

## Introduction

The Submarine Dismantling Project (SDP) is the MOD's programme to deliver a safe, secure and environmentally responsible solution for dismantling 27 defuelled submarines. This involves recycling the bulk of the submarine and safely disposing of the remainder. The submarine's Reactor Pressure Vessel (RPV) contains Intermediate Level radioactive Waste (ILW) and must be stored for an interim period until it can be processed and sent to a proposed Geological Disposal Facility (GDF) sometime after 2040.

This Topic Summary provides information on some important safety and security topics.

## Public Safety

The safety of the local community and workforce is paramount where radioactive waste storage is concerned. It is therefore tightly regulated and the Office for Nuclear Regulation (ONR) and the Environment Agency or Scottish Environment Protection Agency (SEPA) as appropriate must approve plans for the store and its operation before any RPVs are moved to the site.

The radioactive component of RPVs consists only of steel that has become activated during the operational life of the reactor, with a certain amount of radioactive contamination on the internal surfaces. The RPVs will not contain nuclear fuel, nor any other highly radioactive material.

RPVs will be stored in a dried and sealed, and passively safe condition, and they will be enclosed within a robust container that will also be fully sealed. The RPVs themselves are largely self-shielding so radiation levels outside their thick walls are much reduced and the containers that they will be stored in further reduce the external radiation to levels that comply with regulations for transport on public roads.

The site operator will monitor the containers on arrival to confirm that they comply with all the safety standards and requirements before they are accepted into storage. Thereafter, a routine inspection regime will be required. There is currently no requirement for the RPVs to be removed from their containers whilst in interim storage. The RPVs and their containers will withstand external hazards such as fire and flooding without any release of radioactive material.

Nevertheless, the RPV store will be a secure facility with controlled access for both security and safety purposes. Unauthorised access will not be permitted and the security arrangements will be subject to regulation by both the safety and the security regulating authorities.

For the purposes of safety justification an upper limit of radiation of about one percent of the average background dose from naturally occurring radiation will be set, but the design of the store will reduce external radiation to be even lower than that. In reality, no member of the public in a public area neighbouring the site will experience any measurable dose from the store.

The inspection regimes sustained by the safety, environmental and security regulators that oversee the licensed site operator's safety and security management arrangements will provide full assurance the arrangements are suitable, sufficient and effective.

## Ongoing information for Communities

In order to prove that safety standards are adequate and that regulations are being complied with, the environment agencies routinely monitor radiation levels in the environment around nuclear sites and they assess its impact on flora and fauna in the locality as well as any implications for human health and well-being.

With the Food Standards Agency, they manage sampling and analysis of air, rain and drinking water sources for radioactivity. The results of these surveys, which can detect contamination down to very low levels, are published in the Radioactivity in Food and the Environment (RIFE) reports, which are publicly available online.

The MOD values and supports the activities of nuclear site stakeholder groups and local liaison committees in relation to both new programmes and current facilities. These bodies have an important role, offering constructive challenge on health, safety and environmental issues and programme delivery generally. They are regularly briefed by, and have the opportunity to question, senior site staff and regulators. They also review the RIFE reports.



## Our Regulators

### Office for Nuclear Regulation (ONR)

The Office for Nuclear Regulation (ONR) is responsible for regulating the health and safety of workers on Nuclear Licensed Sites and protecting the public. It ensures they are protected from radiation by making certain that the Site Licensees have effective control of health, safety, radioactive waste management and security on their sites. It principally enforces compliance with the Health and Safety at Work etc Act 1974 and the Nuclear Installations Act 1965 (although other statutes and regulations also apply). ONR will regulate the storage of RPVs through conditions attached to the Nuclear Site Licence.

[www.onr.org.uk](http://www.onr.org.uk)

### Environment Agency (EA)

The EA aims to protect and improve the environment and to promote sustainable development in England and Wales. For nuclear sites, it regulates how they manage and dispose of radioactive and other waste to protect people and the environment.

[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

### Scottish Environment Protection Agency (SEPA)

SEPA's main role is to protect the environment and human health in Scotland. It does this by regulating activities that can impact on the environment and human health and by monitoring the quality of Scotland's air, land and water.

[www.sepa.org.uk](http://www.sepa.org.uk)

### Defence Nuclear Safety Regulator (DNSR)

DNSR regulates the transport of Defence Nuclear Programme material under the same legislation as ONR regulates the transport of civil radioactive materials, including the RPV containers and transport to the RPV store. DNSR is a division of the Defence Safety and Environment Authority

[www.gov.uk/government/groups/defence-safety-and-environment-authority](http://www.gov.uk/government/groups/defence-safety-and-environment-authority)

## Security

Protection of the RPVs already has been - and will continue to be - given serious consideration by civil and military security teams.

The RPV store will be a secure facility. Unauthorised access will not be permitted and the security arrangements will be subject to regulation by the relevant safety and security authorities.

In addition to measures put in place to ensure the security of radioactive material, the sites will need to meet the requirements for protecting information under the Government's Security Policy Framework.

All nuclear sites and any radioactive waste stores within them are designed and operated to strict standards set out by the ONR Civil Nuclear Security Programme and the defence equivalent. Security measures are checked at the design stage and inspectors ensure that standards are maintained after that.

The RPVs in their containers present minimal risk to security, both from the point of view of the security of radioactive materials and from that of military espionage. The security arrangements for the shortlisted sites will be reviewed in detail by the Civil Nuclear Security team and the MOD's security specialists as appropriate but the current indications are that all shortlisted sites will meet the standards necessary for the storage of the RPVs.

RPVs will always be escorted during transport and will follow existing MOD policies for the transport of both radioactive and classified assets. Proposed arrangements will be agreed with civil and military security teams in line with their different responsibilities.

## More Information

Further information and all the SDP consultation documents are available at:

<https://www.gov.uk/government/publications/submarine-dismantling-project-interim-storage-of-intermediate-level-radioactive-waste>

In particular, see *Supporting Information on Planning and Permitting*.

