed below: • Brief HGV drivers, and place appropriate signage to prevent them driving onto verges around site or parking on shingle. • Plan works to cause minimal disruption to habitats and animals (e.g., avoid work on roofs during bird nesting season). • Brief working parties on the presence of any protected species and contact an ESQEP if any are identified. • If animals are affecting work within the area, DO NOT disturb them, contact an ESQEP for advice.	N	Briefs and inductions provided to site team.
	Retrieval of Cyclone Dust, Desiccant & Catalyst Waste Material from Vessels	Presence of nesting pigeons- In the instance that pigeons are observed in the area, work is to cease, and advice sought from the project ESQEP		
Plant/ Equipment	Improve the layout in the main car park	• Locate a storage area for mobile plant away from drains and unmade ground and, if possible, indoors. • Perform pre-start checks on mobile plant and equipment, to identify wear or damage. • Ensure necessary COSHH risk assessments have been completed for all equipment containing hazardous substances, and that they are available to the equipment operators. • If possible only refuel from the site's diesel tank. Refuelling must only occur on hard ground, away from potential traffic impact hazards or drains.	N	Mitigations implemented. No issues reported.

Environmental Hazard	Works Description	Environmental Mitigation	Issues? (Y/N)	Effectiveness/comments
		• Where possible deploy drain covers prior to refuelling or working with mobile plant, and ensure working parties are aware of drains in the area		
Land Quality	Construction of new site stores	Reassurance monitoring and sampling for radioactivity and hydrocarbons prior to and following excavation as required by the waste team to confirm waste route	N	Mitigations implemented. No issues reported
Material Management	Borderline Wet Waste (BWW) enabling works	Prior to backfilling voids, the soil material from the excavation is to be monitored to assess radiological risk, and a visual check of the material to be conducted for any visual or olfactory signs of contamination including solvents and soils.	N	Mitigations implemented. No issues reported
Land Quality	Borderline Wet Waste (BWW) enabling works	• All work to follow instructions given within the Land Quality Risk Assessment. • Pre-work survey to be conducted by a Radiological Monitoring Person (RMP). • Watching brief to be kept for any visible or olfactory signs of contamination including solvents or oils. • Advice to be sought from a Site Land Quality Interface on the discovery of contamination. • Contaminated excavated material to be disposed of as waste through the appropriate waste stream.	N	Mitigations implemented. No issues reported

Figure 4 Use of mobile water bowser for dust suppression during the Turbine Hall infill works

Socio-Economic Impacts

Communities around Dungeness site received a total of £34,835.87 of NRS Socio-Economic funding in 2025/25.

There is continued support for Folkstone and Hythe District Council, Rural England Prosperity Fund (REPF), NRS funding of £99,000 (split over four years) covers resources for the Rural Projects Officer role. The aim of the REPF is to encourage business diversification and provide net zero and green energy grants for businesses, support the visitor and tourism economy including connectivity enhancements and investment in capacity building and infrastructure support to assist with connectivity and energy efficiency for local communities.

In addition to the multi-year funded project, Dungeness also supported other projects through the good neighbour level funding of up to £2,000 and the smaller grant schemes available.

Romney Marsh Community Hub were awarded £15,000 towards the refurbishment of the new second Community Hub allowing them to expand the support they were providing across the Romney Marsh. The second Hub is a beach side location which has allowed them to provide both a base for more wellness and welfare activities and a space which can be hired for other community activities it also includes a cafe which is operated 7 days a week year-round to help fund our charitable activities.

New Romney in Bloom Community Group (NRIB) were awarded £945.00 which allowed them to enhance two neglected areas on the High St, one at each end.

Lydd Club Day Committee were awarded £1,000 towards the purchase of a new trailer for the Lydd Club Day Carnival Court.

RNLI Dungeness Lifeboat were awarded £1,390.87 allowing them to refurbish and enhance the safety, accessibility, and the privacy of the station, while improving the overall experience for both the crew and the community.

We are only three months into the 25/26 financial year and Dungeness have already been awarded £36,000 of funding from NRS. This is continued support for Folkstone and Hythe District Council and a good neighbour project. The NDA have also contributed £300,000.00 towards the New Romney Coastal Destination Project .

5 Changes To The EMP (2024- 2025)

The primary update to this Environmental Management Plan (EMP) relate to formatting improvements implemented as part of an internal EIADR enhancement initiative. These changes aim to streamline the EMP process and ensure consistency in the template used across all NRS sites.

As a result, some sections have been removed or amended compared to the previous version. However, there are no substantive changes to the content, as no modifications were made to the mitigation measures for the 2024–2025 period relative to 2023–2024.

6 Distribution Of The EMP

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

The Site Director

Dungeness A Site

Romney Marsh

Kent

TN29 9PP

In addition to the submission of this EMP to the Office for Nuclear Regulation (ONR) NRS will also provide copies to the:

- Dungeness Site Stakeholder Group; and
- The Nuclear Decommissioning Authority (NDA).

This EMP can be viewed at the following locations:

- Cheriton Library, 64 Cheriton High Street, Cheriton, Folkestone, Kent CT19 4HB;
- Folkestone Central Library, 2 Grace Hill, Folkestone, Kent, CT20 1HD;
- Hythe Library, 1 Stade Street, Hythe, Kent, CT21 6BQ;
- Lydd Library, The Old School, Skinner Road, Lydd, Romney Marsh, Kent, TN29 9HN;
- Hastings Central Library, Brassey Institute, 13 Claremont, Hastings, East Sussex, TN34 1HE;
- Tenterden Library, 2 Tenterden Gateway, Manor Row, Tenterden, Kent, TN30 6HP;
- New Romney Library, 82 High Street, New Romney, Kent, TN28 8AU;
- Ashford Central Library, Gateway Plus 1AS, Church Road, Ashford, Kent, TN23 1AS (3 copies, 2 marked up for mobile libraries);
- Rye Library, 30 High Street, Rye, East Sussex, TN31 7JF;
- Folkestone and Hythe District Council, Civic Centre, Castle Hill Avenue, Folkestone, Kent, CT20 2QY; and
- Kent County Council, County Hall, Maidstone, Kent, ME14 1XQ.
- Note: Dymchurch Library is now closed but it is served by a mobile library. Two extra copies are sent to Ashford Central Library for the mobile libraries that operate from here.
- The EMP is also available through the NRS pages of the .gov website

Further information on the HSE's decision to grant consent to decommission Dungeness A can be found in their decision report, which describes the content of the conditions attached to the Consent and the main reasons and considerations for the decision. Requests for copies of this document should be made directly to the ONR.

Appendix A: Decommissioning Project Consent

Conditions attached to Decommissioning Project Consent No.1

13th July 2006

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)

DUNGENESS A POWER STATION

Condition 1

The project shall commence before the expiration of five 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 evidence to verify information in the environmental statement, provided under regulation 10(9), the environmental management plan shall:

a. list the mitigation measures that are already identified in the environmental statement and evidence submitted to verify information in the environmental statement;
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.

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 change 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:

Signed

For and on behalf of the
Health and Safety Executive

Dr S. L. Creswell

A person authorised to act in that behalf

Appendix B : Principles For A Transport Management 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

1. Heavy Goods Vehicles (HGV's) will be required to follow preferred routes to and from the strategic road network. From the M20 at Junction 10, the A2070 to Brenzett, then the A259 through Old Romney and the B2075 towards Lydd, followed by the Dungeness Road, which runs between the settlements of Lydd and Lydd on Sea.
2. The numbers of individual transport movements will be minimised as far as is reasonably practicable.
3. Where appropriate, vehicles leaving site will be subject to inspection to ensure that earth and other material is not unduly dispersed. Wheel washing will be used where necessary.
4. On site roads will be swept as necessary to minimise the spread of material off-site and/or into drains or watercourses.
5. Where practicable, transport distances will be minimised by the use of local disposal sites, recycling facilities etc.
6. HGV transport movements should be undertaken within normal working hours (Monday to Friday 08.00 to 17.00) where possible.
7. NRS and their contractors will be required to maintain their vehicles in a good condition.
8. Employees and contractors will be encouraged to share transport when travelling to and from site.
9. Employees and contractors are encouraged to minimise business travel where practicable by initially considering the need to attend off site meetings and to consider the use of other communication methods, e.g. video conferencing facilities. If there is a pressing need to attend off site meetings, then public transport should be used in preference to private transport.
10. In the event of need for an abnormal load to be transported, a specific plan for this movement will be developed.

Dungeness A Site

Romney Marsh

Kent,

TN29 9PP

https://www.gov.uk/government/organisations/nuclear-restoration-service

NRS
Nuclear Restoration Services

NDA