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11.1 INTRODUCTION

This sub-chapter introduces the purpose and scope of the Environmental Protection chapter in the generic Small Modular Reactor (SMR)-300 Generic Design Assessment (GDA). Interfaces with other chapters and assumptions made for the development of this chapter have also been outlined.

11.1.1 Purpose and Scope

During the construction, operation and decommissioning stages, the generic SMR-300 has a potential to have a range of radiological and non-radiological environmental impacts on the public and environment. At the GDA stage, likely effects are set out based on a generic design which could be used to support site-specific environmental permit applications for the new nuclear power station in England or Wales at a later stage.

This chapter describes how the fundamental objective (see sub-chapter 11.2) relevant to the environment case will be achieved in the development of the environment case. This chapter also describes the interfaces between the Preliminary Safety Report (PSR) and Preliminary Environment Report (PER), and summarises the environment aspects for the generic SMR-300 GDA, including an overview of legislation, policy, and environmental case route map relevant to this new nuclear development.

A master list of definitions and abbreviations relevant to all PSR Chapters can be found in PSR Part A Chapter 2 General Design Aspects and Site Characteristics [1].

11.1.2 Assumptions

There are no specific assumptions applicable to this chapter. The assumptions made within environmental topics can be found in individual PER chapters.

11.1.3 Interfaces with other SSEC Chapters

This chapter interfaces with multiple topics across the safety case and environment case. Table 1 below presents the primary linkages between this chapter and other Safety, Security and Environment Case (SSEC) chapters.

Table 1: Interfaces with other Chapters in the SSEC

SSEC Chapter	Interface
PER Chapter 1 Radioactive Waste Management Arrangements [2]	This chapter presents the management arrangements and strategy for radioactive waste and spent fuel arising over the lifecycle of the plant.
PER Chapter 2 Quantification of Effluent Discharges and Limits [3]	This chapter presents the estimated quantities and limits of liquid and gaseous effluents discharged during normal operation.
PER Chapter 3 Radiological Impact Assessment [4]	This chapter presents the methods and data for assessing the prospective environmental dose impact from discharges, of gaseous and aqueous-liquid effluents.
PER Chapter 4 Conventional Impact Assessment [5]	This chapter presents the information relating to conventional aspects of the generic SMR-300 design which have the potential to result in conventional environmental impacts, as well as the considerations of sustainability.
PSR Part A Chapter 1 Introduction [6]	This chapter provides the information required of the GDA process and the structure of the PER, which are applied in the development of the environment case.

SSEC Chapter	Interface
PSR Part A Chapter 2 Generic Design and Site Characteristics [1]	This chapter provides the general description of reference design facilities bearing on the radioactive waste management systems, generic site, design requirements and principles, the selection principles and selection approach of codes and standards of generic SMR-300, which contribute to the development of the environment case, e.g. Radioactive Waste Management Arrangements (RWMA), Radiological Impact Assessment and Conventional Impact Assessment.
PSR Part A Chapter 3 Claims, Arguments & Evidence [7]	This chapter summarises the Claims, Arguments & Evidence (CAE), which includes high-level claims that the environment case should substantiate in the GDA process.
PSR Part A Chapter 4 Lifecycle Management of Safety and Quality Assurance [8]	This chapter describes safety management and quality assurance applied during the GDA process and its requirements, which are suitable for the development of the environment case.
PSR Part A Chapter 5 Summary of ALARP and SSEC [9]	This PSR Chapter A5 aims to summarise the PSR and conclude whether the PSR Fundamental Objective has been met. It then draws together the outcomes of the Preliminary Environmental Report (PER), Generic Security Report (GSR) and Preliminary Safeguards Report (PSgR) against their objectives to demonstrate that the Fundamental Purpose of the SSEC has been met.
PSR Part B Chapter 1 Reactor Coolant System and Engineered Safety Features [10]	This chapter provides the design information about the Reactor Coolant System (RCS) and Engineered Safety Features (ESFs), which include relevant design aspects contributing to the development of the environment case, e.g. Best Available Techniques (BAT) demonstration.
PSR Part B Chapter 2 Fuel and Core Aspects [11]	This chapter provides design information about the reactor fuel and core design of the generic SMR-300 design, which include relevant design aspects contributing to the development of the environment case, e.g. BAT demonstration.
PSR Part B Chapter 5 Reactor Supporting Facilities [12]	This chapter provides the design information about auxiliary systems, Steam and Power Conversion Systems, and Heating, Ventilation and Air Conditioning (HVAC) systems of the generic SMR-300 design, which include relevant design aspects contributing to the development of environment case, e.g. BAT demonstration, RWMA, and Monitoring and Sampling.
PSR Part B Chapter 10 Radiological Protection [13]	This chapter provides a description on the source term of radioactive waste generated by the generic SMR-300, which contribute to the development of the environment case, e.g. RWMA, Quantification of Effluent Discharges and Limits, and Radiological Impact Assessment.
PSR Part B Chapter 13 Radioactive Waste Management [14]	This chapter provides the designs and operations of liquid, gaseous and solid radioactive waste treatment systems for the generic SMR-300, which include relevant design aspects contributing to the development of the environment case, e.g. BAT demonstration, and RWMA.
PSR Part B Chapter 19 Mechanical Engineering [15]	This chapter provides the design information about the mechanical engineering design of Structures, Systems and Components (SSCs), which include relevant design aspects contributing to the development of the environment case, e.g. BAT demonstration, and RWMA.
PSR Part B Chapter 20 Civil Engineering [16]	This chapter provides the design information about the civil engineering generic SMR-300 SSCs, which includes some facilities bearing on the radioactive waste management systems.
PSR Part B Chapter 23 Reactor Chemistry [17]	This chapter describes the reactor chemistry regime with focus on how the chemistry has been designed to minimise the radiological source term, which contribute to the development of the environment case.

SSEC Chapter	Interface
PSR Part B Chapter 24 Fuel Transport and Storage [18]	This chapter provides the design information about the generic SMR-300 fuel transport and storage operations, SSCs involved in fuel transport and storage and Operational Experience (OPEX) on the handling and storage of spent fuel, which contribute to the development of the environment case, e.g. BAT demonstration, and RWMA.
PSR Part B Chapter 26 Decommissioning Approach [19]	This chapter describes the detailed consideration for the decommissioning strategy and the design to facilitate decommissioning as well as the anticipated decommissioning wastes, which contribute to the development of the environment case, e.g. BAT demonstration, and RWMA.

The interfaces between this chapter and other PER chapters will be continually identified, as new chapters, e.g., Demonstration of BAT and Monitoring and Sampling, will be developed during the GDA.

11.2 CLAIMS, ARGUMENTS AND EVIDENCE

The PER chapters are developed in support of the environmental objective that underpins the environmental case for the generic SMR-300. The Fundamental Objective for the environmental protection in the CAE route map presented in PSR Part A Chapter 3 [7] is as follows:

The PER presents the environmental standards, criteria and management arrangements to provide confidence that the design, construction, operation and decommissioning of the Generic Holtec SMR-300 design protects people and the environment from harm and applies Best Available Techniques (BAT), incorporates relevant good practice and operating experience.

The primary purpose of a CAE approach is to capture the golden thread of a safety case and environment case narrative demonstrating how plant design and Operating Experience (OPEX) is brought together to support the Fundamental Objective. This Fundamental Objective will be achieved in the generic SMR-300 GDA through the demonstration of Claim 3 and Claim 4, as well as relevant sub-claims about the generic SMR-300 design.

The overarching SSEC claims are presented in PSR Part A Chapter 3 [7]. This chapter, alongside the PER and relevant PSR, links to the overarching claims through Claims 3 and 4:

Claim 3: Environmental principles are implemented such that the generic Holtec SMR-300 design meets the Environmental Objective.

Claim 4: The generic Holtec SMR-300 design is developed so far as is reasonably achievable to provide optimal protection of people and the environment.

Claim 3 is supported by two sub-claims:

Sub-claim 3.1: The generic Holtec SMR-300 design identifies relevant regulatory principles and requirements to meet the Environmental Objective.

Sub-claim 3.2: The generic Holtec SMR-300 design and environment assessment addresses relevant regulatory principles and requirements considering the entire reactor lifecycle in the development of the Environment Case.

Claim 4 is supported by seven sub-claims:

Sub-claim 4.1: The generation of all radioactive wastes is prevented where achievable, or otherwise minimised as low as reasonably achievable.

Sub-claim 4.2: Where prevention is not possible, the mass and/or volume of radioactive wastes, including discharges, disposals and releases to other premises is minimised as low as reasonably achievable.

Sub-claim 4.3: The activity of radioactive wastes from discharges, disposals and releases to the environment is minimised as low as reasonably achievable.

Sub-claim 4.4: The impacts of radioactive wastes, including discharges, disposals and releases, on workers, the public and the environment is minimised as low as reasonably achievable.

Sub-claim 4.5: Pollution from non-radioactive substances in, or any non-radiological properties of radioactive wastes is prevented and/or excluded where achievable, or otherwise minimised as low as reasonably achievable.

Sub-claim 4.6: Conventional environmental impacts are minimised as low as reasonably achievable.

Sub-claim 4.7: The generic Holtec SMR-300 includes appropriate monitoring and sampling arrangements for measuring and assessing discharges, disposals and releases of radioactive waste to demonstrate compliance with the proposed limits and provide an indication of plant performance.

The claims and sub-claims presented within this chapter will be substantiated by a suite of arguments to connect the claims to the available supporting documentation (evidence), which is commensurate with the GDA scope. The PER chapters, as well as relevant PSR Chapters identified in Table 1, will collectively contribute to the development of the environment case within the GDA process, and the substantiation of these environment claims.

The CAE route map for the environment case is summarised in Appendix A. The demonstration of BAT for generic SMR-300, which is under development, will provide the arguments and limited evidence on the generic SMR-300 design in line with HI-2240359, Approach and Application of the Demonstration of BAT [20] to substantiate the environmental claims.

11.3 ENVIRONMENTAL LEGISLATION AND POLICY

This section outlines the regulatory context, legislation and policy set out across the environment case, which the generic SMR-300 must adhere to in order to protect people and the environment from harm throughout the lifecycle of the plant.

11.3.1 GDA Regulatory Context

The GDA process was developed by the Environment Agency (EA) and Office for Nuclear Regulation (ONR) to ensure high standards are met when designing new build nuclear power stations in Great Britain. Further details regarding the GDA process for new nuclear power stations built in Great Britain are described in the New nuclear power plants: Generic Design Assessment guidance for Requesting Parties (RPs) document [21]. Where a plant is likely to be constructed and operated in Wales, Natural Resources Wales (NRW) will be involved in the process for this GDA and carry out relevant assessments.

During the GDA process, before a Radioactive Substances Regulations (RSR) permit is authorised and in place, potential permit applicants and proposed nuclear facilities can utilise the RSR: Objectives and Principles [22] and RSR Generic Development Principles: Regulatory Assessment documents [23], which would underpin the permit conditions within a future site-specific RSR permit. Within the GDA process, relevant RSR principles have been considered appropriately in the development of the environment case. Further details can be referred to in individual PER chapters [2] [3] [4], and the BAT demonstration approach [20].

11.3.2 Relevant Legislation and Policy

International Basic Safety Standards for Radiation Protection are based on the recommendations of the International Commission for Radiation Protection (ICRP) [24]. The recommendations of the ICRP are incorporated into European Union (EU) Law via Council Directive 2013/59/EURATOM [25].

Internationally the ICRP recommendations form the basis for the International Atomic Energy Agency (IAEA) standards, including IAEA International Basic Safety Standard [26] and IAEA General Safety Guidance-9 [27], which are widely used by governments, regulatory bodies, and operators to ensure that discharges are minimised to reduce harm to the workers, public and the environment.

The EA and NRW are responsible for regulating the discharge of aqueous and gaseous effluents and disposal of solid waste under schedule 23 of the Environmental Permitting (England and Wales) Regulations 2016 (as amended 2018) (EPR16) [28] and Ionising Radiation Regulations 2017 [29].

In addition, some examples of conventional plant including auxiliary boilers, temporary energy generators, combustible waste, and discharges to surface water and groundwater will be regulated under EPR16 [28]. The EA and NRW together also regulate storage of substances under the Fluorinated Greenhouse Gases (F-gases) Regulations 2015 [30], and the Ozone-Depleting Substances (ODS) Regulations 2015 [31], which relate to F-gases and ODS spent during the operation of a nuclear power facility. In addition, they are also responsible for the Control of Major Accidents Hazards Regulations (COMAH) [32] relating to safe storage of substances on site.

More details, including codes and standards, and guidance related to environmental topics, can be found in individual PER chapters [2] [3] [4] [5] and in the BAT demonstration approach [20].

11.4 THE ENVIRONMENTAL IMPACTS OF THE SMR-300 GDA

11.4.1 Compliance of GDA Information Requirements

To guide the development of the environment case for a new reactor power plant in the UK, New nuclear power plants: Generic Design Assessment guidance for Requesting Parties [21] details the information required for the environment case for the whole GDA process.

To undertake a meaningful assessment for the environment case in Step 2, the GDA guidance [21] also describes the required information that should be prepared for the Step 2 assessment, which are presented in Table 2. The compliance analysis of these requirements against the SMR-300 GDA submission is undertaken to demonstrate where these information requirements are addressed appropriately in the development of environment case, alongside the safety case. The details are presented in Table 2.

Table 2: Compliance of GDA Information Requirements

Information Requirements	Chapter of SMR-300 GDA
Relevant plant and process descriptions – including engineering drawings, process flow diagrams and other information that will help us understand the nuclear power plant design, its underpinning design philosophy, and its environment protection features.	PSR Part A Chapter 2 [1] – provides the general descriptions of the SMR-300 site layout and main buildings within the scope of the GDA. Detailed information about generic SMR-300 design are available in following chapters within relevant PSR and PER, including: • PSR Part B Chapter 1 [10]: RCS and ESFs of the generic SMR-300 plant. • PSR Part B Chapter 2 [11]: Reactor fuel and core design. • PSR Part B Chapter 5 [12]: Auxiliary systems, steam and power conversion systems, and HVAC systems. • PSR Part B Chapter 13 [14]: Liquid, gaseous and solid radioactive waste systems. • PSR Part B Chapter 19 [15]: Mechanical engineering design of SSCs. • PSR Part B Chapter 20 [16]: Civil engineering design • PSR Part B Chapter 24 [18]: Fuel transport and storage design. • PER Chapter 1 [2]: Liquid, gaseous and solid radioactive waste management arrangements.
A description of the type of sites where the power plant could be built (the generic site) – where potential sites are known, this description should include their environmental characteristics and constraints, such as protected habitats.	PSR Part A Chapter 2 [1] – provides the general description of generic site and site characteristics.
Strategies, methods, models, and standards that the RP will use to demonstrate design acceptability	PSR Part A Chapter 2 [1] - provides the general description of design requirements and principles, reference design for GDA and US reference plant, the selection principles and overview of codes and standards of the generic SMR-300. All other SSEC chapters describe the individual topics' codes, standards, methods and/or models.
Information on the source of radioactive waste arisings ('source term') in line with our joint regulatory interests with ONR in the minimisation of radioactive waste and the management of higher activity wastes, as detailed in ONR GDA Technical Guidance 007	PER Chapter 1 [2] – describes the source of radioactive waste including spent fuel arising from the lifecycle of generic SMR-300. PSR Part B Chapter 10 [13] – describes the source terms of radioactive waste.

Information Requirements	Chapter of SMR-300 GDA
The quantities and types of radioactive waste (gaseous, liquid and solid), including more challenging wastes, and spent fuel that are likely to arise during normal operations and in decommissioning	PER Chapter 1 [2] – describes information about solid radioactive waste and spent fuel. PER Chapter 2 [3] – describes information about liquid and gaseous radioactive waste. A tier 2 report will also document the waste inventory
A description of gaseous, liquid and solid waste management systems and their proposed operations	PER Chapter 1 [2] – provides the general information about the design and operations of gaseous, liquid and solid radioactive waste management systems. PSR Part B Chapter 13 [14] – provides the detailed design and operations of gaseous, liquid, and solid radioactive waste management systems.
Information on applicable OPEX and RGP for radioactive waste management, decommissioning and the spent fuel interim store (SFIS)	PER Chapter 1 [2] – provides general information on RGP and OPEX relevant to radioactive waste management, decommissioning and SFIS.
The likely impact on people and the environment of any proposed discharges of gaseous and liquid radioactive wastes.	PER Chapter 3 [4] – provides information and methods for prospective dose calculation relating to the likely impact on people and the environment of proposed discharges of gaseous and aqueous-liquid radioactive effluents.
A credible plan to obtain a view from Nuclear Waste Services (NWS) on the disposability of any solid radioactive waste arisings, including more challenging wastes and non-radiological hazardous substances arising across the reactor lifecycle.	PER Chapter 1 [2] – describes the requirements of disposability assessment in the environment case development.
The assessment of radioactive waste should address the waste form and any non-radioactive components that could have a bearing on its management and disposability.	
During its engagement with NWS, the Requesting Party (RP) should identify any challenges the waste streams may present to the waste acceptance criteria for disposal facilities.	
A credible plan to obtain a view from NWS on disposability of more challenging Low-Level Waste (LLW) arisings.	
Information about conventional aspects of the design, including potential impacts on people and the environment of discharges from back-up generators, cooling and process water discharges, other waste disposals, and information about their approach to applying BAT (where applicable).	PER Chapter 4 [5] – provides information about conventional impact assessment. PER Chapter Demonstration of BAT – is under development in line with BAT demonstration approach [20], which aims to illustrates how the approach and methodology set out for BAT during the GDA is applied through a CAE Approach.
The RP's approach and methodology for determining BAT to prevent or minimise radioactive wastes and their impact during the lifecycle of the plant – design, construction, commissioning, operation, and decommissioning.	PER Chapter Demonstration of BAT – is under development in line with BAT demonstration approach [20], which aims to illustrates how the approach and methodology set out for BAT during the GDA is applied through a CAE Approach.
Worked examples demonstrating the BAT approach and methodology sufficient to provide confidence that any fundamental concerns should be identified in GDA.	Worked Examples are under development in line with BAT demonstration approach [20] to provide an example to illustrate how the application of BAT is demonstrated within the generic SMR-300 BAT Case using the full CAE framework.
Information about how the RP has taken account of Environment Agency guidance, including our radioactive substances regulation (RSR): objective and principles and RSR generic developed principles: regulatory assessment – we expect the RP to be familiar with the developed principles and address their requirements in the submission.	All relevant RSR principles are captured by environmental topics, and described in the PER chapters [2] [3] [4], as well as the Approach and Application to the Demonstration of BAT [20]. PSR Part A Chapter 4 [8] - presents the management and leadership for GDA process, which consider principles in Management and leadership for the environment: Generic Developed Principles [33].
The RP's considerations at the design stage for meeting the joint regulators' guidance on the decommissioning of nuclear sites and release from regulation.	PER Chapter 1 [2] – provides general information on decommissioning strategy, design aspects to facilitate the decommissioning, and decommissioning waste management arrangements. PSR Part B Chapter 26 [19] – provides more details about the decommissioning approach.

Information Requirements	Chapter of SMR-300 GDA
Information on how sustainability is taken into account in decisions relating to the design.	PER Chapter 4 [5] – describes the overview of sustainability in the generic SMR-300 design. Other PER chapters describe individual topics' considerations of sustainability where relevant.
Information on how climate change adaptation is taken into account in decisions relating to the design.	PSR Part A Chapter 2 [1] - describes the approach to UK Climate Projection, which is considered as the RGP for estimating the effects of climate change and has been applied to account for reasonably foreseeable climate change over the lifecycle of the generic SMR-300.

11.4.2 Summary of the Environment Case

11.4.2.1 Demonstration of BAT

BAT applies across the full lifecycle of a nuclear facility and must be considered in design, construction, commissioning, operation, and decommissioning phases of the generic SMR-300 design. The BAT demonstration approach [20] is to lay out the methodology for the application of BAT as well as regulatory principles and requirements applicable to BAT in the context of the generic SMR-300 in a tier 2 document.

It is the intention of generic SMR-300 to consider BAT hand in hand with As Low as Reasonably Practicable (ALARP) as a single, holistic optimisation process. The RP will be applying the CAE method in the prospective BAT demonstration PER chapter for the generic SMR-300. This will provide consistency both with the PSR and with previous and recent GDAs.

PER Demonstration of BAT for the generic SMR-300, which is under development, will provide arguments and limited evidence on the generic SMR-300 design to substantiate the claims made in sub-chapter 11.2. It will show that the Holtec generic SMR-300 design can be demonstrated to be BAT in line with other regulatory requirements and expectations, OPEX and Learning from Experience (LfE).

11.4.2.2 Radioactive Waste Management Arrangements

PER Chapter 1 [2] presents the proposed arrangements for the management of radioactive waste and spent fuel arising over the lifecycle of the generic SMR-300, with due consideration of the appropriate RSR principles and GDA guidance.

Wastes arisings from the generic SMR-300 are expected to include radioactive solid, liquid and gaseous waste from operation and decommissioning, and spent fuel. Descriptions of each of the anticipated waste streams are provided along with descriptions of the waste management systems, which describe how each waste is expected to be managed from generation to disposal.

As the GDA progresses, the RWMA will be developed further, in order to undertake a meaningful assessment of RWMA commensurate with GDA scope.

11.4.2.3 Quantification of Effluent Discharges and Limits

PER Chapter 2 [3] describes the methodologies and approaches for assessing and reporting prospective effluent (aqueous and gaseous) discharges from the normal operation phases of the generic SMR-300 design, as well as the methodologies for setting limits for effluent discharges.

This chapter includes the regulatory context, explanation of the source term and how it will be developed, the method for calculating discharges to the environment, the method for calculating the limits to these discharges, and an explanation of how discharges from the generic SMR-300 will be compared to discharges from other Pressurised Water Reactors (PWRs), as well as analysis of expected events. The source term and the discharges to justify limits and predictions will be developed as GDA progresses. OPEX is being compiled for comparison and for source term purposes.

11.4.2.4 Radiological Impact Assessment

PER Chapter 3 [4] provides the methodology for the assessment of the radiological impact of the normal operation of the generic SMR-300 on members of the public and the environment.

The EA's Initial Radiological Assessment Tool version 2 (IRAT2) calculation spreadsheets will be used to undertake an assessment of dose from aqueous-liquid and gaseous effluent discharges to the most exposed members of public, and the representative person., Dose rates to non-human species is also considered. Assessment methodologies will be developed for assessments that cannot be completed until a site has been chosen. To complete a generic assessment, two separate generic sites were defined, and summarised in PSR Part A Chapter 2 [1].

11.4.2.5 Conventional Impact Assessment

In line with GDA guidance [21], PER Chapter 4 [5] is developed to address the conventional environmental aspects including:

- Water use and abstraction.
- Discharges to surface water.
- Discharge to groundwater.
- Operation of installations.
- Operation of medium combustion plant and specified generators.
- Control of Major Accident Hazards Regulations.
- Fluorinated greenhouse gases and ODS.

Due to the early stage of design development, the assessment of conventional impact in this chapter is currently high level. Conventional environmental aspects will be assessed in greater detail commensurate with GDA scope as GDA progresses.

This chapter also details how sustainability is currently considered in the generic SMR-300 design in relation to numerous sustainable development goals, and how sustainability may be developed at the GDA stage and specific-site stage.

11.5 REFERENCES

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11.6 LIST OF APPENDICES

Appendix A CAE Route Map

Table 3: Environment Case CAE Route Map

Overarching SSEC Claim	Chapter Sub-Claim/s
Claim 3 – Environmental Principles Environmental principles are implemented such that the generic Holtec SMR-300 meets the Environmental Objective.	**Sub-claim 3.1 – Regulatory Principles and Requirements** The generic Holtec SMR-300 design identifies relevant regulatory principles and requirements to meet the Environmental Objective.
	Sub-claim 3.2 – Full Lifecycle Assessment The generic Holtec SMR-300 design and environment assessment addresses relevant regulatory principles and requirements considering the entire reactor lifecycle in the development of the Environment Case.
Claim 4 – Environmental Protection The generic Holtec SMR-300 design is developed so far as is reasonably achievable to provide optimal protection of people and the environment.	**Sub-claim 4.1 – Generation of Radioactive Wastes** The generation of all radioactive wates is prevented where achievable, or otherwise minimised as low as reasonably achievable.
	Sub-claim 4.2 – Volume of Radioactive Wastes Where prevention is not possible, the mass and/or volume of radioactive wastes, including discharges, disposals and releases is minimised to as low as reasonably achievable.
	Sub-claim 4.3 – Activity of Radioactive Wastes The activity of radioactive wastes from discharges, disposals and releases to the environment is minimised as low as reasonably achievable.
	Sub-claim 4.4 – Impacts of Radioactive Wastes The impacts of radioactive wastes, including discharges, disposals and releases on workers, the public and the environment is minimised as low as reasonably achievable.
	Sub-claim 4.5 – Non-Radioactive Aspects of Radioactive Wastes Pollution from non-radioactive substances in, or any non-radiological properties of radioactive wastes is prevented and/or excluded where achievable, or otherwise minimised as low as reasonably achievable.
	Sub-claim 4.6 – Conventional and Non-Radioactive Wastes Conventional environmental impacts are minimised as low as reasonably achievable.
	Sub-claim 4.7 – Monitoring and Sampling The generic Holtec SMR-300 includes appropriate monitoring and sampling arrangements for measuring and assessing discharges, disposals and releases of radioactive waste to demonstrate compliance with the proposed limits and provide an indication of plant performance.