



Winfrith Masterplan

Overview of Decommissioning

Issue 2 – Dec 2025

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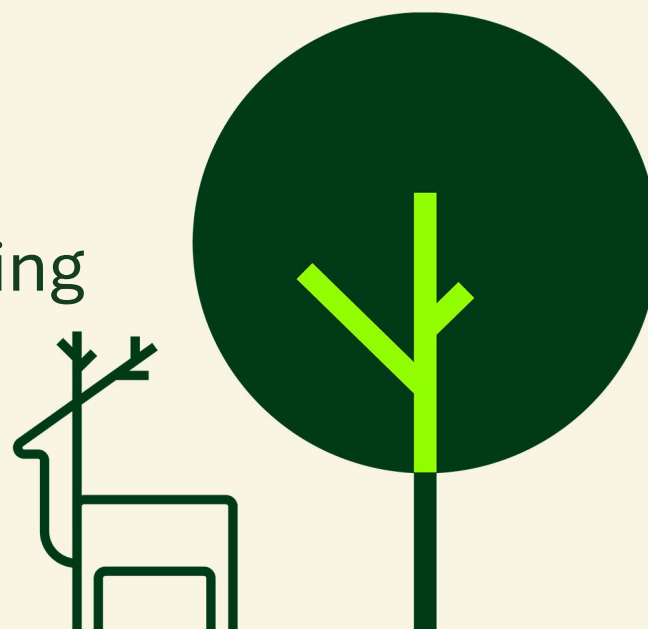


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Section 1

Background

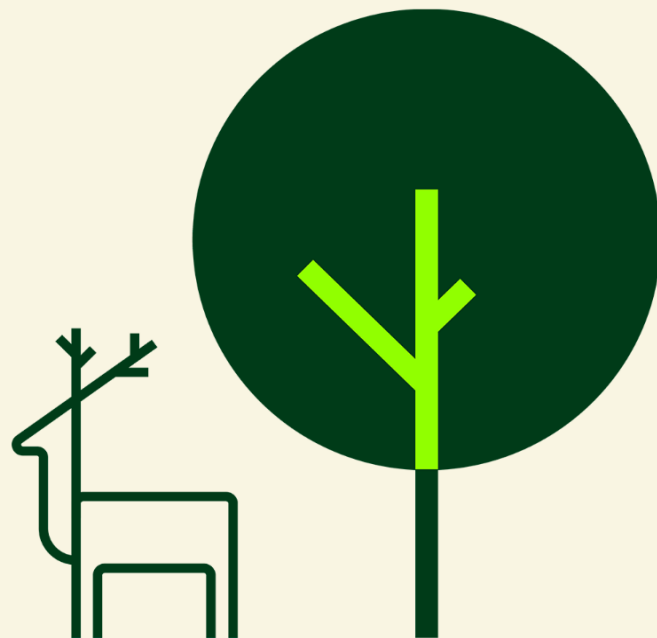




Figure 1 – Steam Generating Heavy Water Reactor (SGHWR)

1. Introduction

At Nuclear Restoration Services (NRS), we focus on the safe, responsible, and efficient decommissioning of nuclear sites, while also fostering a positive legacy for future generations.

NRS is a wholly owned subsidiary of the Nuclear Decommissioning Authority (NDA) and is responsible for decommissioning the Winfrith Site.

The NDA is a non-departmental public body created to lead the clean-up and decommissioning of the UK's earliest nuclear sites safely, securely and cost effectively, whilst caring for people, communities, and the environment.

NRS holds the nuclear site licence and environmental permit for the Winfrith site and is legally responsible for its safe decommissioning in accordance with relevant legislation. NRS is responsible for obtaining, and complying with, any permissions required to deliver the decommissioning.

1.1. Role of Masterplan

The aim of this Masterplan is to meet the requirements in Policy 10 of the Bournemouth, Christchurch, Poole and Dorset Waste Plan 2019 (the Dorset Waste Plan). The Dorset Waste Plan states that proposals for the Winfrith site are to be supported by a masterplan providing a clear and consistent framework for the development, including waste management proposals being put in the context of the overall decommissioning for the Winfrith site.



This Masterplan seeks to set out all the decommissioning and waste management activities anticipated to be needed to achieve the sites End State. The End State for Winfrith is where the demolition and waste management activities are complete, and the site can be passively managed and monitored.

This Masterplan is intended to be an overview document that illustrates how each individual part of the decommissioning process, such as planning applications or permit submissions, fit into the wider site decommissioning strategy.

The document is in two sections:

- **Section 1** gives an overview of the site, its history, the regulatory framework the site complies with and the strategic context for delivering decommissioning and waste management activities.
- **Section 2** outlines the key decommissioning and waste management activities needed to deliver the End State, including any necessary permissions.

1.2. Scope

This document represents the currently understood decommissioning and waste management plans for the site. As decommissioning and waste management operations continue, additional requirements may emerge, either due to regulatory requirements or due to unanticipated challenges in the decommissioning process.

The Masterplan will be regularly updated to keep in line with the evolving plan for the site.

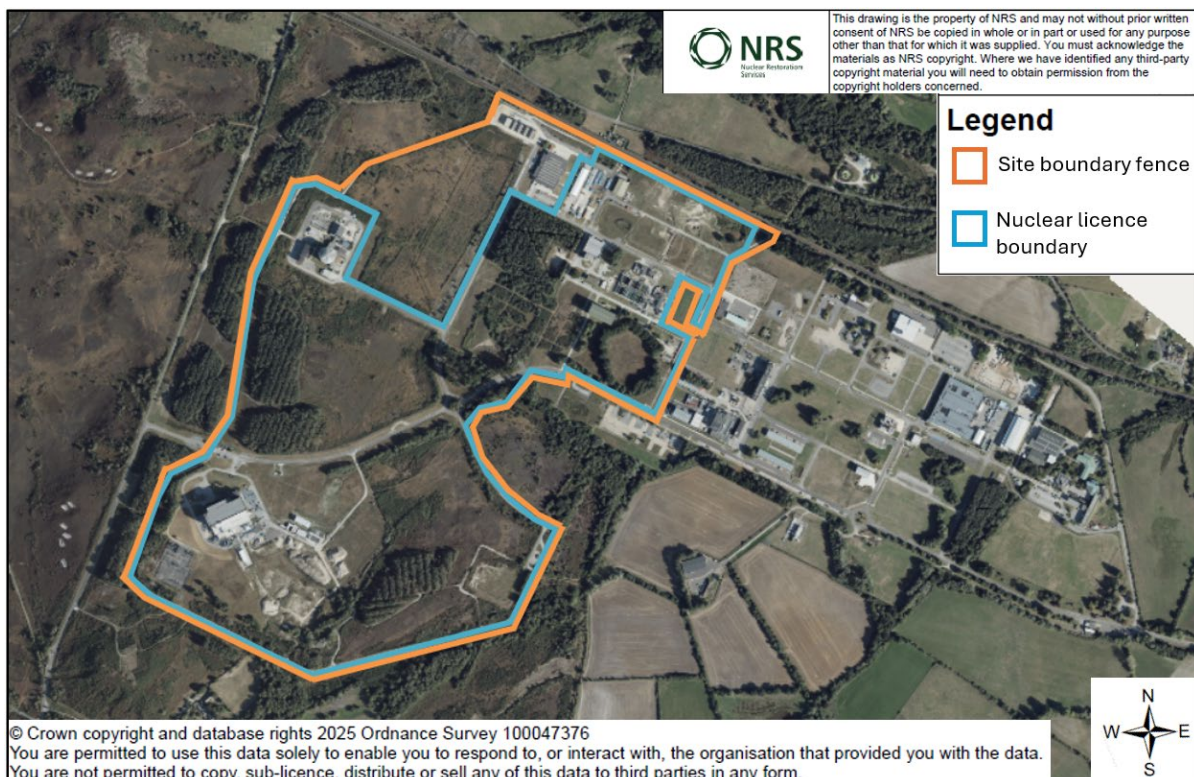


Figure 2 – The Winfrith Site

2. Our Vision

NRS is focused on safely decommissioning the Winfrith site and delivering the intended End State.

An End State is the condition of an NDA site (or part thereof), following all physical decommissioning and clean-up activities required to conclude the NDA's mission for that site.

At Winfrith, the End State being worked towards is a condition of the landform and environment that allows for the next planned use of a naturally generated heathland with public access.

This End State has been informed by working with:

- Dorset Council to establish their priorities for potential future uses of the site,
- the local community to understand their values and aspirations for the site,
- Government to understand national needs and financial implications; and
- the environmental regulators to ensure alignment with their current expectations.



Figure 3 – Visualisations of Winfrith Site from now to Year 30 following Endstate



The End State will be achieved by carrying out the following activities (amongst others):

- demolition of redundant structures to 1 m below ground level in most cases,
- the retention of some below ground structures (some of which are radioactively contaminated),
- the use of low level radioactive and non-radioactive wastes arising from the demolitions to achieve a final landform suitable for the End State,
- the reprofiling of parts of the Winfrith Site to provide natural drainage system,
- creating a landform suitable for the natural regeneration of habitats, and
- carrying out ongoing management and stewardship of the site.

The decommissioning and restoration of the Winfrith site is set to be the first of its kind in the UK. Our approach not only considers the technical challenges but also places a strong emphasis on the community and environment. By providing a landform for heathland to naturally form, valuable habitats for local wildlife will establish and provide amenity value for the local community. Newly formed heathland on the site alongside existing heathland habitats will support development of valuable and rare habitats that are unique to Dorset. This approach of allowing natural regeneration of heathland has already been successfully delivered in the area in the southeast part of the site where the former Zebra reactor once stood.

This Masterplan sets out our current intentions that are designed to achieve the End State for the site, which supports the next planned use. As our operations continue in the coming years we recognise that, additional requirements may emerge, practical challenges may arise, preferences and priorities may change and regulatory requirements may alter. The Masterplan will be regularly updated to keep in line with evolutions relating to the future plans for the site.



3. The Winfrith Site

3.1. History of the site

Winfrith is a former nuclear research site that once hosted nine research and development reactors.

Construction of the site began in 1957, and it officially opened in 1959. Through four decades of operations, it hosted experimental reactors and associated laboratory facilities. These were supported by a number of facilities, such as an apprentice school, the Blacknoll reservoir, the Active Liquid Effluent System (ALES) which includes the Sea Discharge Pipeline, and a range of offices accommodation and stores. At its peak, there were 3,000 staff working on the site.

Decommissioning of the site started in the late 1970s, with the removal of several key parts of the Dragon reactor. Large scale decommissioning of the site started in the early 1990's as the UK government moved away from reactor research and the experimental reactors were de-fuelled and laboratory facilities were closed.

Winfrith has successfully completed decommissioning of seven reactors and all of the laboratory facilities. As decommissioning has progressed and more structures have been removed, the amount of heathland on the site has increased over time. NRS is in the final stages of decommissioning with the intent to create the conditions for the majority of the land to become publicly accessible heathland.

3.2. Dorset Heathland

The Winfrith site is located within the internationally protected site of Dorset Heathlands, which is classified as a Ramsar site, a Special Area of Conservation (SAC), and a Special Protection Area (SPA). This means that the heathland is internationally recognised as being important to biodiversity.

In addition, within the Dorset Heathlands is Winfrith Heath Site of Special Scientific Interest (SSSI), classified for its internationally important heath and mire communities. The site also drains into the River Frome SSSI north of the site. It is the most westerly chalk stream in the UK which supports a number of rare plants and wildlife including Atlantic salmon.



Figure 4 – Heather on site

Additionally, there are environmentally protected areas in close proximity to the site including:

- The Dorset National Landscape lying approximately 1km to the south of the site,
- The non-statutory Purbeck Heritage Coast and Jurassic Coast World Heritage sites, and
- The Tadnoll heath nature reserves to the south and west of the site.

3.3. Remaining structures and habitats

The facilities remaining on-site to be decommissioned include the SGHWR and Dragon reactor, the ALES, and a range of waste handling and packaging facilities and office accommodation. There are also off-site structures to be decommissioned, including Blacknoll reservoir and the Sea Discharge Pipeline.

Steam Generating Heavy Water Reactor (SGHWR)

The SGHWR building is located in the south-west corner of the site. It was a prototype design for a commercial reactor. Although intended for experimentation, it supplied electricity to the grid from 1968 to 1990.

The reactor was defuelled in the early 1990's and decommissioning commenced shortly after. Now only the core remains in place, with all ancillary plant and equipment removed and disposed off-site.

Dragon Reactor

The Dragon reactor building and offices are located on the western edge of the site. It was an experimental high temperature gas-cooled (helium) reactor built to test fuel and materials for the European High Temperature Reactor programme. It operated from 1965 to 1976 but did not supply electricity to the grid.

The reactor was defuelled in the 1970's, with decommissioning continuing until 1979. Decommissioning re-started in the 1990's and now only the empty core remains in place, with all ancillary plant and equipment removed and appropriately disposed.



Figure 5 – The Dragon reactor with ancillary buildings

Active Liquid Effluent System (ALES)



Figure 6 – Part of the ALES facility

ALES provided the centralised active effluent treatment for the site from 1960 and is still in use. ALES is comprised of approximately 7km of on-site drains and a centralised effluent processing facility. It is used to collect and treat all the potentially contaminated aqueous wastes from the reactors and support facilities prior to discharge via the Sea Discharge Pipeline. As many buildings across the site have been decommissioned, the majority of the input to ALES has ceased. The system currently manages less than 1 percent of the effluent volumes compared to when the site was operational.

Ancillary and miscellaneous structures

There are about 60 ancillary structures on the site, including offices, stores, workshops, and infrastructure such as electricity sub-stations. These are a mixture of permanent brick buildings and temporary structures. There are also waste storage and processing areas and core mock up facilities which allow trial of decommissioning techniques to be used to dismantle the reactor cores.

Additionally, there are:

- Drainage systems that manage process water, foul water, surface water and land drainage,
- The transient foul system (TFS) that was installed to replace the former site sewage treatment plant and allow decommissioning,
- A network of roads, car parks, footpaths, and prepared vehicle tracks,
- Railway sidings on the north side of the site, and
- Stockpiles located approximately 100 metres to the east of the SGHWR, comprising material from previous building demolitions.

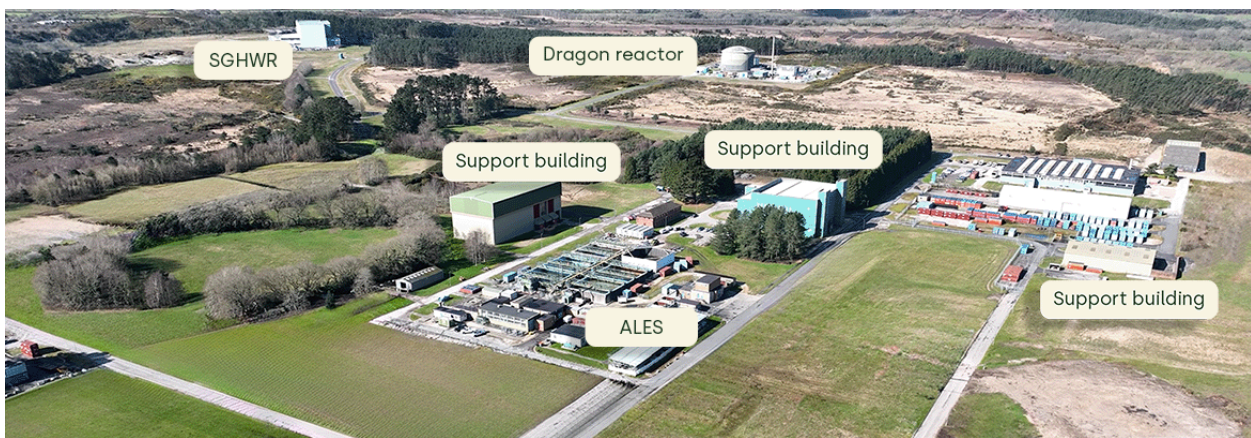


Figure 7 – View of the site from the north-east corner of Winfrith



Sea Discharge Pipeline

The Sea Discharge Pipeline transfers treated wastewater from the site, 9.7km over land to the permitted disposal points 3.7km off-shore. The Sea Discharge Pipeline consists of two parallel pipelines each having a pipe within a pipe configuration. There are 14 ancillary structures along the line to support operations and maintenance.

The Pipeline will be decommissioned and removed once an alternative route for active effluent is available, and the pipeline is no longer required.



Figure 8 – Route of the Sea Discharge Pipeline from the Winfrith Site to Shore Valve House

Blacknoll Reservoir

The Blacknoll reservoir was constructed outside the site boundary in the 1960's to store emergency cooling water for the SGHWR. The reservoir was no longer required after reactor defuelling and was emptied in the 1990's and has remained in place since.

3.4. Future constructions and activities

Decommissioning activities often necessitate new construction, either to meet modern standards and regulatory requirements relating to safe methods of work or to allow new processes on-site, such as waste management activities.

To this end, grout plants and curing facilities have been constructed on the site to allow management of intermediate level wastes produced from retrieving the reactor cores.

Additionally, much of the office accommodation and infrastructure was constructed in the 1960s so is no longer fit for purpose. These are being removed and being replaced by temporary structures and accommodation for the duration of decommissioning works where required.

Further temporary construction activities may be required through the final stages of decommissioning.



Figure 9 – Demolition of ancillary building A44 at the Winfrith Site



Tree plantations

Areas of conifer woodland have been planted on and around the Winfrith Site to provide visual and noise screening since it started operating. These plantations are part of an agreed felling schedule. To provide the best environment for people and wildlife, the felling schedule has been aligned with the decommissioning. The remaining plantations within the site will be felled to provide additional habitat for the ground nesting bird species that nest on site. The sequence of these tree removals will happen a number of years before the demolition of the Dragon and SGHWR reactors. Each area of tree removal will provide the optimum habitat for decommissioning and habitat needed for the bird species. The screening trees along Gatemoor road will be removed after the demolition of the reactor buildings and the reprofiling is complete.

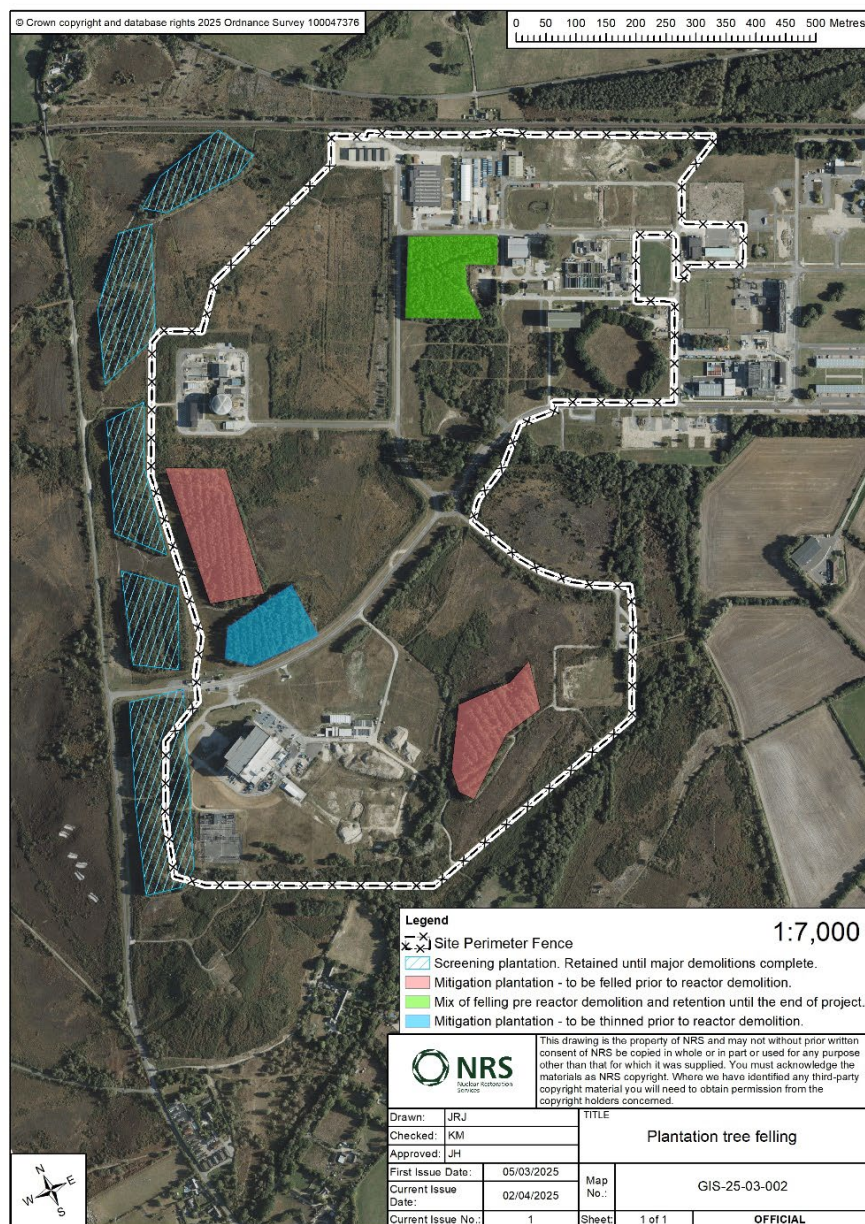


Figure 10 – Proposed Tree Plantation Felling

Enterprise Zone

In 2017 an Enterprise zone covering around 50 hectares was identified as an area for economic development in South Dorset. The eastern part of the Enterprise zone, known as Dorset Innovation Park (DIP), was subsequently allocated as land for employment development in the adopted Purbeck Local Plan (2018-2034). In 2019 a Local Development Order covering the vast majority of the allocated employment site was granted to encourage employment activities.

The Enterprise Zone designation extends across the northern part of the Winfrith site that NRS is responsible for decommissioning, but the Purbeck Local Plan confirms that:

“7.6 hectares of the Enterprise Zone land adjoining the railway is not safeguarded for employment uses”

The adopted Dorset Waste Plan states that:

“the NDA's preferred End State is that the majority of the site is restored to natural heathland, with public access and the possibility of some commercial development where appropriate.”

Any future commercial development on this land will require its own planning applications and approvals, in line with local planning policies. If any economic opportunities arise, it will be up to the developer to apply for and secure the necessary permissions for those uses. We will continue to work closely with Dorset Council on their evolving plans in relation to the future of the Winfrith site.

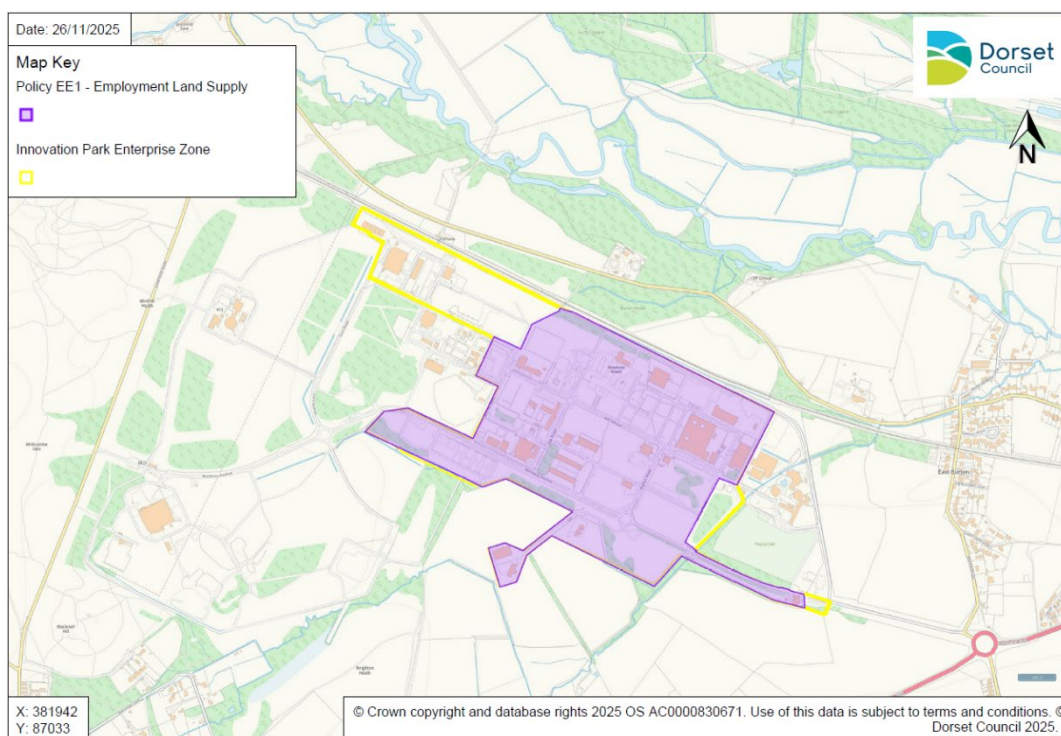


Figure 11 – Extract from Purbeck Local Plan policy map

3.5. Site habitat regeneration

The Winfrith site was developed in the late 1950s on an area of arable agricultural land and heathland. The ground was re-profiled to suit the needs of the site with large amounts of material moved to level the ground and drainage installed. Surplus soil from the excavations was deposited in the south of the site.

The End State we are delivering is a landform that will allow for a mosaic of acid grassland and heathland to form in the previously developed areas with new public access paths in the south of the site. These habitats will link into the wider landscape (outside of the boundary of the Winfrith Site) such as Tadnoll and Winfrith Heath. However, establishment of these high-quality habitats will take time.

The main areas of focus are:

- **Created Habitats** – once decommissioning is complete, areas that were previously developed will be reprofiled to provide optimum conditions for natural regeneration of heathland. A depression will be excavated to allow a mire to form. Material from the excavation will be placed over the SGHWR and Dragon engineered caps. These will also be allowed to naturally generate to heathland.
- **Retained Habitats** – a large area within the site is already designated habitat. These will be retained and enhanced as part of the decommissioning work. Native and valuable trees will also be retained, including an area of broadleaved woodland.
- **Drainage** – the artificial drainage will be decommissioned to create a more natural environment. The reprofiling and natural surface water and groundwater flows will channel the water into the mire. Surface water on the site will still drain into the Frome Ditch through an existing pipe under the railway line. The proposed final drainage design for the site balances the extent of excavations required for a functioning mire system, carbon emissions, vehicle movements and associated development costs.
- **Public access** – The public access paths in the south of the site will link with existing routes across the heaths. The paths on site will avoid the most sensitive ecological areas of the Winfrith Site by following existing path and track lines, minimising ecological disturbance from people.
- **Future landscape management** – minimal intervention management is proposed similar to other areas of the Dorset Heaths. It is intended to support establishment of natural habitats and maintain long term duration of heathland habitat.



Figure 12 - Creation of heathland at the site of the former Zebra reactor

4. Compliance

There are a number of Parliamentary Acts, regulations, and requirements that relate to various aspects of the decommissioning work that NRS needs to comply with to protect people and the environment. Below is a short background to the main ones to provide context for the decommissioning strategy.

4.1. Nuclear site licence

Under the Nuclear Installations Act 1965 (as amended), every nuclear reactor site in the UK must acquire a Nuclear Site Licence from the Office for Nuclear Regulation (ONR). There are 36 standard licence conditions which the licensee (in this case NRS) has to meet in areas such as relevant safety arrangements and safety procedures that the licence holder must follow to ensure compliance. The site will seek to remove the nuclear site licence prior to achieving the End State.

4.2. Planning legislation

Some of the decommissioning activities that are to take place constitute ‘Development’ as defined in land use planning legislation, principally, the Town and Country Planning Act 1990 (TCPA). In these cases, planning permission will be required to deliver the decommissioning of the site. Dorset Council is the relevant Planning Authority and is responsible for determining any planning applications made.

The land use planning system controls the development and use of land in the public interest and is focused on whether development that is proposed is an acceptable use of the land, considering the impacts of the proposed use. The land use planning system is designed to be forward looking and statutory development plans play an important role in identifying the need for, and location of, future development whilst also ensuring that areas that need to be protected or enhanced are considered. It is a staple principle that applications that are in accordance with the statutory development plan for an area should be approved.

Regulations that NRS Winfrith must adhere to include:

- Nuclear Site Licence Conditions under Nuclear Installations Act 1965
- Town and Country Planning Act 1990
- Conservation of Habitats and Species Regulations 2017
- Environmental Permitting Regulations 2016
- Environmental Impact Assessment for Decommissioning Regulations 1999 (EIADR)



Due to the complexity of decommissioning activities and the timescales involved it has been recognised that multiple planning applications may be required. The production of this Masterplan is in line with the Dorset Waste Plan and the response from Dorset Council in April 2019 to a proposal from NRS to develop and submit a planning application for the development required to achieve the End State.

The April 2019 response from Dorset Council states:

“Due to the multi-staged planning consent process required to regulate all of the development required for decommissioning purposes, the LPA require the Environmental Statement (ES) to include a physical spatial plan (masterplan)... This masterplan should ... include a schedule of development and provide accurate information on the phasing of the proposed development and any mitigation, within the overall context of the decommissioning work programme. The LPA acknowledges that by its very nature a masterplan is an iterative document but requires the submission of the plan, as part of the ES, to be based on the most up-to-date understanding of the decommissioning programme”

The adopted Waste Plan contains Policy 10, which relates to the decommissioning and restoration of the site. This Policy provides a framework to enable the site’s decommissioning programme subject to certain stipulations described in the Policy.

NRS Winfrith is regulated by:

- Office for Nuclear Regulation (ONR)
- Environment Agency (EA)
- Dorset Council

Paragraph 11.45 of the Dorset Council Waste Plan 2019 states:

“The Waste Planning Authority advocates the preparation of a masterplan as an effective tool for providing a clear and consistent framework for waste management development required during decommissioning of the site. This would be an iterative document that is kept up to date as decommissioning progresses...”

Sections a, b and c further state that a masterplan should include:

a. plans showing the layout and details of all structures and sub-structures of the site to be subject to decommissioning, above and below ground for the whole site;

b. the types and quantities of wastes arising from Winfrith and requiring management, including details of any planned waste management facilities where needed;

c. the likely timing of waste management development required to enable decommissioning at the site”



The General Permitted Development Order

The General Permitted Development Order (GPDO) gives a national grant of planning permission that allows certain developments to be carried out without the need for an express grant of planning permission for the development. Some developments permitted via the GPDO, such as the demolition of buildings, still require a 'prior approval' process to be followed. This involves submitting a request to the local authority to ensure the intended method of demolition and any proposed restoration will not impact people and the environment. Some of the developments identified in this masterplan would benefit from such permitted development rights.

4.3. Environmental impact assessment regulations

The aim of an Environmental Impact Assessments (EIA) is to predict and assess if a proposed development is likely to cause significant adverse impacts on the environment, so that the effects of the development can be understood by the relevant decision maker. The EIA process also enables negative effects to be avoided, reduced or offset.

In the UK there are many pieces of regulation covering EIA. The two that are most relevant to Winfrith are described below.

The Town and Country Planning (Environmental Impact Assessment) Regulations (2017)

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 apply to development which is given planning permission under Part 3 of TCPA.

An EIA has been carried out and submitted in support of the End State application, submitted to Dorset Council in December 2025.

The Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations (EIADR)

Under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (EIADR), there is a legal requirement that operators of nuclear power stations (and nuclear reactors over a specified threshold) assess any likely significant environmental impacts from the decommissioning process. This has to be carried out as part of the request to ONR for consent to begin decommissioning.

Winfrith started decommissioning in the 1970s, before these regulations came into effect, so was not required to complete an original assessment to seek consent prior to commencing decommissioning. However, the site still needs to comply with Regulation 13 of this legislation as this applies to all decommissioning sites with a site license. Regulation 13 requires any changes or extensions to the decommissioning project to be assessed for any potentially significant environmental impacts.



4.4. Habitats Regulations Assessment

Under the Conservation of Habitats and Species Regulations 2017, a Habitats Regulations Assessment (HRA) also needs to be carried out by a competent authority to determine whether a development will have a significant adverse impact on European wildlife sites.

A report to support a shadow HRA has been submitted alongside the End State Planning Application in December 2025, in order to inform the authority's own HRA.

4.5. Environmental Permits

An environmental permit (or exemption) is required for specified activities under the Environmental Permitting Regulations 2016 if carrying out an activity that might pollute the air, water or land, increase flood risk, or adversely affect land drainage. This includes the treating and disposal of waste. Environmental permits are issued by the Environment Agency (EA) or the local council depending on the type of activity and potential impacts.

For nuclear sites there are specific permitting requirements to ensure protection to people and the environment from radioactive sources.

The management of all solid, liquid or gaseous radioactive wastes is regulated through the site's Radioactive Substances Activity permit and nuclear site licence. The permits are authorised under the Radioactive Substances Regulations (RSR). The permit defines conditions for radioactive waste disposals which include applying Best Available Techniques (BAT) in how these disposals are managed. Compliance with the permit is regulated by the EA.

Regulation of radioactive waste management activities will continue throughout the decommissioning phase of the site.

Guidance on Requirements for Release from Radioactive Substances Regulation (GRR)

In 2018, the UK environment agencies (including the EA) issued their 'Guidance on Requirements for Release from Radioactive Substances Regulations', known as GRR. This guidance describes what operators of nuclear sites must do, when planning and carrying out their work to decommission and clean up their sites in a manner that protects both the public and the environment.

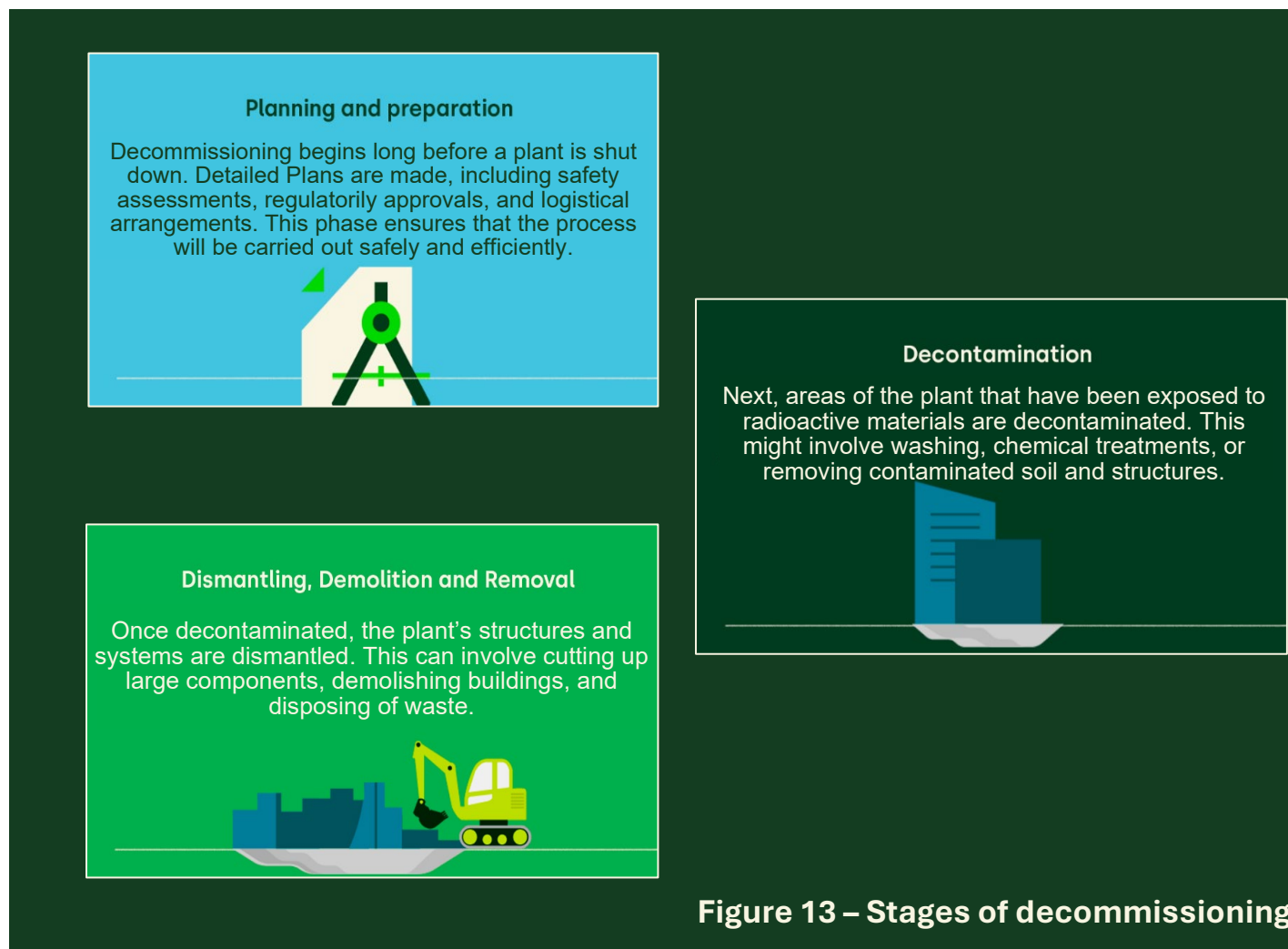
GRR's overall aim is for sites to reach a position where all activities involving radioactive substances have been completed. Following this there will be a period of monitoring to validate that any remaining hazards on site do not pose a risk to the public or environment.



Following the validation monitoring period the site may apply for the RSR permit to be surrendered and the site's future management will then be controlled through local planning arrangements.

To this end, the GRR requires:

- The management of radioactive waste to be optimised. This is completed by considering the pros and cons of the available options against the relevant safety, environmental, technical and socio-economic factors.
- The local community and other stakeholders to be consulted in defining the optimised approach to managing waste and the site End State.



5. Strategies

There are numerous strategies that have guided the work completed so far, as well as informing the proposed next stages of decommissioning at Winfrith.

5.1. Decommissioning Plan

Licence Condition 35 of the Nuclear Site Licence requires Winfrith to have a decommissioning programme. This programme is required to detail the key decommissioning and waste activities needed to take the site to a point that it can be delicensed. Delivery of the decommissioning plan is monitored by the ONR.

The decommissioning plan for the Winfrith site has been in place since the early 1990's. This has been followed for decommissioning of seven of the reactors, research laboratories and supporting buildings and infrastructure.

5.2. Waste Strategies

The waste management strategies for Winfrith site are consistent with regulatory requirements, NDA and government strategies.

Radioactive Waste Management

Winfrith conducts decommissioning and radioactive waste management activities under a Nuclear Site Licence and an RSR permit. For radioactive wastes, the requirement for considering the Optimised and BAT approach for managing radioactive waste is detailed in the site environmental permit. This is also a fundamental principle of the UK Strategy for the Management of Solid Low-Level Waste from the Nuclear Industry.

Waste management strategies for the Winfrith site are consistent with UK policy and strategy and will include:

- A combination of removal of some of the radioactive wastes to alternative sites for secure storage, pending specialist disposal sites being available, and disposal to permitted waste management organisations elsewhere in the UK.
- Remaining radioactive waste associated with the reactor concrete structures can be disposed on-site where demonstrated as safe and optimised to do so.
- The NDA strategy provides a UK wide overview of the approach to managing strategic assets in relation to radioactive waste management.
- For Intermediate Level Waste (ILW) the current strategy is to package waste suitable for the transport to the NRS Harwell site for interim storage, pending availability of a national disposal site.



Low Level Waste (LLW) is produced and managed in accordance with the UK national LLW policy and LLW programme, as well as waste stream specific BAT assessments. Wherever possible LLW is diverted from disposal, to either specialist metal recycling facilities or incineration.

Conventional Waste Management

Conventional (non-radioactive) waste, either currently accumulated on-site or to be generated through future operations and decommissioning will be managed via appropriate routes that prioritise use of the waste hierarchy.

The waste hierarchy places priority on reducing, reusing, recovering or recycling waste where this cannot be achieved. Disposal is the least favoured option for waste management.

Waste volumes information is outlined in Section 2 of this Masterplan.

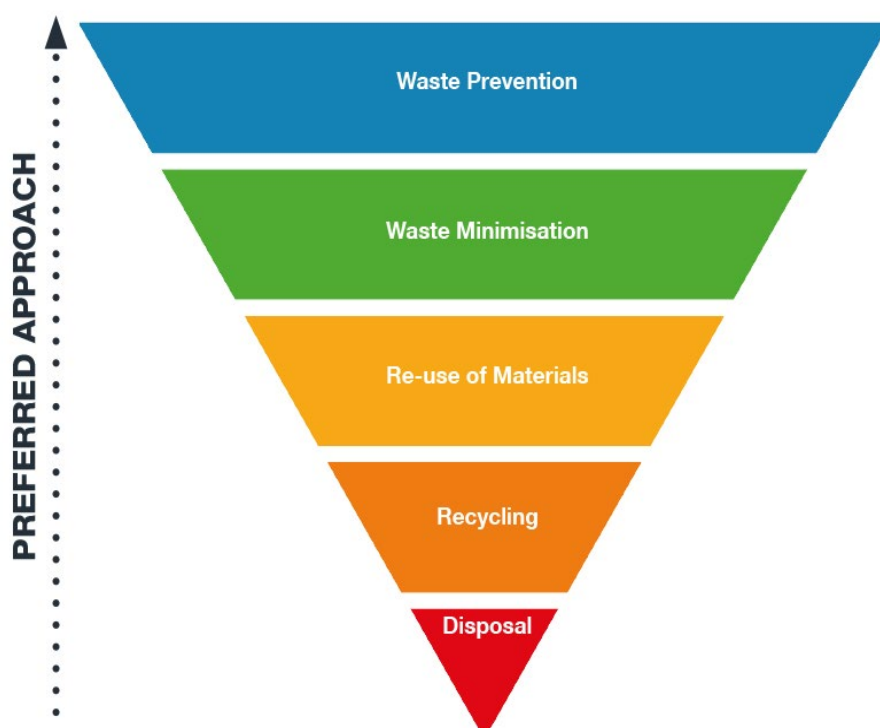


Figure 14 – Waste Hierarchy

(Image from Gov.uk Radioactive Waste Strategy September 2019)



5.3. Land contamination management strategy

Land contaminated with radioactivity is regulated in accordance with Nuclear Site Licence Condition requirements and nuclear industry protocols. The approach focuses on ensuring the risks to people and the environment are acceptable, minimised and managed appropriately. The potential presence of non-radioactive contaminants, including asbestos, is assessed alongside radioactive contaminants when determining whether remediation is required.

As the site approaches its End State, land will be assessed and, where required, remediated to levels that allow release from all regulation. As necessary, the appropriate consents will be obtained to facilitate ongoing remediation activities.

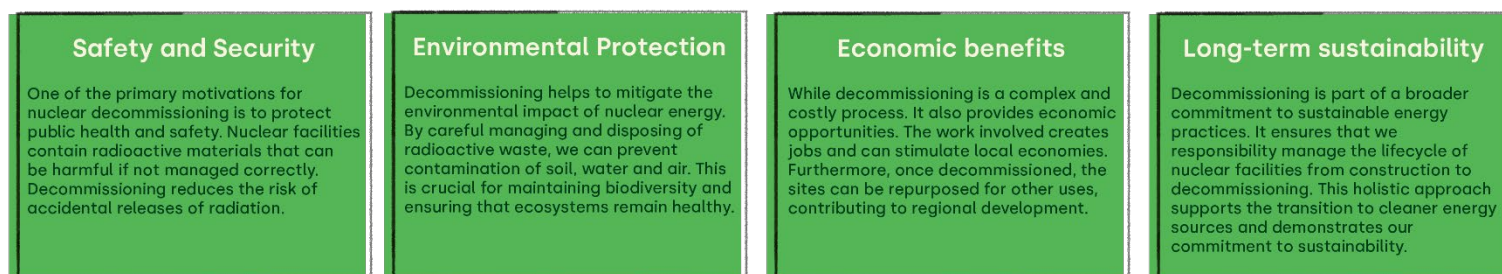
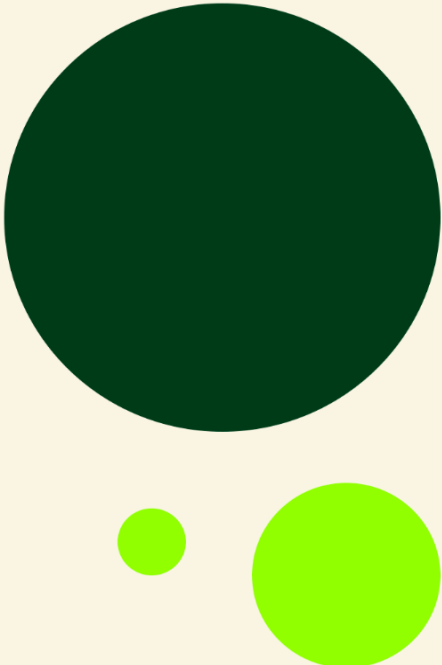


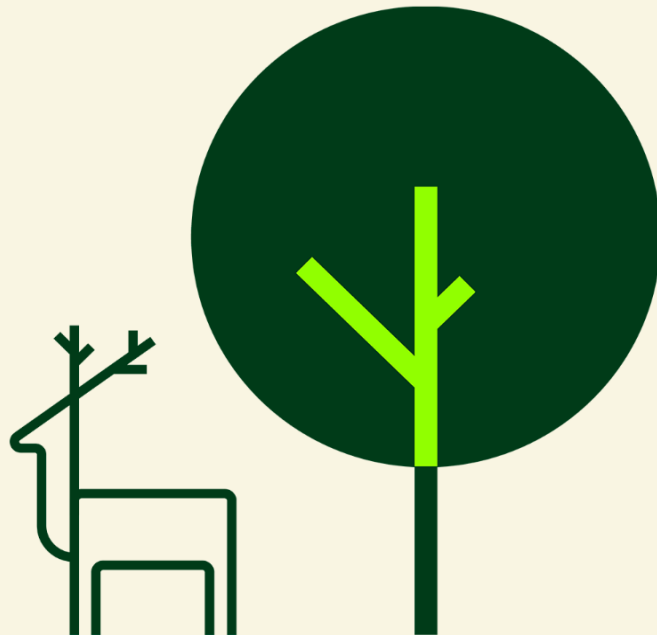
Figure 15 – Benefits of decommissioning





Section 2

Application and timescales



1. Decommissioning

The decommissioning and restoration of the Winfrith site is a complex programme of interlinked projects. These are brought together in a site wide schedule that makes up a programme of decommissioning works.

The timings of individual works can change in the overall schedule due to project interactions and government funding. These works include building demolitions and construction of temporary facilities to support activities such as site clearance and groundworks. The details of the activities needed to achieve our vision are outlined in the sections following.

The programme of decommissioning works started in the 1970s. To date, planning approval has been sought for individual decommissioning projects.

In 2017 the decommissioning programme of the site was reviewed to simplify delivery.

The outcome of this was:

- **The End State Planning Application**

A single planning application was submitted in December 2025 that encapsulates the development required to prepare the Winfrith site for its next land use. This is outlined later in this section in Part 2 - End State Application.

- **Other Permissions**

This covers the ongoing developments that have or are in the process of applying for planning permission (including permitted development), as well as any unforeseen additional works.

This is outlined in Part 3 of this section. It also includes Blacknoll reservoir and the Sea Discharge Pipeline which is outlined in Part 6 – Sea Discharge Pipeline.



1.1. Work summary

The remaining activities required to prepare the site for its next planned use are summarised below.

- Demolition of the SGHWR and Dragon reactors will have all remaining internal components removed before having their external size reduced. All Intermediate Level Waste (ILW) will be packaged for interim storage at the NRS Harwell site before final disposal. After all components are removed, structures will be decontaminated if needed and the underground basements will be backfilled with low-level radioactive material from the demolition, either as waste disposal or recovery activity. This is discussed in Background, Section 4.5.
- On-site ancillary buildings and structures such as ALES, offices, and waste stores will have all plant and equipment removed before conventional demolition. Sub-surface structures will be decontaminated to levels suitable for the next planned land use.
- The drainage network will be fully assessed to determine if radiological or non-radiological contamination remains. Where contamination levels are acceptable for the End State, the drains will be sealed and left in-situ. Where contamination exceeds regulatory thresholds, drains will be removed and disposed of as waste.
- If new remediation needs arise during decommissioning, NRS will secure the necessary permissions and consents, and will carry out the required work to ensure the site is suitable for its next planned use.
- Additional temporary developments will be required, including temporary buildings (for example portacabins or waste facilities). These will require minimal ground works and will be connected to existing utilities. Once no longer needed, both the buildings and their infrastructure will be removed from the site.
- The SSE (formerly Scottish and Southern Energy) sub-station will continue to be managed by SSE for as long as the need exists.
- Blacknoll reservoir will be backfilled to make the structure safe and avoid impacting the surrounding tumuli, which are scheduled ancient monuments.
- The Sea Discharge Pipeline will be removed and managed via an appropriately permitted route once planning permission(s) have been obtained.
- Local reprofiling of the site will be implemented to ensure the End State site configuration meets flood risk mitigation requirements and enables creation of suitable heathland habitats.



- The change of use of the Winfrith Site to heathland with public access. In areas formally occupied by buildings, heathland will be created through natural regeneration. This will be managed and monitored under a 30-year management plan.

The work package and activity type as well as key dates are outlined in Table 1 on the following page.

Table 1 – Decommissioning Work Packages Overview

Work package	Associated Buildings	Activity Type	Completed By
SGHWR	D60 SGHWR Facility and ancillary buildings	Demolition	2030s
Dragon Reactor	B70 Dragon Reactor and B78	Demolition	2030s
Dragon Ancillary Buildings	Offices and welfare facilities B701, B702, B711, B752, B71, B72, B724, B731, B75, B76	Demolition	2020/30s
Active Liquid Effluent System (ALES) Complex	Effluent processing buildings, offices and welfare facilities A524, A531, A533, A534, A535, A536, A537, A543, A53, A54, A541, A542, A547, A548, A549, A516	Demolition	2030s
Building A545	Office Block	Demolition	2030s
Building A544	Former test facility	Demolition	2030s
A6 Complex	Office and stores. A60, A66, A641, A621, A642,	Demolition	2030s
A7 Complex	Engineering and equipment stores A70, A71, A72, A73, A74	Demolition	Late 2020s
B5 Complex	Assorted offices and stores. B51, B52, B521, B53, B54	Demolition	Late 2020s
Building B55	B55 Treated Rad-Waste Store. Former ILW storage facility (empty).	Demolition	Late 2020s



Work package	Associated Buildings	Activity Type	Completed By
B63	B63 Vehicle Monitoring System	Demolition	2030s
A4 Complex	A42, A44 former fire station and telephone exchange	Demolition	Complete 2025
Blacknoll Reservoir	Former reservoir for emergency cooling water	Decommissioning	Late 2020's
Interim Curing Facility and Grout Curing Plant	Facility for mixing grout to produce ILW waste packages. In commissioning.	Retention	2030's
Portacabins	New temporary office accommodation required as old offices are demolished	Demolition/removal	2030's
Drains	Drainage system encompassing 7km of drains. On-going programme of decommissioning to assess and decommission as appropriate.	Decommissioning	Up to late 2030's
Main Gate Works	Road layout, parking and search bay	Construction	2030's
New Dragon Facilities	New Portacabins and New Tea Room to support staff through decommissioning operations	Construction	2030's
Sea Discharge Pipeline	Pipeline remains in use at current.	Decommissioning / removal	2030's
Transient Foul System	As the buildings across the site cease to be operational and become un-occupied, the corresponding Transient Foul System (TFS) sections will be decommissioned.		2030's



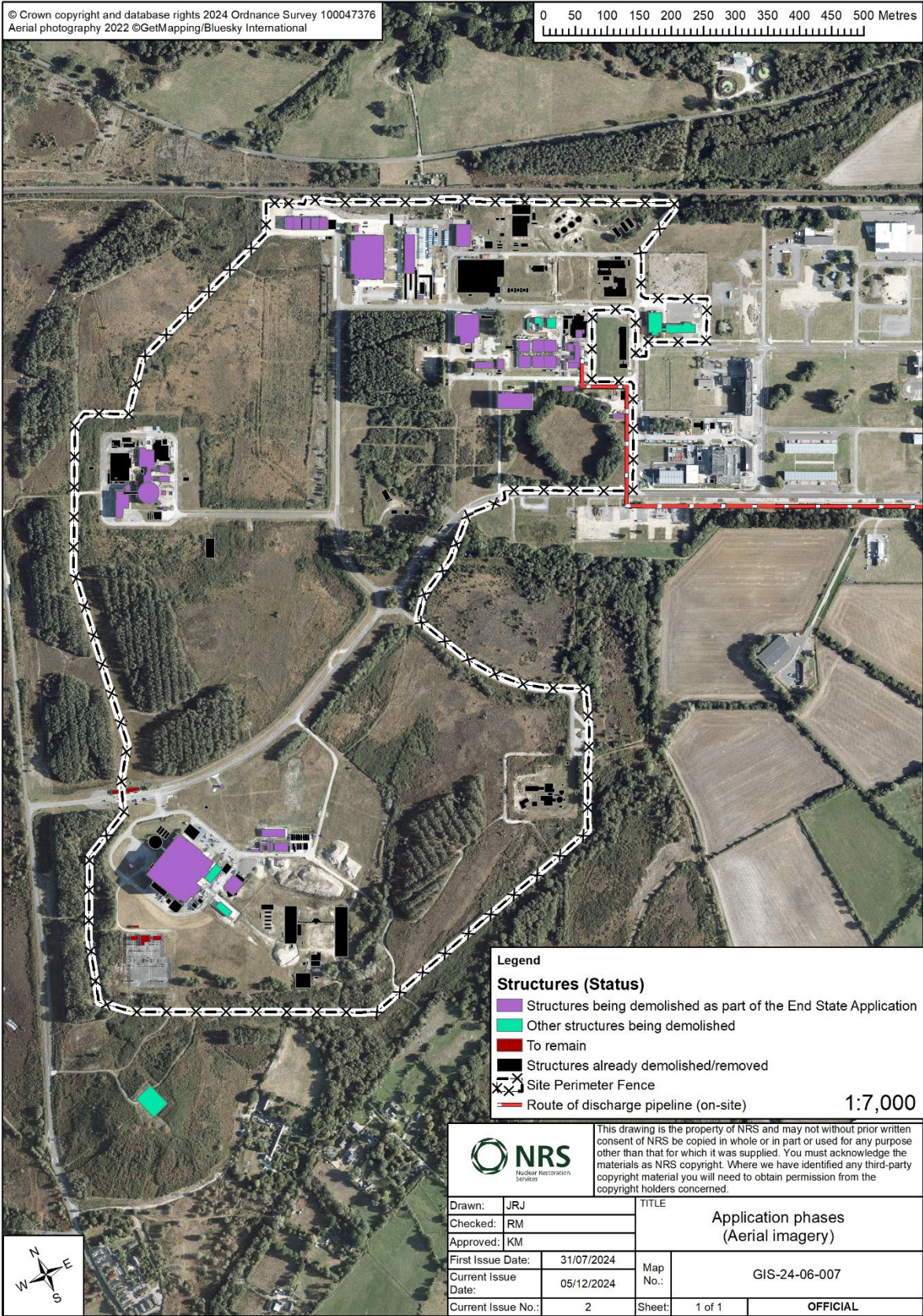


Figure 16 - Map of Winfrith site

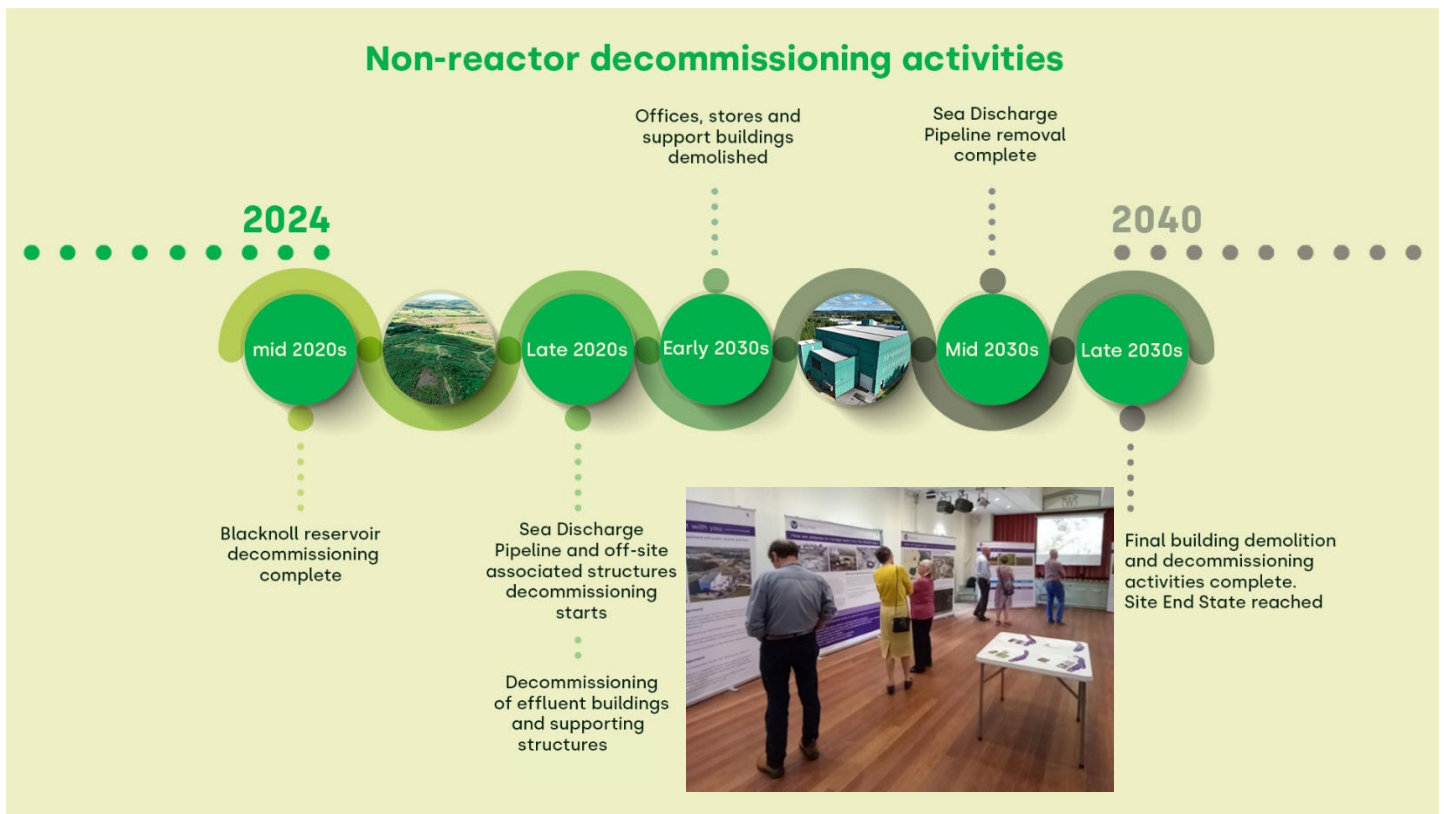


Figure 17 – Non-Reactor Decommissioning Activities

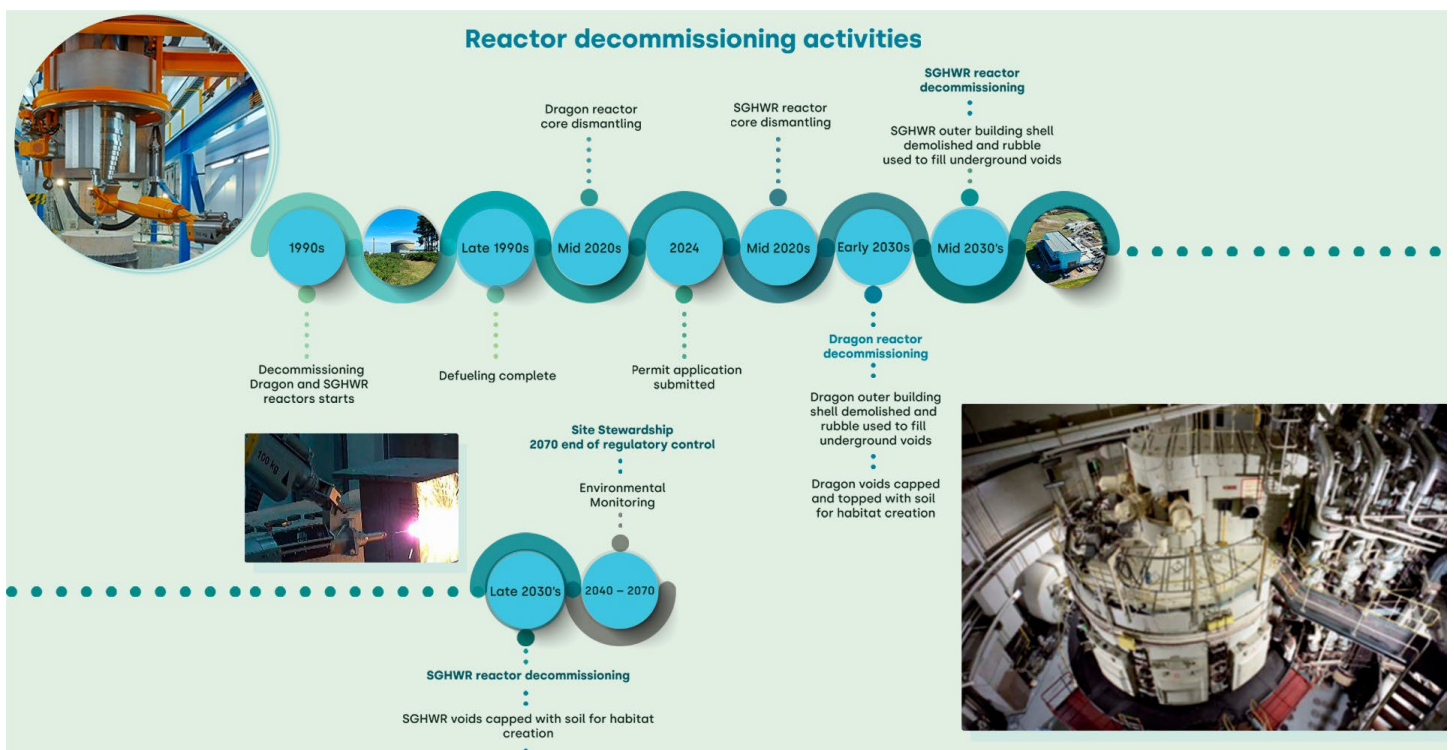


Figure 18 – Reactor Decommissioning Activities

2. End state application

A planning application that encapsulates most of the development required to achieve the decommissioning and regeneration of the site to deliver the next land use was submitted to Dorset Council in December 2025. This is referred to as the End State application.

This includes the demolition and on-site disposal of the two remaining reactors, the demolition of support buildings (not covered by existing planning permissions) and the re-profiling of part of the site to create optimal conditions for heathland with public access. More information on the regeneration of the site can be found in Part 5, Habitat Regeneration

An Environment Statement has been submitted to support the End State application for planning permission. For completeness the application includes demolition works which, if treated individually, would be classed as permitted development, subject to the prior notification / prior approval process. However, including these demolitions in the application has enabled cumulative impacts from the decommissioning works to be appropriately assessed. It also ensures alignment between the planning application submitted to Dorset Council and the permit applications submitted to the Environment Agency. The demolition works included in this application are set out in Table 2.

A new environmental permit (deposit for recovery permit) and a variation to the existing environmental permit were submitted to the Environment Agency in December 2024 to support the proposed decommissioning works.

In the event that additional works are necessary, there may be a need for additional planning and/or permit applications. This is outlined further in Part 3, Additional Permissions.



Table 2 – Main Planning Application Demolitions

Work package	Year of works	Main End State Planning Permission	DfR Permit	GRR Permit
Overview	<i>All</i>	<i>Planning permission for demolishing the reactor, backfilling voids and changing the use of the land</i>	<i>VOIDS filled with material from above ground structure and from existing rubble stockpiles (waste recovery operation)</i>	<i>GRR permit for disposal in-situ and for a purpose of radioactive wastes.</i>
SGHWR	2030s	☒	☒	☒
Dragon Reactor	2030s	☒	☒	☒
Dragon Ancillary Buildings	2020s	☒ *	☐	☐
ALES Complex	2030s	☒ *	☐	☐
Building A545	2030s	☒	☐	☐
Building A544	2030s	☒	☐	☐
A6 Complex	2030s	☒ *	☐	☐
A7 Complex	Late 2020s	☒ *	☐	☐
B5 Complex	Late 2020s	☒ *	☐	☐
Building B55	Late 2020s	☒ *	☐	☐
B63	2030s	☒	☐	☐

*If these activities were not part of the End State Planning application they would likely be permitted by the General Permitted Development Order (GPDO), subject to a prior notification process being carried out.



Assessment of Options

Options for managing waste from the final stages of decommissioning include on-site or off-site management. These options were assessed against a wide range of safety, environmental, technical and socioeconomic factors.

This process identified that disposal on-site of the large sub-surface concrete structures at the SGHWR and Dragon reactor is preferred across a large range of relevant factors, namely:

- Reduced risk to workers from both industrial and radiological hazards,
- Removes the need for a large number of lorry movements to and from the site (in exporting waste materials and importing infill materials) and therefore a reduced carbon footprint,
- Lowest cost option due to reduced scope of work, waste disposal as well as avoiding purchasing infill material, and
- Minimises impacts to habitats.

These benefits, alongside the very low risk presented to the public and the environment from on-site disposal, led to this option being selected as the preferred approach for the management of the waste arising from the demolition of the SGHWR and Dragon reactor.

This outcome has been informed and is supported by the views of stakeholders and the local community through successive community engagement throughout the development of the project.

This engagement will continue through the preparation and implementation of the on-site disposals.



Figure 19 – Benefits of on-site disposal

Winfrith Permit Applications

Winfrith operates under an environmental permit for radioactive substances issued by the EA. In accordance with the GRR, optimisation assessments have been completed incorporating community engagement and technical assessment. Following the assessment of options, the optimised End State for Winfrith's two remaining reactor buildings will be:

- Demolition of the above ground structures,
- Disposal of the radioactively contaminated underground structures in-situ (known as in-situ disposal), and
- Disposal of radioactively contaminated demolition arisings from the demolition of the above ground structures to fill the underground voids (known as disposal for a purpose).

Collectively, disposal in-situ and for a purpose is known as on-site disposal. In seeking approval for the proposed on-site disposals NRS have submitted a Site Wide Environmental Safety Case (SWESC) and Waste Management Plan (WMP) to the EA, as well as underpinning technical assessments. Together these documents demonstrate that the proposed on-site disposals of radioactive wastes meet the EA guidance set out in the GRR, including demonstrating the risks to people and the environment are low and within EA standards.

If the EA approve the application, then they will continue to regulate NRS through all stages of the project's delivery and the environmental monitoring phase following completion of each disposal.

The demolition of the above ground structures of the SGHWR and Dragon reactor will not generate sufficient material to fill the below ground voids. Therefore, NRS will supplement this material with non-radioactive demolition arisings previously generated elsewhere on site and currently stockpiled. A Deposit for Recovery (DfR) permit is required to enable non-radioactive demolition arisings to be used for this purpose. NRS has also submitted a DfR permit application to the EA alongside the GRR application.

These may not be the only activities that require environmental permits from the EA. NRS will request further permits as required throughout decommissioning.



3. Additional permissions

Separate from the End State planning application, de-planting, decommissioning, demolition and waste processing activities will continue on the site as part of the overall decommissioning.

There are also a number of enabling works being undertaken across the site to support decommissioning, including construction of temporary facilities and removing potentially contaminated soils. Each work package has been assessed and is subject to the appropriate planning or environmental controls. These are generally small-scale operations with localised potential for impacts.

The intention is that these development proposals are standalone and, where necessary planning requirements will be complied with.

These will be addressed and discussed with Dorset Council should the need arise. The Masterplan will be maintained to reflect developing understanding of the decommissioning programme.

These activities, as we currently understand them are outlined in Table 3 below.

This includes the Sea Discharge Pipeline, which is being managed as a separate development to the decommissioning of the main site. This is due to its on-going use, off-site location and complexities around land use, land ownership and statutory designations. The Sea Discharge Pipeline is further detailed in Part 6 of this section.



Table 3 – Other Decommissioning Works

Work package	Separate Planning Permission	General Permitted Development Order (GPDO)	Permits
Overview	<i>Separate planning permission for works needed</i>	<i>Demolition of buildings and structures is development that, subject to a prior notification process, would be permitted by the GPDO</i>	<i>GRR permit for disposal in-situ and for a purpose of radioactive wastes.</i>
A4 Complex demolition	☐	☒	
Blacknoll Reservoir	☒	☐	
Interim Curing Facility and Grout Curing Plant	☒	☐	
Foul Water Storage System removal	☐	☐	
Demolition / removal of 13 portacabins	☐	☒	
Drain Decommissioning	☐	☒	
Previously unknown contamination removal	☐	☐	
Main Gate Works	☒	☐	
New Dragon Facilities	☒	☐	
Sea Pipeline (See Section 6 for more information)	☐	☐	Potentially



4. Waste generation

The below section outlines the amount of both radioactive and conventional waste to be expected during each phase of the works, as required by the adopted Dorset Waste Plan.

4.1. Conventional Waste

The strategy for conventional waste management follows the NRS and NDA strategy and is consistent with requirements of the waste hierarchy to minimise waste generation, recycle, recover and reuse wherever possible, and dispose of waste as a last resort.

The amounts of conventional waste that are expected to be generated in each phase are outlined in Table 4: Conventional Waste Streams.

Table 4 – Conventional Waste Streams

Material	Volume (m ³)	
	2024-2025	2025- closure
Concrete	920	15,000
Masonry	360	<100
Mixed	<100	900
Sand	<100	600
Metal	<100	580
Other	100	350
Total	~ 1,400	~ 17,500

4.2. Radioactive Waste

The strategy for management of radioactive waste is in accordance with the NDA strategy.

The current waste inventory information is outlined in Table 5 Radioactive Waste Streams, with the largest volume to be generated through the remainder of the site lifecycle being LLW.

Table 5 – Radioactive Waste Streams

Material	Volume (m ³)		
	Reported on 1 April 2022	Estimated future arisings	Lifetime Total
High Level Waste	0	0	0
Intermediate Level Waste	<10	<100	<100
Low Level Waste	~ 800	~ 8,000	~8,000
Very Low-Level Waste	0	~ 1,250	~ 1,250



5. Habitat regeneration

This section shows the evolution of the habitats on the site moving from a working site to its final landform (End State). The figure below shows the habitat types that we are aiming to get after decommissioning, reprofiling and natural regeneration. Definitions of the habitat types in the map can be found in Appendix D.

Table 6 Target Habitats and Proposed Management on the Winfrith Site shows the natural change for each habitat type to achieve the vision and the proposed maintenance. This will ensure high quality habitats form and remain into the future.

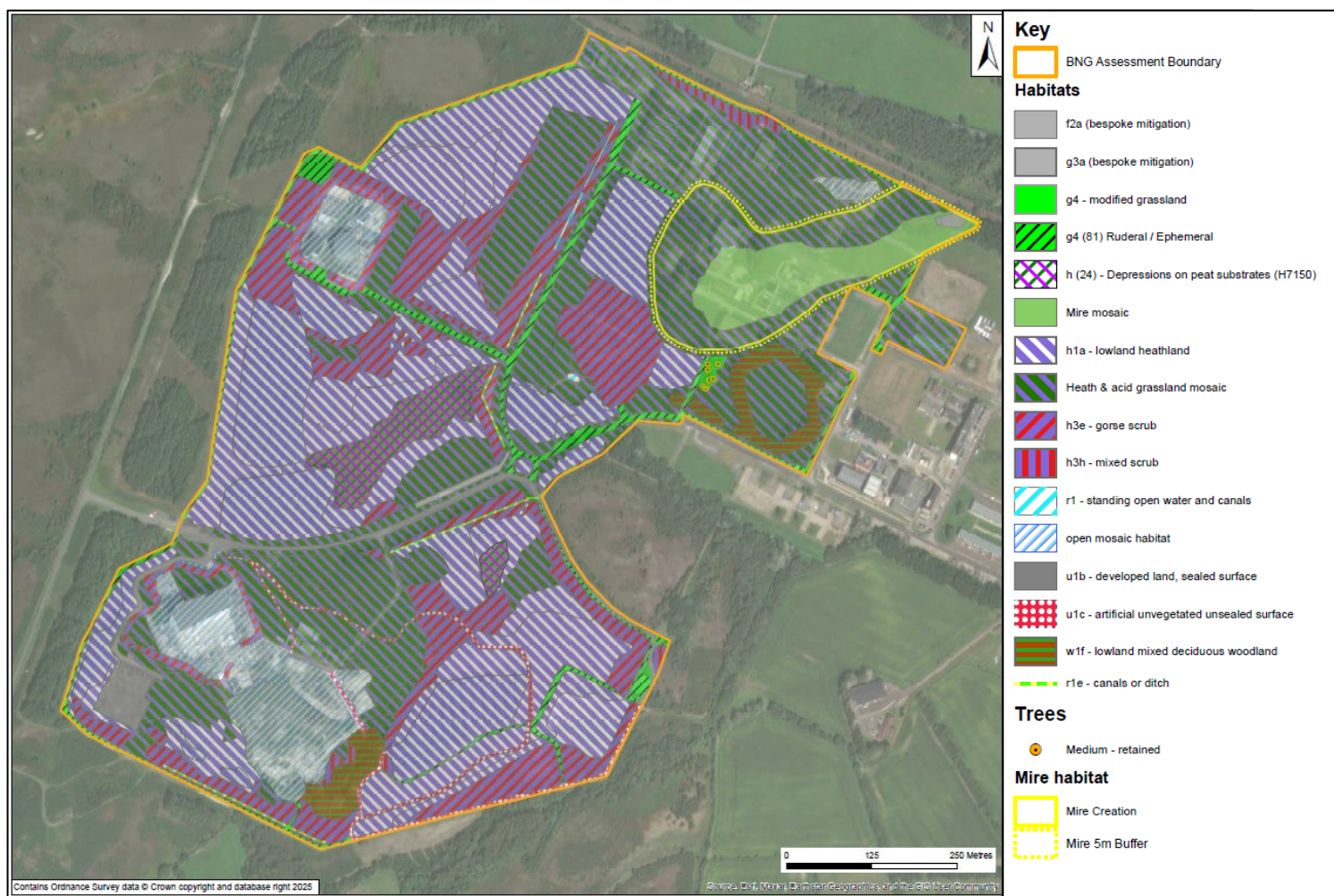


Figure 20 – Post development Habitats at Winfrith Site

Colours displayed are the UK habitat colour symbology

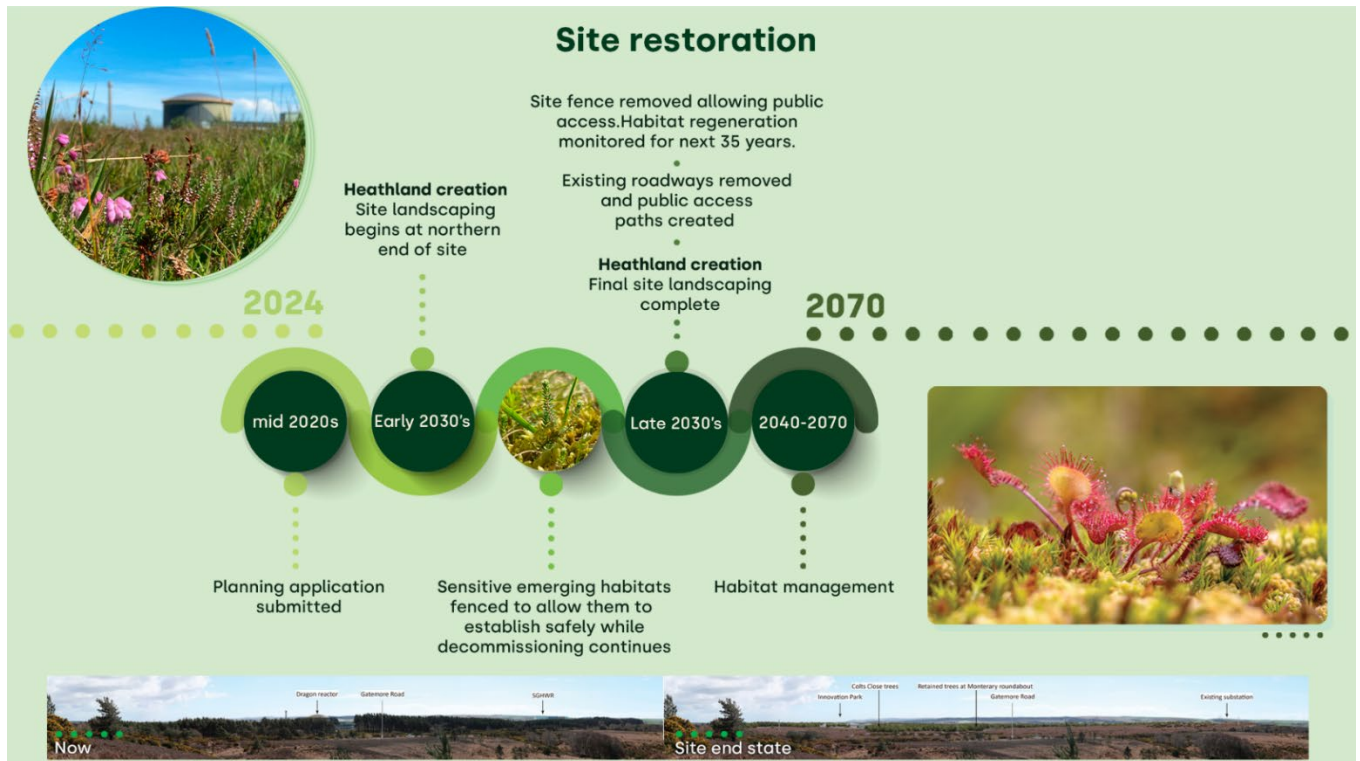


Figure 21 - Timeline of Site Restoration



Figure 22 – Site vision: Winfrith Site in 2060 after decommissioning

Table 6 – Target Habitats and Proposed Management on the Winfrith Site

Target habitat	Proposed management
Site wide (previously developed areas)	Natural regeneration of heathland vegetation will occur on very nutrient-poor soils, where an adjacent seed source is available. For areas where heathland will be left to regenerate naturally, the ground will be prepared prior to introduction of grazing and other management. Ground levels will be reprofiled to replicate Winfrith Heath (immediately to the west of Gatemoor Road), including variations in slope and aspect. Some areas of bare ground will be kept / created where possible. The landform will be visually inspected annually for damage.
Site wide	Fire breaks in the heathland will be created from existing maintenance access tracks. They will be inspected as required between June and August. Control of undesirable / invasive species such as bracken shall be conducted manually where possible.
Lowland heathland	Lowland heathland will be managed through grazing. This will create variation in habitat structure and age of dwarf shrub species. Scrub cover will be inspected annually to ensure grazing maintenance is successful. Undesirable species shall be removed mechanically. When required, scrub cover shall be reduced between November and February to avoid the bird nesting season.
Mire	The Winfrith Site will function as a natural valley (leading into the culvert beneath the railway line). During frequent rainfall events, rainwater will either infiltrate into the soils or runoff overland towards the mire. It will then flow through the mire to the culvert. During flood events, water will attenuate in the mire and will discharge over a number of hours, limiting the downstream flow rate. A grate will be installed over culvert mouth for health and safety. This will be monitored and cleared of vegetation every 6 months (or more frequently if required) to mitigate against restrictions to flow. The mire will be managed by grazing. This will create variation in the habitat structure and age of dwarf shrub species. Scrub cover will be inspected annually to ensure grazing maintenance is successful. Undesirable species shall be removed mechanically. When required, scrub cover shall be reduced between November and February to avoid the bird nesting season.
Lowland meadow and acid grassland	Lowland heathland will be managed through grazing. This will create variation in habitat structure and age of dwarf shrub species. Scrub cover will be inspected annually to ensure grazing maintenance is successful. Undesirable species shall be removed mechanically. When required, scrub cover shall be reduced between November and February to avoid the bird nesting season.



Target habitat	Proposed management
Open Mosaic Habitat	Open mosaic habitat requires minimal intervention with low density grazing. Scrub cover will be inspected annually to ensure grazing maintenance is successful. Undesirable species shall be removed mechanically. When required, scrub cover shall be reduced between November and February to avoid the bird nesting season.
Planted scrub	If needed, once scrub reaches maturity, periodic cutting will be required to control extent relative to the target for adjacent habitat. Scrub cover to be inspected annually to ensure grazing maintenance is successful. Undesirable species shall be removed mechanically. When required, scrub cover shall be reduced between November and February to avoid the bird nesting season.
Retained woodland	Necessary tree works will be carried out between November and February to avoid the bird nesting season. Fallen leaves and branches to be left in-situ, unless removal is required for health and safety. Logs / deadwood removed during management shall be stored in piles in the woodland to create habitat. Tree surgery works, or removal of vegetation shall be undertaken in accordance with the requirements of current published British Standard at the time of works



6. Sea discharge pipeline

The pipeline is made up of two pipes that run parallel to each other along its whole length. Each parallel pipe contains an inner pipe.

The strategy is to completely remove the sea discharge pipeline and manage the resultant waste via appropriate radioactive waste treatment and disposal facilities.

The detailed planning works for the removal have not started yet as it is still in use. The necessary consents, permission and permits to enable the removal of the pipeline will be applied for from the relevant bodies once the methodology for delivering the strategy has been confirmed.

The pipeline is nominally referred to in two sections: the terrestrial section and the marine section. The pipes are essentially the same in all sections but there are distinct local challenges and potentially different techniques needed to achieve safe removal for each section.

6.1. Terrestrial pipeline

This section runs from ALES through the site boundary to the MoD Lulworth and Bovington firing range, and it lies within several key environmental and historic designations.

The current strategy is to remove:

- both pipes (including inner and outer pipes) along its length,
- ancillary support structures including air valve pits and wash out pits,
- associated land contamination should it be identified.

Current proposed techniques assume an area of five metres either side of the Pipeline to be impacted during removal.

6.2. Marine and intertidal sections

The marine pipeline section runs through an area designated as marine SAC and is also located within the MoD leased land (intertidal area). The pipeline continues 3.7km into the English Channel.

A marine licence, under the Marine and Coastal Access Act 2009, will be required for the removal of this section.



Appendices

Appendix A – Abbreviations and acronyms

ALES	Active Liquid Effluent System
BAT	Best Available Techniques
BEIS	Department of Business, Energy and Industrial Strategy (now DESNZ)
BNG	Biodiversity Net Gain
DC	Dorset Council
DESNZ	Department for Energy Security and Net Zero
DfR	Deposit for Recovery
DIP	Dorset Innovation Park
EA	Environment Agency
EIA	Environmental Impact Assessment
EIADR	Environmental Impact Assessment for Decommissioning Regulations 1999
EPR	Environmental Permitting Regulations 2016
ES	Environment Statement
GPDO	General Permitted Development Order 1995
GRR	Guidance on Requirements for Release from Radioactive Substances Regulation
HRA	Habitats Regulations Assessment
ILW	Intermediate Level Waste
LA	Local Authority
LLW	Low Level Waste
LPA	Local Planning Authority
ML	Marine Licensing Act
MoD	Ministry of Defence
NDA	Nuclear Decommissioning Authority
NRS	Nuclear Restoration Services
NSL	Nuclear Site Licence



ONR	Office for Nuclear Regulation
RSR	Radioactive Substances Regulations
SAC	Special Area of Conservation
SGHWR	Steam Generating Heavy Water Reactor
SRS	Site Reference State
SPA	Special Protection Area
SSE	Formerly “Scottish and Southern Energy”
SSSI	Site of Special Scientific Interest
SWESC	Site Wide Environmental Safety Case
TCPA	Town and Country Planning Act
TFS	Transient Foul System
WMP	Waste Management Plan



Appendix B – Glossary

Biodiversity Net Gain (BNG)	A conservation approach ensuring development leaves biodiversity in a better state than before, typically by creating or enhancing habitats
Deposit for recovery (DfR)	Using non-radioactive wastes for an engineering purpose, instead of new materials
Disposal for a purpose	Using radioactive waste for a purpose, instead of new materials.
End State	The condition of an NDA site (or part thereof), (in this case Winfrith) following all physical decommissioning and clean-up activities required to conclude the NDA's mission for that site (or part thereof) – hence the site can be de-designated.
High Level Waste (HLW)	Waste where the temperature may rise significantly because of their radioactivity. The design of waste storage or disposal facilities has to take this into consideration.
HRA Competent Authority	• a public body that decides to give a licence, permit, consent or other permission for work to happen, adopt a plan or carry out work for itself, such as a local planning authority • a statutory undertaker carrying out its work, like a water company or an energy provider • a minister or department of government, for example that makes national policy or decides an appeal against another competent authority's decision • anyone holding public office, such as a planning inspector, ombudsman or commissioner
Intermediate Level Waste (ILW)	Exceeds the upper boundaries for Low Level Waste (see Low Level Waste) but does not generate a significant amount of heat.
In-situ disposal	Leaving a radioactively contaminated structure in place.
Low Level Waste (LLW)	Contains relatively low levels of radioactivity, not exceeding 4 giga-becquerel (GBq) per tonne of alpha activity, or 12 GBq per tonne of beta/gamma activity. About 94% of all radioactive wastes (by volume) are in the LLW category.
Nuclear site licence	Is a legal document issued by the ONR. It contains site-specific information, such as the licensee's address and the location of the site and defines the number and type of installations permitted. Such installations include nuclear power stations, research reactors, nuclear fuel manufacturing and reprocessing facilities, and radioactive waste stores.
On-site disposal	Encompassing in-situ disposal (leaving a structure in place) and disposal for a purpose.



Radioactive contamination	Any substance in situ in the ground or groundwater that would, if it were removed from the ground or groundwater, satisfy the definition of radioactive waste
Radioactive material	Material in which the concentrations of radionuclides are greater than the values specified in RSR
Radioactive substance	Any substance or article that satisfies the definitions of radioactive material or radioactive waste or radioactive contamination
Radioactive waste	Radioactive material that is no longer of use
Site Reference State	The condition of a nuclear site when it is fully compliant with the requirements for release of the site from RSR
Void	Spaces below ground level which have been stripped of machinery and associated infrastructure. Similar to an empty basement.
Zebra	Zero Energy Breeder Reactor Assembly facility – a former reactor that has been decommissioned and demolished at the south-east of the Winfrith Site



Appendix C – Dorset Council Policy 10

Policy 10 - Decommissioning and restoration of Winfrith Nuclear Licensed Site

The Waste Planning Authority will work constructively with the site license holder, the Local Planning Authority, statutory regulatory bodies and the local community to support decommissioning of the former Winfrith nuclear research and development facility and restoration to open heathland with public access. In determining planning applications for waste management development at the former Winfrith nuclear research and development facility, the Waste Planning Authority will have regard to the following objectives:

- a. The on-site recovery or disposal of waste originating from the decommissioning of the Winfrith facility will be permitted where it would demonstrably support the site's restoration to open heathland and public access, be in conformity with the waste hierarchy and the proximity principle, and would not cause unacceptable adverse impacts on the environment and amenity.
- b. Proposals should be supported by a masterplan to provide a clear and consistent framework for the development and in order to put each waste management proposal in the context of the overall decommissioning for the Winfrith site.
- c. The on-site storage of Low Level Waste and Intermediate Level Waste from legacy uses or decommissioning activities in existing or newly constructed safe facilities will continue until such times as the decommissioning programme and wider national waste management strategy allow for its movement to longer term storage, management or disposal facilities.
- d. Use of the rail sidings should be maximised where it is economically and logistically feasible to do so, both for the exportation of waste materials and for the importation and exportation of equipment needed for decommissioning of the site.
- e. The potential for vehicular access via Dorset Innovation Park should be investigated, in consultation with stakeholders, to minimise pressure from decommissioning traffic and waste movements upon Gatemoor Road and to secure greater use of the A352, in the interests of highway safety and amenity and
- f. The restoration programme should have regard to the opportunity for land at the northern end, which lies within the Dorset Innovation Park Enterprise Zone boundary, to be considered for uses which contribute to the Innovation Park's status as a strategic employment site. The Waste Planning Authority will seek sustainable outcomes for the local community in accordance with the policies of this Plan, having regard to the on-site designation and proximity of European designated nature conservation habitat, potential mitigation approaches, legacy opportunities and, if appropriate, any community benefits that are proposed.



Appendix D – Habitat descriptions

Habitat type	Description
Acid grassland	- Characterised by greater than 12 plant species per square metre. - Species include fine grasses, lichens and mosses - Species in addition include small rosette-forming species such as lesser hawkbit <i>Leontodon saxatilis</i> and mouse-ear hawkweed <i>Pilosella officinarum</i>, low-growing herbs such as sheep's sorrel <i>Rumex acetosella</i> and bird's-foot-trefoil <i>Lotus corniculatus</i>, and annuals such as common stork's-bill, <i>Erodium cicutarium</i> and parsley piert <i>Aphanes arvensis</i>. - No more than 10% scrub - No more than 10% bare earth
Gorse and mixed scrub	- Diversity of age, including seedlings, young shrubs and mature shrubs. - Absence of invasive non-native species - There are clearings, glades or rides present within the scrub, providing sheltered edges.
Heathland and acid grassland mosaic	30% heathland (see 'lowland heathland' target) and 70% other lowland acid grassland (as 'acid grassland' target).
Lowland heathland	- Characterised by at least 25% dwarf shrub - All age classes (pioneer, degenerate and mature) present with at least 10% pioneer heather - Presence of <i>Erica tetralix</i>, <i>Calluna vulgaris</i>, <i>Agrostis curtisii</i>, <i>Molinia caerulea</i> - No more than 20% scrub - No more than 20% bare earth
Lowland meadow	- Characterised by presence of species such as <i>Anthoxanthum odoratum</i>, <i>Agrostis capillaris</i>, <i>Festuca rubra</i> and <i>Cynosurus cristatus</i> with <i>Lotus corniculatus</i>, <i>Hypochaeris radicata</i>, <i>Achillea millefolium</i>, and <i>Leucanthemum vulgare</i> - No more than 20% scrub - No more than 20% bare earth
Lowland mixed deciduous woodland	80% of canopy trees and >80% of understory shrubs are native - Presence of veteran trees - Absence of invasive non-native species - No nutrient enrichment or damaged ground evident
Mire	- At least 25% dwarf shrub characterised by presence of <i>Calluna vulgaris</i>, <i>Erica tetralix</i>, <i>Molinia caerulea</i>, <i>Sphagnum</i>, <i>Drosea intermedia</i>, <i>Rhynchospora</i> sp., <i>Cladonia</i> lichen species and sedges - No more than 10% scrub - No more than 10% bare earth - Mire habitat waterlogged in winter



Habitat type	Description
Mire mosaic	Composition 25% ‘depressions on peat substrates’ (see ‘mire’ target) and 75% heathland (see ‘lowland heathland’ target).
Open Mosaic Habitat	Meets published criteria for OMH (JNCC 2010, accessible at: data.jncc.gov.uk/data/a81bf2a7-b637-4497-a8be-03bd50d4290d/UKBAP-BAPHabitats-40-OMH-2010.pdf)

