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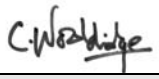
Approved for EDF by: A. PETIT *Name/Initials*  *Date* *30-03-2011*		Approved for AREVA by: C. WOOLDRIDGE *Name/Initials*  *Date* *30-03-2011*

REVISION HISTORY

Issue	Description	Date
00	First issue	25-09-2009
01	Minor editorial changes	03-11-2009
02	Update taking into account : - HSE guidance of February 2010 - March 2011 PCSR (PCER) update and supporting document issued since end of 2009.	30-03-2011

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SUMMARY

This report is a mapping document that shows, how a Radioactive Waste Management Case (RWMC) can be achieved for the UK EPR. It has been produced to support the Generic Design Assessment (GDA) of the UKEPR.

The wastes considered are the higher activity radioactive wastes, including spent fuel, that are generated during operation, maintenance and decommissioning of a UKEPR. Intermediate Level Waste (ILW) and Spent Fuel are dealt with separately in this document so as to provide clear and concise references and to conform to the guidance provided to nuclear licensees by the regulators, HSE, EA and SEPA [3].

This mapping for the RWMC provides a demonstration that support for safe operation of plant, processes and activities associated with the EPR will comply with regulatory requirements. Furthermore this document provides evidence that there is a commitment by the licensee to meet national and international standards of radioactive waste management for the waste streams produced by the EPR design. The conclusion is that the RWMC requirements are addressed to a level of detail that is appropriate to this stage of the GDA process. This document will provide a basis for the development of a RWMC by future licensees.

1. INTRODUCTION

This report is a mapping document that shows, as part of the Generic Design Assessment (GDA) of UK EPR™, how a Radioactive Waste Management Case (RWMC) can be achieved for the UK EPR.

The purpose of a RWMC is to demonstrate adequate long-term safety and environmental performance of the management of higher level wastes, over the full lifecycle from waste generation to storage and/or eventual transport to a disposal facility. Most of the information that would form a RWMC is already available in documents that have already been sent to the regulators as part of the GDA, such as the Integrated Waste Strategy and the Pre-Construction Safety and Environmental Reports together with their supporting documents. This mapping document does not duplicate such information, but points to where it can be found and provides a summary of the relevant information. It reflects the status of the GDA process and documentation at the end of December 2010.

The wastes considered are the higher activity radioactive wastes, including spent fuel, that is generated during operation, maintenance and decommissioning of a UK EPR. Intermediate Level Waste (ILW) and Spent Fuel are dealt with separately in this document to provide clear and concise references and to conform to the guidance provided to nuclear licensees by the regulators, HSE, EA and SEPA [3]. It is noted that some duplication of references is apparent in the information provided for ILW and Spent Fuel.

The mapping document includes references to UK EPR™ GDA submissions that are based on the Flamanville 3 EPR™ (FA3) plant being built in France (the 'reference case'). It is recognised that some aspects of waste management facilities and operations may be site-specific and or operator- specific. Where an operator (site licensee) proposes to construct or operate a UK EPR™ in any way that differs from the reference case, the RWMC (and other safety and environmental documentation) would need to be adapted accordingly, providing justification for the variant design and operation.

2. DEVELOPMENT APPROACH

The main changes to issue 01 of the present document have been:

- revisions to scope, structure and content to match the current (Feb 2010) Joint Regulators' Guidance (JRG) on RWMCs [3] The earlier mapping document had been developed to match the earlier version of the Guidance [4];

ensuring that references to documents submitted by the Requesting Party (RP) for GDA (i.e. EdF/ AREVA NP) are to the latest versions of those documents

To ensure a consistent structure and approach, the following guidelines were applied in developing the mapping:

- where there is similar key material in different references or in different parts of a reference, we point to all relevant sources. There are differences of context, content

and emphasis between sources and it is not possible at this stage to decide which reference may eventually be the more useful for an actual RWMC.

- Exception to this is made for the PCER and PCSR, where there are some common chapters in which the relevant information is identical in both documents. In such cases only the PCER is referenced.

- In general, references are presented in the order of their position in the overall document hierarchy. So, we reference the PCER or PCSR first, then one or both of two key documents – the Integrated Waste Strategy (IWS) [11] and the Solid Radioactive Waste Strategy Report (SRWSR) [7], and then any other supporting UK EPR™ documents. In a few cases, however, we have shown the references in a different order, where this enables a more logical structure for explaining how the EDF/AREVA references provide the required information.

- The items listed in the bullet points under paragraph 3 'General contents' of the Technical Contents appendix to the JRG can be seen as summarising the more detailed items listed under paragraphs 4 to 10. However, there is no simple one-to-one relationship between the paragraph 3 items and those in other paragraphs, and there are some items in paragraph 3 that do not have a corresponding, more detailed, equivalent in later paragraphs. In developing mappings for paragraph 3, and elsewhere where there is potential overlap between items, we have given responses to each item 'in isolation', indicating in the 'Comment' column where additional or related information can be found. This leads to some duplication but is appropriate for the mapping document at this stage in GDA, since it enables clear and complete traceability to the JRG guidance. In developing a full RWMC, some restructuring would be required to remove duplication and provide a clear and concise narrative.

This mapping for the RWMC provides a demonstration that support for safe operation of plant, processes and activities associated with the UK EPR, will comply with regulatory requirements. Furthermore this document provides evidence that there is a commitment by the licensee to meet national and international standards of radioactive waste management for the waste streams produced by the EPR design. The conclusion is that the RWMC requirements are addressed to a level of detail that is appropriate to this stage of the GDA process. This document will provide a basis for the development of a RWMC by future licensees.

Mapping of information relating to the RWMC are provided in Tables 2 and 3 for ILW and spent fuel respectively.

The format of the tables is explained in Table 1 following.

To support the mapping process, Appendices 1 and 2 provide details of the sections of the PCER and the PCSR referenced in this report. Appendices 1 and 2 provide document reference numbers for each of the sections referenced, together with dates at which these sections were provided to the regulator.

3. TABLE 1: EXPLANATION OF FORMAT FOR MAPPING TABLES

	Column Heading	Information Presented
a	No	Identification number for each requirement in the current issue of the JRG [3]. This number is in the format x.yy where x is the paragraph number from the 'Technical Contents' appendix to the JRG and yy is the number of the bullet point within that paragraph
b	Related item number(s) from previous Guidance	Identification number used in the previous issue of the JRG [4] and in Issue 01 of the present document. This is included for traceability.
c	RWMC Requirement (text from JRG)	The requirement, quoted from the 'Technical contents' Appendix to the JRG (the quoted text is highlighted in green font).
d	Additional detail of requirement where necessary	This column is used, where necessary, to indicate where we have subdivided the JRG requirement into sub-topics for greater clarity. For items under paragraph 3 ('General contents') of the JRG Technical contents appendix, which is partly a summary of items addressed elsewhere, we also use this column to indicate where additional or related detail can be found in later paragraphs.
e	RP references providing information to meet requirement	References to the RP (EDF/AREVA) UK EPR™ GDA submissions that satisfy the JRG requirement.
f	Summary of how the RP references provide the required information	A brief summary of how the reference given in column e contributes to satisfying the JRG requirement. Chapter and/or section numbers are given to show the location of the key information within the reference.
g	Comments	Any additional remarks necessary to clarify the information that has, or will be, provided.

4. TABLE 2: MAPPING FOR ILW

a	*b*	*c*	*d*	*e*	*f*	*g*
No	**Related item number(s) from previous Guidance**	**Requirement (text from JRG)**	**Additional detail requirement where necessary**	**RP references providing information to meet requirement**	**Summary of how the RP references provide the required information**	**Comments**
3. General contents: General contents of a RWMC may include, in summary form:						
3.1	2 and 20	The waste streams (including their source of arising, characteristics, inventory and quantities);	See also item 6.1 regarding secondary wastes	PCER	Sub-chapter 5.2, section 4 provides an estimation of the waste arising from decommissioning. A plan for dismantling major civil structures will be developed that will take into account safety, dust emission, noise reduction and storage requirements. Sub-chapter 6.1 (all) identifies the source of radioactive materials. Subchapter 6.2, Figure 2 describes the arrangements for processing and storing effluent. Sub-chapter 6.2, section 3.1 specifies the waste categories. This section provides the basis of the waste estimates. Sub-chapter 6.2 section 3.2.1 describes the three types of radioactive waste produced. Sub-chapter 6.3, section 3.1 provides, by volume, the annual estimated production of raw waste (prior to conditioning) for each type of waste for one EPR unit. Sub-chapter 6.3, section 3.2.2, quantifies and characterises the waste streams.	
				IWS [11]	Sections 5.2, 5.3 and 5.5 summarise the strategy for the various groups of wastes, providing an overview inventory of waste arisings from the operation and decommissioning phases	
				SRWSR [7]	Section 6 documents the operational waste streams and their origins, giving estimated total quantities and annual arisings and outlining their physical, radionuclide and hazardous, characteristics. Section 6.4 gives a summary of operational wastes. Figure 3 illustrates the percentage make up of the waste segregated into ILW arisings. Section 7.4.3.describes ILW Packaging for operational wastes. Section 8 describes wastes anticipated from decommissioning. Section 8.1.2 outlines and classifies the physical inventory. Section 8.1.5.1 contains the raw ILW characteristics.	
				ELIDC0801302 [13]	Section 5 details the decommissioning inventory of wastes by mass and classification. Section 6 gives waste volumes.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
3.2	-	The current ownership of the waste streams		No reference required	At the GDA stage, no waste has not been produced, so the ownership of waste is not applicable at present. It is anticipated that all ILW will be in the ownership of the operator/ site licensee (until disposal).	
3.3	16	The management strategy for the waste streams	See also items 6.1 to 6.9	PCER	Sub-chapter 6.2, section 3.2.1 describes solid radioactive waste. Sub-chapter 6.2, section 3.3 describes treatment of radioactive waste. Sub-chapter 6.2, section 3.4.1.1 describes interim storage for ILW. Subchapter 6.5, section 3 describes the Interim Storage Facility (ISF) for ILW including design assumptions and facility description. Sub-chapter 6.5, section 5.2 discusses disposability of operational ILW.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				SRWSR [7]	Section 1, Figure 1 provides a flow diagram of the radioactive waste streams. Section 7.3 sets out options for waste treatment and conditioning of solid waste arisings and discusses storage and disposal. Figure 10 outlines the waste treatment and conditioning options for solid ILW. Section 7.4.3 describes ILW packing. Section 12 describes the ILW ISF. Section 12.4 describes the ILW ISF operations.	
				IWS [11]	Section 7.4.3 gives an overview of the waste packages for storage, transport and disposal of ILW. Section 12 outlines the ILW ISF. Section 12.2.1 describes the main systems and facilities of the ILW ISF. Section 12.4 describes normal operations of the ILW ISF. Section 12.4.2 describes receipt of waste packages. Section 12.4.3 describes package handling. Section 12.4.4 describes storage of packages. Section 12.4.5 describes facility radiological monitoring.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
3.4	1 and 2	Proposed waste management processes	See also items 6.1 to 6.9	PCER	Sub-chapter 6.2, section 3.3 provides details of the process of managing radioactive waste. Sub-chapter 6.4 describes the effluent and waste treatment systems design architecture. Sub-chapter 6.4, section 1 explains the role of effluent treatment systems. Sub-chapter 6.4, section 2 describes the systems for treating liquid effluents, section 3 the gaseous waste processing system, section 4 the solid effluents treatment. Section 5 provides diagrams of the different processes.	
				SRWSR [7]	Section 7 outlines the waste treatment and conditioning options that could be deployed for the treatment of the different types of solid radioactive wastes. Section 8.1.6 provides details of the processing of the different waste streams. Section 11 outlines the waste treatment and conditioning for the various types of solid radioactive wastes.	
				IWS [11]	Sections 5.2 and 5.5 summarise waste treatment approach including minimising waste production for operational and decommissioning phases respectively.	
3.5	1	Relevant buildings and plant involved (eg for conditioning or storage) and their physical state		PCER	Sub-chapter 1.2 section 2.2.1.2 describes how ILW generated during operation will be conditioned in the Effluent Treatment Building, located on the nuclear island. Subchapter 6.5 section 3 provides a summary of the design requirements and safety aspects of the proposed ILW interim storage facility. Section 3.2.1 states the two options being considered for the ISF. Note that the 'physical state' of buildings and plant is not relevant at GDA stage, as the waste facilities will be newly built.	
				SRWSR [7]	Section 11 describes the layout of the waste treatment building and the processes that will take place within it. Packages will then be transported to the ILW Interim storage facility, which is located separately from the waste treatment building.	
				IWS [11]	Section 1.3 describes the layout including the main facilities required for the processing and interim storage of waste.	
				UKEPR 0008.01 [8]	Section 1.8 outlines the two design options being considered for the ISF.	
				ELI0800226 [10]	Section 3.1 looks at the design requirements. Sections 3.3.1 and 3.3.2 detail site location and facility design.	
				ELIDC0902019 [15]	Section 7.2 outlines considerations for the schedule of the ILW Interim Storage Facility. Section 7.2.3, specifically, describes how the schedule for construction, commissioning and operation of the ILW ISF will be site specific.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
3.6	3	Relevant aspects of the facility organisation and the management of radioactive waste (eg the overall waste strategy for the site);	We interpret this item in terms of organisation and management across the site and all waste streams, rather than physical management of each waste stream as in item 3.3. See also items 6.1 to 6.9	PCER	Sub-chapters 2.1 and 2.2 cover organisation and management during the GDA stage and in construction.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				IWS [11]	Sections 2.3 and 2.4 summarises organisation and management during the GDA stage and in construction.	
				SS-PCSR	The details of management structure and safety management arrangements are site specific and will therefore be part of the SS-PCSR	
3.7	4	Interdependencies among all steps in generation and management of radioactive waste management		PCER	Sub-chapter 5.2 provides information on secondary waste and the sensitivity of the waste streams to the decommissioning processes.	
				IWS [11]	Section 5.2 discusses operational radioactive waste generation and management. Figure 4 provides a Solid Waste Management System Flowsheet illustrating the interdependencies between waste streams and also steps. Section 5.5 outlines the strategy for dealing with decommissioning waste.	
				UKEPR-0016-001 [21]	Chapter 6, section 3.4 discusses secondary waste. Chapter 6, section 4 discusses secondary waste together with the sensitivity of the waste streams to the decommissioning processes.	
3.8	29	How the generation of radioactive waste is minimised	See also item 7.1	PCER	Sub-chapter 5.1, section 4.2 describes methods of waste minimisation during decommissioning Sub-chapter 6.2, section 1 identifies ways to avoid excessive contamination levels Sub-chapter 6.2, section 3.3 states how higher level waste volumes will be minimised. Sub-chapter 6.3, section 3.2.2 identify measures to avoid excessive contamination levels. Sub-chapter 5.2 will be updated to provide additional information on waste minimisation.	
				PCSR	Sub-chapter 6.1, section 2.6 identifies ways to avoid excessive contamination levels. Less contamination will reduce the amount of waste produced.	
				SRWSR [8]	Section 8 identifies techniques to prevent and minimise waste arisings. Section 7.3 identifies techniques for the treatment and conditioning of solid waste and considers secondary waste arising.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				IWS [11]	Section 5.2 provides examples of measures employed to minimise operational wastes. Section 5.5 identifies design and waste minimisation measures employed to reduce operational wastes arising during decommissioning. These measures will enable minimal secondary waste production.	
				BAT report [12]	Provides evidence that best available techniques (BAT) have been used to prevent, and where that is not practicable, to minimise the production of radioactive waste at source.	
3.9	7	How the radioactive waste is adequately controlled and contained	See also items 8.4 to 8.12. We interpret this requirement to cover administrative as well as physical controls	PCER	Sub-chapter 6.5, section 3.2.2.4 describes safety functions included in the facility to minimise worker/public dose.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				PCSR	Sub-chapter 18.1, section 3.1 describes human-machine interfaces. Sub-chapter 18.1, section 3.2 describes information and control needs of the operation team members so they can assess the plant status before taking any manual action. Sub-chapter 18.1, section 3.4 describes the operating procedures to be applied during normal operation and during incidents/accidents. Sub-chapter 18.1, section 5 discusses the training programme implemented so that only suitably qualified and experienced persons perform their assigned duties. Sub-chapter 18.2, section 3 outlines the operating procedures applied for normal operations. Sub-chapter 18.3, sections 2 and 3 outline emergency operating procedures and principles for severe accident conditions respectively. Sub-chapter 20.2, section 3.2 describes provisions to reduce the risk of spread of contamination of rooms by fluids contained in systems.	
				SRWSR [7]	Section 2.1 describes the base case assumptions for the management of ILW, interim storage, decommissioning and waste minimisation. Section 7.3 describes waste treatment and conditioning techniques Section 7.4 describes how the waste packaging is designed so that waste is safely contained Section 10 gives Nuclear Site Licence Conditions, many of which are directly applicable to radioactive waste processing operations taking place in the WTB and the ISF including control and containment of radioactive waste. Section 12.1 describes the building functions and process systems. Section 12.3 describes the ISF safety features, including control of contamination. Section 12.4 describes normal operations in the ISF.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				ELI0800226 [10]	Section 3.2 outlines ILW packaging and inventory. Section 4.2.4.1 describes containment. Section 4.2.4.2 describes the limitation of public and external environment exposure to radiation.	
3.10	8	How any safeguards and security issues will be addressed		ELI0800226 [10]	Section 6.1.3.6 outlines security matters, but security arrangements and management system are site specific and will therefore be developed as part of the SS-PCSR	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
3.11	9	How the radioactive waste meets the relevant requirements to enable its transport	See also items 6.7 and 8.2	PCER	Sub-chapter 6.3, section 3.2.1 states that C1 and C4 containers are classified as IP2 packages.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				SRWSR [7]	Section 3.6 describes how the NDA RWMD Letter of Compliance (LoC) process provides assurance that proposed waste transport packages meet the foreseen requirements for transport Note that LLW is not discussed in RWMC. For information on LLW please see SRWSR [7] section 4.2, 4.3, 7.4, 7.4.1 and 7.4.2.	
				IWS [11]	Section 3.4 outlines assumptions for storage, conditioning and disposal of ILW and describes the UK Government's assumption, for GDA stage, that a GDF will be available.	
				ELI0800226 [10]	Section 3.3.2.7 describes the requirements related to transport from a Dry ISF Note that there is no LOC for any UK EPR™ waste package yet.	
3.12	45, 56, 58	Quality assurance arrangements	See also item 8.16	SRWSR [7]	Section 10.1.3 provides an overview of Quality Assurance arrangements in relation to the WTB and ISF	
				IWS [11]	Section 2.4 describes how quality systems have been place in each of the RP organisations throughout the GDA process. Section 6.2.5 details the importance of accountancy and maintenance of records to enable the retrieval of specific waste packages.	
				UKEPR0008.01 [8]	Section 7.4 provides an overview of data retention and records maintenance.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
3.13	56, 58	information and records management arrangements.	See also items 10.1 to 10.4	PCER	Sub-chapter 6.5 section 6 describes how records of ILW accepted into, stored in and exported from the interim storage facilities will be retained in accordance with the requirements of the Nuclear Site Licence Conditions.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				SRWSR [7]	Section 10.1.4 provides an outline of the arrangements for identifying and recording information that may be required in the future to facilitate the management of radioactive substances and facilities.	
				R010 002 (A) [17]	This document details the type of information that will be maintained and the means of ensuring the information is retained.	
				UKEPR 0008.01 [8]	Section 6.2.5 outlines the arrangements for enabling the retrieval of specific waste packages for inspection. Section 7.4 provides an outline of data retention and records management for stored waste and waste facilities. Section 7.4 describes the provision that will be made for data retention and record maintenance. Section 7.4.3 recognises that information retrieval may be required at any time up to final operations at the ISF.	

4 The RWMC should refer where appropriate to relevant safety and environmental cases or other supporting documentation for detailed information and assessments.	
RP references providing information to meet requirement	**Summary of how the RP references provide the required information**
PCER	Sub-chapter 6.3 section 3 - Characteristics of packaged solid waste for the UK EPR reference case Sub-chapter 6.5, section 3.2 describes and 3.2.2.4 identifies the safety functions included in the single room storage ILW ISF
PCSR	Section 1.11 outlines the approach to structural classification. Sub-chapter 3.1, section 1.2.5 describes safety functions, safety classification and associated requirements relevant to waste storage Subchapter 3.2 section 1.5 discusses system classification and outlines the requirements for categories of classified systems. Subchapter 15.0 section 2.2 lists the quantitative probabilistic safety objectives considered in the PSA. Table 1 outlines internal and external hazards that may affect building containing ILW. Subchapter 15.2 presents the PSA for internal and external hazards
SRWSR [7]	Section 11.2.9 identifies specific safety features incorporated into the WTB design. Section 12.3.2 identifies specific safety features incorporated into the ILW ISF design.
ELI0800226 [10]	Section 4.2 provides an overview of the safety assessment for the Dry Interim Storage for ILW. It describes the methodology and outlines the safety principles that will be applied as well as describing the safety systems and functions. Section 6 provides a preliminary risk analysis for a dry interim storage facility for ILW. Section 6.1 qualitatively analyses internal and external hazards and section 6.2 predicts discharges to the environment under normal operations.

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
6. Radioactive waste management strategies. The RWMC should summarise how the management of the relevant waste stream(s) fits into the overall waste strategy for the site and, by referencing the integrated waste strategy as appropriate, include:						
6.1		Any subsidiary or secondary waste streams produced		PCER	Sub-chapter 6.3, section 3 will be updated to clarify that the waste volumes include subsidiary and secondary waste streams produced.	
				SRWSR [7]	Section 7 outlines the waste treatment and conditioning options that can be feasibly deployed for the different types of solid radioactive wastes arising from operation. Secondary waste arisings are identified. Section 7.3 lists treatment and conditioning techniques and identifies advantages and disadvantages including whether or not secondary waste is generated. Section 6.3 summarises the operational waste arisings including dry active waste, tank sludges, spent water filters and ion exchange resins. Table in Ch 6.3 gives information on process and operational wastes.	
				IWS [11]	Section 5.5 identifies methods that will be used to minimise secondary waste production.	
6.2	21	Identification of the ultimate destination for the wastes, be it disposal or long-term storage		PCER	Sub-chapter 6.2 section 3.4.1.1 states assumptions for the disposal of ILW. Sub-chapter 6.3 section 3.2, table 2 shows the correspondence between waste classifications and disposal routes. Sub-chapter 6.5 describes the current status of the discussions with NDA, including the disposability of spent fuel arising during the operational period. PCER Sub-chapter 6.5 section 4.3 will be updated to include the research needed to ensure the waste can be stored, transported and disposed of. PCER Sub-chapter 6.5 section 5.2 will be updated to address the disposability of ILW.	
				IWS [11]	Section 3.4 states the assumption that ILW will be stored on site until a GDF is available.	
				SRWSR [7]	Section 1, Figure 1 identifies the ultimate destinations for ILW.	
				ELI0800226 [10]	Section 5.1 describes the ISF operation phases.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
6.3	22	The options and processes considered to convert the raw waste into a product that is suitable for long-term interim storage and/or disposal (including any necessary pre-treatment stages)		PCER	Sub-chapter 5.2, section 4.3 identifies ILW conditioning methods applicable to decommissioning. Sub-chapter 6.3, section 3.2 provides the reference case treatment and conditioning processes for solid waste. Sub-chapter 6.4, section 4 describes the systems for treating solid radioactive waste. Sub-chapter 8.1 discusses the decision-making strategies for solid waste options and identifies factors for BAT management. Sub-chapter 8.3 demonstrates that the design is based on BAT and good practices including the effective management of wastes.	
				IWS [11]	Section 5.2 identifies the operational radioactive waste streams and the strategies for their management.	
				SRWSR [7]	Section 7.3 identifies potential techniques for the treatment and conditioning of solid waste. Section 7.4.3 describes the various ILW waste packages and specifies the type of conditioned ILW for which each package is suitable. Sections 8.1.6.1 and 8.1.6.2 describe waste processing of ILW arising from decommissioning.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
6.4	23	The reasons and assumptions used to reject options		PCER	Sub-chapter 6.3, section 3.2 provides the reference case treatment and conditioning processes for solid waste.	
				SRWSR [7]	Section 7.3, identifies potential techniques for the treatment and conditioning of solid waste. No technique is excluded. The choice of technique is a site specific decision made by the operator.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
6.5	24	The reasons, assumptions, uncertainties, calculations and conclusions for selecting the preferred option(s), including comparison of the safety and environmental performance of the preferred option(s) with the options that were not selected		PCER	Sub-chapter 6.3, section 3.2 provides the reference case treatment and conditioning processes for solid waste, which are BAT. The choice of technique is a site specific decision made by the operator	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				SRWSR [7]	Section 7.3 gives reasons for selecting the preferred options. It will be the responsibility of the operator to justify their eventual preferences.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
6.6	25	How the preferred option is consistent with the IWS		SRWSR [7]	Section 2.2 shows a possible Waste Strategy Lifecycle. This strategy has been aligned with relevant Government policy and guidance for new nuclear power stations in the UK. The options are consistent with the IWS approach – in particular that of concentrate-and-contain.	
				IWS [11]	Section 3 describes the development of the integrated waste management strategy. When considering options for treatment of individual waste streams, the approach involves consideration of the balance between gaseous and liquid discharges, and the generation of solid wastes, whilst favouring a strategy of concentrate-and-contain, as stated in the UK Radioactive Discharges Strategy.	
6.7	26	How the preferred option is consistent with existing & foreseeable transport, storage & disposal		PCER	PCER sub-chapter 6.5, section 5.2 states that the NDA Disposability Report concludes that ILW from operation and decommissioning should be compatible with plans for transport and geological disposal of higher activity wastes.	
				IWS [11]	Section 3.4 presents the UK Government's assumption, for GDA stage, that a GDF will be available and describes the LoC process. The RWMD Letter of Compliance (LoC) process provides assurance that a waste transport package meets the foreseen requirements for transport of packaged radioactive waste from its site.	
				SRWSR [7]	Section 3.6 identifies that transport from site are being planned by NDA RWMD and that the Nuclear safety of this operation will need to be demonstrated in a Generic Transport System Safety Case. Section 7.4.3 describes the various ILW waste packages for transport.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
6.8	27	Details or plans for any stakeholder or public consultation.		SRWSR [7]	Section 5.1 gives details of consultation documents and outlines liaison with UK regulators and potential waste service providers	
				IWS [11]	Section 3.5 outlines engagement with stakeholders on environmental and waste management issues.	
6.9	28	The use of, and implications for, existing waste disposal routes if the preferred option is selected.		SRWSR [7]	Section 2.1 - ILW from operations/decommissioning will be stored in an ISF until a GDF is available.	The GDF is being planned to accept *(inter alia)* wastes from new-build power stations – there is no “existing” route

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
7. Waste minimisation, characterisation and segregation. The RWMC should summarise how the management of the relevant waste stream(s) applies the requirements for minimisation, characterisation and segregation, details of which may include:						
7.1	29	Description of the techniques to be adopted to prevent or minimise arisings (including how any secondary wastes generated during conditioning will be prevented or minimised).	Minimisation of ILW generation	PCER	Sub-chapter 6.1, section 2.6, Sub-chapter 6.2, section 1 & Sub-chapter 6.3, section 3.2.2 identify measures to avoid excessive contamination levels. Sub-chapter 6.1 identifies the sources of radioactive waste arising. Sub-chapter 6.2, section 3.3 states how higher level waste volumes will be minimised. Sub-chapter 6.4 describes the effluent treatment systems, which result in secondary ILW arisings. Sub-chapters 6.1, 6.2, 6.3, 6.4 & 6.5 will be updated to address decontamination. Sub-chapter 6.3 section 3.2 discusses size reduction of large components.	
				IWS [11]	Section 5.2 provides examples of measures to minimise operational radioactive wastes.	
				SRWSR [7]	Section 8 identifies techniques to prevent and minimise waste arisings. Section 7.3 identifies techniques for the treatment and conditioning of solid waste and considers secondary waste arising.	
				BAT report [12]	Provides evidence that best available techniques (BAT) have been used to prevent, or where that is not practicable, minimise the production of waste at source.	
			Minimisation or prevention of secondary wastes	IWS [11]	Section 5.5 identifies design measures to reduce secondary wastes arising during decommissioning.	
				SRWSR [7]	Section 8 identifies techniques to prevent and minimise waste arisings. Section 7.3 identifies techniques for the treatment and conditioning of solid waste and considers secondary waste arising. Section 2.1 states that operators are expected to minimise secondary wastes. Within the constraints of regulatory and licensing requirements it is intended that there will be flexibility for individual utilities to select and optimise their own waste management strategies.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
7.2	30	The details of the methods to be used for the segregation and characterisation of wastes and the steps to be taken to avoid dilution.		PCER	Sub-Chapter 6.0, section 2 states that the solid waste systems allow the segregation of solid ILW and LLW waste. Sub-chapter 6.2, section 3.3.1 describes the segregation and characterisation at source of waste for the reference case.	
				PCER	Sub-chapter 6.0 section 2 will be updated to address the avoidance of waste dilution.	
				SRWSR [7]	Section 7.1 describes the waste hierarchy and avoidance of dilution through application of the principle of concentrate and contain. Section 7.3.6 describes treatment by segregation. Section 11.2.3 describes the segregation of component parts of the ILW waste streams.	
				BAT report [12]	Section 3.1.1 provides an example of the segregation of waste. Filtration and ion exchange are used to remove certain radionuclides.	
7.3	31	The evidence that the (segregated) waste streams can be characterised to the level necessary to ensure compliance with the specifications for waste packaging (eg with respect to potential variability or heterogeneity).		PCER	Sub-chapter 6.3, section 3.2 describes the reference case treatment and conditioning processes for solid waste. Potential variability or heterogeneity is avoided as the ILW waste streams are separate e.g. filters and ion exchange resins are not mixed. Sub-chapter 6.5, section 3.1 will be updated to address the radioactive decay, segregation and characterisation of ILW.	
				IWS	Figure 4 is a Solid Waste Management System Flowsheet, showing that the ILW waste streams are separate, thus avoiding potential variability or heterogeneity.	
				SRWSR [7]	Section 8.1.6 includes a predicted characterisation of the processed ILW Section 11.2.5 describes the handling and shipping of final packages including package characterisation.	
				UKEPR 0008.01 [8]	Section 2.4 lists Design Safety Principles for the ILW ISF including the need for each waste package to be characterised prior to storage in relation to its inventory and presence of surface contamination.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
8. Conditioning and disposability. The RWMC should summarise how conditioning is applied in management of the relevant waste streams (in particular how disposability is ensured, details of which may cover:						
8.1	32	How passive safety will be achieved	Aspects of waste packaging (containment & shielding)	PCER	Sub-chapter 6.3, section 3.2 includes details for the referenced packages for containment of ILW. Sub-chapter 6.5, section 5.2 will be updated to with information on the case for disposability of ILW & describes the methods for storage of ILW prior to final disposal.	
				SRWSR [7]	Section 7.4 identifies passive safety measures employed (shielding and containment) in packaging operational radioactive wastes. Section 8 identifies passive safety measures employed when packaging decommissioning radioactive wastes The SRWSR identifies options that operators could use. An assessment of the techniques will be carried out and the option selected during site licensing. Section 6.4 describes decay storage to reduce activity prior to conditioning and disposal Section 7.3 indicates that the best option may be to delay treatment and conditioning in order to make use of potential future techniques and not exclude these techniques (bottom of p 57).	
			Aspects of waste storage facility design (containment & shielding)	PCER	Sub-chapter 6.5 section 3 contains the design assumptions and description of the single compartment ILW ISF, including passive measures (shielding and containment). Sub-chapter 6.5, section 4.3 will be updated. This addresses the research needed to ensure the waste can be stored. Sub-chapter 6.5, section 5.2 will be updated. This describes the storage of ILW prior to disposal.	
				SRWSR [7]	Section 12 describes the multiple compartment ILW ISF, including shielding and containment aspects.	
				UKEPR 0008.01 [8]	Section 4 describes how dependence on active safety systems is minimised in the ILW ISF.	
			Maintenance of the storage environment (e.g. natural circulation systems)	SRWSR [7]	Section 12.2.1.4 describes the maintenance of the storage environment of the multiple compartment ISF. There is some dependence on an active ventilation system.	
				ELI0800226 [10]	Sections 4.2.4.1, 4.2.6.5 & 6.1.2.7.1 discuss the “radioactive substances containment” safety function, residual heat removal and loss of ventilation respectively. Section 4.2.6.5 states that no additional cooling is required to supplement the ventilation system of the dry ISF storage area.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
8.2	33	The evidence that the waste package produced will be consistent with existing and reasonably foreseeable provisions for transport, storage and (in England and Wales disposal. For most higher-activity radioactive wastes this will take into account advice provided by the NDA RWMD in the form of a Letter of Compliance. Where other options are considered, eg decay storage, then this evidence will need to be derived by the licensees themselves.	.	PCER	PCER sub-chapter 6.5, section 5.2 states that the NDA Disposability Report concludes that ILW from operation and decommissioning should be compatible with plans for transport and geological disposal of higher activity wastes.	
				IWS [11]	IWS Section 3.4 describes the UK Government's assumption, for GDA stage, that a GDF will be available and the LOC process.	
8.3		Identification of any significant issues that may challenge disposability. These issues should be set out in detail together with any assumptions made in arriving at that conclusion (eg incompatibility with a specific facility design concept or feature thereof, incompatibility of the transport container with standard designs, or issues that may restrict the future choice of a geological environment for the disposal facility).	This requirement will be linked to discussion of the choice of storage options. References will be given regarding the processing and storage capacity of the facilities for ILW and spent fuel storage.	PCER	Sub-chapter 6.5, section 5.2 will be updated to address the case for disposability of ILW.	
				R10-017 (A)	Section 2 identifies issues raised in the RWMD disposability assessment report and proposed resolutions. Section 3 identifies issues raised in the EDF/AREVA critique and proposed resolutions.	
8.4	34	The intended specification for waste packages (presented in a format suitable for external audit to ensure compliant packages have been produced).		PCER	Sub-chapter 6.3, section 3.2.4 discusses French specifications for the acceptance of LLW/ILW waste packages in terms of their physical-chemical characteristics.	
				SRWSR [7]	Section 8.1.6.2 identifies the proposed ILW waste packaging for decommissioning wastes, including the specifications for 4 metre boxes and 3 cubic metre boxes. Section 14 discusses the approval of waste packages by the competent authority.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				ELI0800226 [10]	Section 3.2 provides package dimensions for C1PG & C4PG waste packages. Section 3.2.6 identifies activity and contamination limits for packages	
8.5	35	How the inventory of individual packages will be controlled and determined including demonstration that any heterogeneity or variability in the waste stream can be accommodated within the specifications for the final waste form.		PCER	Sub-chapter 6.2 section 3.3.1 describes sorting at source Sub-chapter 6.3 section 3.2.3 provides information relating to the quantification of nuclides for the declaration of packages radioactivity, for homogeneous and homogeneous waste. Sub-chapter 6.3 section 3.2.5 provides information relating to the impact of decay on waste. Sub-chapter 6.5, section 3.1 indicates that measurement equipment is available to perform packages measurement if the future operator wishes to use this route. Sub-chapter 6.5, over-packaging is possible for interim storage facility Should a package be identified as defective Sub-chapter 6.5 section 3.2.2.1 identifies requirements for over-packaging of a potentially defective package. Sub-chapter 6.5, section 5 contains information about the disposability of ILW; and includes details of LoC process for ILW.	
				SRWSR [7]	Section 7 outlines the waste treatment and conditioning options. Section 7.3.6 describe treatment by segregation	
				UKEPR-008-001 [8]	Section 3.2.1 provides information on the control of the inventory.	
8.6	36	Demonstration that the proposed packaging and conditioning strategy uses best practicable means (BPM)/ best available techniques (BAT) to minimise the long-term environmental impact and to ensure associated doses are ALARP;		PCER	Sub-chapter 8 states “The objective of this chapter is to provide an evaluation of environmental options considered and to show that the Best Available Techniques have been used to minimise the production and discharge and disposal of waste.” Section 3.2.2.1 describes the treatment and conditioning of specific ILW from a BAT perspective. Sub-chapter 8.2 section 3.2.2 describes the main optimisation methods for solid radioactive waste	
				PCSR	Sub-Chapter 12.4, describes the dose optimisation approach including information on predicted improvements in operator doses relative to those for earlier reactor designs (e.g. Konvoi reactors) although these improvements are not specific to doses in waste management operations. Sub-Chapter 12.4 including how operational experience was used in the design to optimise operator dose. Section 2.3.2.7 of this subchapter outlines some of the dose optimisation design choices related to waste treatment operations.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				SRWSR [7]	Section 1.1 states “This SRWSR assumes that the options presented can be used by utilities to demonstrate that the design makes use of Best Available Techniques. The intention is to preserve as much flexibility as possible whilst providing confidence that BAT solutions can be identified by utilities in the future” Section 7 identifies techniques for the treatment and conditioning of wastes. Section 11.2.2 and 7.3.6 describes manual sorting of waste	
				IWS [11]	Section 3.2.1 and Figure 3 describe the BAT Optimisation Factors the factors taken into account for selection of waste management options. It also explains why the methodology for BPEO studies set out in the EA’s regulatory guidance was not formally applied.	
				BAT report [12]	Provides evidence that the best available techniques (BAT) have been used to prevent, and where that is not practicable, to minimise the production of radioactive waste at source. Provides evidence that in the management of radioactive waste, BAT have been used to ensure overall environmental risk and impact are minimised.	
				UKEPR-008-001 [8]	Section 1.5 provides information on the application of the ALARP principle.	
				ECUK110016 [24]	Provides information on waste conditioning and the waste treatment building. The management of dry active waste glove boxes provides shielding to the operators	
8.7	37	Demonstration that the proposed strategy will not lead to significant increases in the possibility of a neutron chain reaction in a disposal facility		ELI0800226 [10]	Section 4.2.4.3 states that fissile material will not be present in ILW.	
8.8	38	An assessment of the long-term performance and degradation of the waste containers		PCER	Sub-chapter 6.3 section 3.2.1 provides information on the validation of waste containers, in accordance with ANDRA technical specifications. This includes an assessment of the long-term performance of the containers. The LoC process will include an assessment of the waste packages.	
8.9	-	Identification of any potential package failure mechanisms		SRWSR [7]	Section 10.3 (Generic Safety Aspects of Radioactive Waste and Spent Fuel Facilities) provides a top level description of the main hazards and a description of generic safety features that could be incorporated into the design of process equipment to control the hazards presented. This identifies external causes of package failures such as dropped loads, fire and explosions, chemicals, lightning strike etc.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				R10-006 (A) [16]	Section 4.2.2 provides an assessment of the long term performance and potential package failure mechanisms.	
				UKEPR0008-001 [8]	Section 3.2.6.2 lists the potential waste package damage mechanisms.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
8.10	39	Evaluation of any reactions that may take place between the waste and the conditioning matrix		PCER	Sub-chapter 6.3 section 3.2.4 describes the physical and chemical characteristics of the waste. Sub-chapter 6.3 will be updated with information on the qualification of packages to ANDRA specifications. Justification for this will be contained in the LoCs.	
				SRWSR [7]	Section 7.3 provides a description of selected techniques for the treatment of solid waste and their advantages and disadvantages. There is some discussion of incompatibilities with certain conditioning techniques.	
				UKEPR-0008-001 [8]	Sections 3.2.6.1 and 3.2.6.2 provide information on local corrosion and radiolysis aspects respectively.	Note that gas generation is covered separately under item 8.12.
8.11	40	An evaluation of the long-term performance of the waste form, e.g. assessment of the potential for cracking and chemical degradation.			See responses to items 8.8, 8.9 and 8.10.	
8.12	41	Assessment of the potential for gas generation from the wastes in the long term		ELI0800226 [10]	Sections 3.3.2.5 and 6.1.2.6 identify measures to deal with gas generation within waste packages	
				UKEPR0008	Section 3.2.6.2 describes radiolysis aspects. Section 5.2 describes potential waste damage mechanisms.	
8.13	42	Consideration of the impact of toxic materials as a result of release from a disposal facility and environmental impacts that might arise during, or as a result of, operations		PCER	Subchapter 6.5 section 5 provides information on the disposability of the wastes, including confirmation by LLWR to offer services to dispose of the wastes.	
				IWS [11]	Section 5.3 provides estimates of operational hazardous wastes arisings.	
				SRWSR [7]	Section 6 provides data on waste arisings from operations, including the main hazardous substances. Section 7 provides details of the waste treatment and conditioning processing options. These aim to minimise environmental impacts.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
8.14	43	An assessment of the potential impact from any detrimental effects due to chemical species that may be present in the wastes or might reasonably be expected to form; e.g. enhancement of radionuclide solubility through chemical complex formation		PCER	Sub-chapter 6.5, section 5 contains information about the disposability of ILW; and includes details of LoC process for ILW.	
				SRWSR [7]	Section 6 documents the operational waste streams in terms of estimated total quantities and annual arisings and presents the chemical characteristics. Section 7 outlines the waste treatment and conditioning options that AREVA believe can be feasibly deployed for the treatment of the different types of solid radioactive wastes arising from operation.	
				NXA/10747397 [23]	Section 4.1.2 provides a preliminary consideration of the effects of chemical species.	
				SS-PCSR	A more detailed assessment will be performed as part of the LoC process during licensing.	
8.15	44	How conditioned waste that does not meet specifications will be managed		ELI0800226 [10]	Sections 3.3.2.3, 3.3.2.5 and 5.1.7 describe the arrangements for monitoring and managing non-compliant packages (i.e. remediation).	
				UKEPR 0008.01 [8]	Section 5 identifies how conditioned waste that does not meet specifications will be managed.	
				ELI0800226 [10]	Section 3.3.2.3 provides details on the management of non-compliant packages.	
8.16		Arrangements for quality assurance and records			References provided under requirement 3.12	
8.17		How developments in disposal facility requirements will be taken into account.		SRWSR [7]	The GDA is being designed for ILW. Section 5.1 describes EdF and AREVA's liaison with potential waste service providers.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
9. Storage of radioactive waste The RWMC should summarise how radioactive waste is stored, details of which may include:						
9.1	46	Storage Capacity Requirements		PCER	Sub-chapter 6.3 section 3.1 provides details of the annual estimated production of raw waste. Sub-chapter 6.5 section 3.1 quotes a rounded amount of 50m^3 (ILW) produced during each year of operation.	
				IWS [11]	Section 5.2.1 Table 2 provides estimated annual volumes of solid radioactive wastes produced during operation of a single EPR™ unit. Section 5.2.1 Process Wastes, sections 4 and 6 and Operational Wastes sections 7 to 9 provide information on dose rates.	
				SRWSR [7]	Section 7.4.3.4 indicates the waste capacity requirements for operations Sections 8.1.2.2 (table 23), 8.1.5.3 indicate the requirements for decommissioning.	
				ELI0800226 [10]	Section 3.2.4 provides details of the annual inventory and the total number of packages for 60 years of reactor operation. Section 3.3.2.1 provides details on the possibility of extending the interim storage facility	
9.2	47	Estimates of package lifetime and the proposed timescale for storage;		PCER	Sub-chapter 6.5, sections 3.1 and 3.2 specify the required operational life of the ILW ISF and the design life of the waste packages.	
				SRWSR [7]	Section 2.2 contains a possible waste strategy lifecycle.	
				ELIDC0902019 [15]	Provides an outline of potential timescales for operation and decommissioning of an ILW ISF.	
				ELI0800226 [10]	Section 3.2.3 provides information on package lifetime.	
				IWS [11]	Section 3.3.3 provides information on the waste management timing constraints and dependencies. Section 3.4 provides information on the assumptions and risks relating to waste management.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				UKEPR 0008.01 [8]	Section 1.2 specifies the operational lifetime of the ILW ISF.	
9.3	48	Demonstration that the conditioned wastes will remain within the agreed specification for final disposal throughout the storage period.		PCER	Sub-chapter 6.5, Section 3.2 describes the ILW ISF including provisions for inspection and remediation to demonstrate that conditioned wastes remain within specification. PCER Sub-chapter 6.5 Section 3 identifies that inspection and monitoring facilities are provided on a travelling crane.	
				SRWSR [7]	Section 6 documents the waste streams in terms of estimated total quantities and annual arisings. Section 7 outlines the waste treatment and conditioning options that can be feasibly deployed for the treatment of the different types of solid radioactive wastes arising from operation.	
				UKEPR 0008.01 [8]	Section 5 provides information on the maintenance of waste package integrity.	
9.4	49	How passive safety will be achieved.		PCER	Sub-chapter 5.1, Section 4.3 covers the non-interference of design features facilitating decommissioning with the correct operation of the nuclear facility Sub-chapter 6.3, Section 3.2 includes details for the referenced packages for containment of ILW. Sub-chapter 6.5 Section 3 contains the design assumptions and description of the single compartment ILW ISF, including passive safety (shielding and containment) aspects.	
				SRWSR [7]	Section 12 describes a multiple compartment ILW ISF, including passive (shielding and containment) aspects. Section 12.2.1.4 describes the maintenance of the storage environment in a multiple compartment ISF. Section 12.3.1 identifies that access for a camera or other monitoring equipment to the ISF is provided to allow *in situ* inspection of the drums and container. Section 12.3.2 covers the specific safety features.	
				UKEPR 0008.01 [8]	Section 4 describes how the dependence on active safety systems is minimised in the ILW ISF.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				ELI0800226 [10]	Sections 4.2.4.1, 4.2.6.5 & 6.1.2.7.1 discuss the “radioactive substances containment” safety function, residual heat removal and loss of ventilation respectively.	
9.5	50	Integrity of the storage arrangements;		SRWSR [7]	Section 12.4.4.1 provides information on monitoring and inspection.	
				ELI0800226 [10]	Section 3.3.2.5 provides information on package monitoring. Section 4.2.6 provides information on the external hazard requirements.	
				UKEPR 0008.01 [8]	Section 5.3 provides information on the waste package integrity during storage.	
9.6	51	Arrangements for leak detection;		SRWSR [7]	Section 12.3.2.1 provides information on the control of contamination, including the active ventilation and air conditioning system.	
				ELI0800226 [10]	Section 3.3.2.5 provides information on package monitoring.	
				UKEPR 0008.01 [8]	Section 2.4.3 item 10 provides information on the design safety principle for monitoring	
9.7	52	Details of ventilation requirements and the filtration of airborne releases		PCER	Sub-chapter 6.5 Section 3 states that the single compartment ISF will be maintained at a reduced pressure through the use of a filtered ventilation system to prevent the spread of contamination.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				PCSR	Sub-chapter 9.4 section 2 – Ventilation systems for nuclear auxiliary building Sub-chapter 9.4 section 14 – Ventilation systems for waste treatment building (controlled area).	
				UKEPR 0008.01 [8]	Section 3.2.1 provides information on the maintenance of containment of radioactive materials. Section 3.2.5 provides information on maintaining control of environmental conditions.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				SS-PCSR	Monitoring and discharge systems will facilitate compliance with the site-specific authorised discharge limits for liquid and gaseous effluent. Local environmental monitoring procedures and responsibilities will form part of the SS-PCSR.	
9.8	53	Environmental monitoring arrangements		IWS [11]	Section 5.6 provides information on the monitoring arrangements for discharges to the environment. (for the whole plant, not specific to waste storage)	
				SRWSR [7]	Section 12.4.5 provides information on the radiological monitoring of the ILW interim storage facility	
				ELI0800226 [10]	Section 3.3.2.5 describes package monitoring Section 5.2.4.2 describes how sensors in the ventilation system and stack are provided to detect loss of containment from a package and locate, approximately, the position of any such package.	
9.9	54	How the stored waste will be inspected and retrieved		PCER	Sub-chapter 6.5 sections 3.1 and 4.1 provide information on the human factors aspects for long term waste management. Information on the management responsibilities for the inspection and retrieval of wastes will be provided in the SS-PCSR.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				SRWSR [7]	Section 12.2.4 provides information on the Monitoring/Packaging/Inspection room. Section 10.2 provides the strategy and assumptions which includes designing the ISF so as to facilitate the retrieval of waste packages. Section 12.3.1 identifies that access is provided for a camera or other monitoring equipment to allow in situ inspection of the drums and container. Assessments and selection of options for stacking will be carried out at the licensing stage.	
				ELI0800226 [10]	Section 5.1.6 provides information on “preparation for the retrieval of the packages”	
				UKEPR 0008.01 [8]	Section 6 provides information on the retrieval and inspection of packages.	
				ELI0800226 [10]	Section 5.1.7 provides information on the case of non-compliant packages; over packaging. Section 3.3.2.3 provides information on non-compliant package management.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
9.10	55	How packages that show evidence of deviating from specification during storage will be managed		UKEPR 0008.01 [8]	Section 6.2.3 states that, depending on the results of visual monitoring, it will be possible to retrieve the waste package for further investigation. Section 5.5 provides information on damaged and degraded packages. Section 5.6 provides information on the options for long term storage of damaged waste packages	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
10. Control, accountancy and records The RWMC should summarise how control, accountancy and records of the relevant waste stream(s) are to be applied, details of which may include:						
10.1	56	The arrangements for identification of information that may be required in the future to facilitate the subsequent management of radioactive substances and facilities		PCER	Sub-chapter 6.5 section 6 describes how records of ILW accepted into, stored in and exported from the interim storage facilities will be retained in accordance with the requirements of the Nuclear Site Licence Conditions. Retention and preservation of records will be undertaken in accordance with modern standards of good practice	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				R010-002 (A) [17]	Compliance with requirements of Site Licence Conditions on keeping nuclear related records	
10.2	57	the ongoing measures to demonstrate whether compliance with requirements and standards has been achieved;		SS-PCSR	Ongoing demonstration of compliance through conformity with Site Licence Conditions, Active and Reactive Monitoring/Auditing and Periodic Reviews Of Safety will be undertaken in accordance with requirements driven by SS-PCSR.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
10.3	58	The timescales over which such information should be collected and retained.		SS-PCSR	Compliance with requirements of Site Licence Conditions on keeping nuclear related records. Information will be provided in SS-PCSR.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
10.4	59	the environmental conditions for storage and long-term preservation of records.		PCER	Sub-chapter 2 describes the need for compliance with requirements of Site Licence Conditions on keeping nuclear related records. Paper and electronic storage will be used and suitable storage locations/conditions will be identified. Sub-chapter 2.2 provides information on the Quality Management for the UK EPR™ Project.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				UKEPR 0008.01 [8]	Section 7.4 provides information on data retention and record maintenance.	

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Items from previous RWMC Guidance [4] but not in current RWMC Guidance [3]						
	5	Key applicable legislation	Identification of any relevant: 1. Regulations; 2. Codes of Practice and Standards; 3. Modern Standards; 4. Best Practice	PCER	Sub-chapter 1.4, section 3, presents the main applicable regulatory requirements. Section 3.1.3 identifies compliance with RSA 93 for the control of radioactive material and any subsequent accumulation and disposal of solid, liquid and gaseous radioactive waste. Section 3.3 identifies legislation on which UK waste management practices are based. Sub-chapter 1.5, section 4 provides a comparison with international standards.	
				PCSR	Sub-chapter 3.1 section 2 describes the origin and role of the technical guidelines. Section 3.1 outlines the fundamental principle of ALARP.	
				IWS [11]	Section 2.1 identifies the main regulatory policies and principles relating to waste management, which must be complied with. Section 2.2 describes the waste hierarchy around which the waste management policy is based. Section 3.3.1 describes how the design has been heavily influenced by the development of French/ German policy and regulation and details objectives stated in letters from the French Nuclear Regulatory Agency	
				SRWSR [7]	Section 3 describes the regulatory context of the management of solid radioactive waste in the UK. Specifically, section 3.4 outlines the license conditions applicable to the management of radioactive waste. Section 3.5 outlines the environmental principles relating to radioactive waste and states that application of the Best Available Technique (BAT) to minimise the volume and activity of waste is central to such principles. Section 10.1 describes the UK regulatory requirements that apply to operations occurring in the WTB and ISF. Sections 14.1.1 and 14.1.2 identify the transport regulations and guidance applicable to the transport of radioactive material.	
				BAT Report [12]	Sections 2 and 3 demonstrate that BAT have been used to prevent, and where that is not practicable, minimise the production of radioactive waste at source and that, in the management of radioactive waste, BAT have been used to ensure that the overall environmental risk and impact are minimised as a whole. This is summarised in Table 2 of the BAT report and detailed further in the BAT forms (section 3.2, 3.3, 3.4, 3.5 and 3.6).	
	11	Safety Functions; Systems, Design Basis,	Description of the:	PCSR	Sub-chapter 3.1, section 1.2.5. describes safety functions, safety classification and associated requirements relevant to waste storage.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
		Operational & Accident	1. safety functions; 2. all safety systems; 3. their design basis; and 4. functioning in all operational states, including accident conditions. In the latter case, it should also describe the appropriate measures taken to prevent incidents or accidents and how consequences would be mitigated should an incident or accident occur.	SRWSR [7]	Section 10.3.2 discusses generic hazards that relate to the waste management buildings. Section 11.9.1 identifies safety features that will be present in the WTB. Section 12 describes the ISF for ILW. Section 12.3.2 qualitatively describes specific safety features for the ILW interim storage facility.	
				UKEPR-0008-001 [8]	Section 2.2 and 2.3 outline the safety objectives and safety functional requirements that must be assured under normal operating and accident conditions.	
				ELI0800226 [10]	Section 4.2.4 outlines the general safety functions of an ISF for ILW. Section 4.2.6 discusses external hazards. Section 6.1 provides qualitative analysis of internal and external hazards.	
	12	Emergency Procedures, Accident Management, Inspection & Testing, SQEP, Operational	Description of: 1. the emergency operation	UKEPR-0008-001 [8]	UKEPR-0008-001 section 4.3 discusses the optimisation of inspection and maintenance regimes for the ILW interim storage facility, describing the design approach to reducing the need for periodical inspections and maintenance as well as discussing process and equipment selection and the ageing phenomena.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
		Feedback	procedures and accident management guidelines; 2. the inspection and testing provisions; 3. the qualification and training of personnel; 4. the operational experience feedback programme; and 5. the management of ageing.	SS-PCSR	Local procedures that will be derived and provided as part of the SS-PCSR	
	13	Technical Bases for Operational Limits & Conditions	Aspects to address this requirement include: 1. Assessment of anticipated dose levels from wastes;	PCSR	Sub-chapter 3.1, section 3.2 gives the objectives for radiation doses to operators and members of the public during normal operations. Section 3.3 gives the dose limits to operators and members of the public due to accidents. Sub-chapter 12.0, section 3 describes radiation protection requirements including waste zoning (see also Table 1).	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				UKEPR-0008-001 [8]	Section 3 provides a preliminary assessment of risks and hazards for the ILW Interim storage facility. Section 3.2.2 specifically discusses normal operation doses to worker and members of the public.	
				SS-PCSR	There are no LoCs for any waste package available yet. This will be provided as part of the licensing stage. All legal requirements will be satisfied. Information on dose rates will be provided during the licensing stage.	
			1. Assessment of release levels to the environment.	PCER	Sub-chapter 6.2, section 1.1.1 describes the source of radioactive liquid effluent discharges. Figure 2 provides an overview of the arrangements for processing and storing effluent. Sub-chapter 6.2, section 3 describes the radioactive waste and spent nuclear fuel management	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
					strategy. Note that all activities in the solid waste treatment building are included in the main HVAC and liquid systems / ETB facilities. There is no split in the PCER for solid waste storage process; these are expected to be insignificant in comparison to other discharges.	
				UKEPR-0008-001 [8]	Section 3.2.3 describes provisions for the restriction of radiation exposure and section 3.2.4 discusses restriction of discharges.	
	14	Radiation Protection Policy, Strategy, Methods & Provisions Aspects to address this requirement include: 1. A Radiation protection policy; 2. A radiation protection strategy; 3. Radiation protection methods; 4. Radiation protection provisions.			As for 13 above	
	15	Emergency Preparedness Arrangements	Aspects to address this requirement include: 1. An emergency response policy; 2. An emergency response strategy; 3. An emergency response procedure; 4. Emergency response responsibilities.	PCSR	Sub-chapter 18.3, section 4 discusses the principles that would be applied in the Emergency Plan.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				SS-PCSR	Emergency arrangements, responses etc are site specific and dealt with in the SS-PCSR. The Emergency Plan will be developed in detail before commissioning of the plant and will form part of the SS-PCSR	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
	17	Decommissioning & End-of-life Aspects during Operation	Description of how decommissioning and end-of-life aspects are addressed during operation of the plant. Aspects to address this requirement include: 1. A decommissioning policy; 2. A decommissioning strategy; 3. A decommissioning plan.	PCER	Sub-Chapter 5.1, sections 4.1 and 4.2 describe measures included in the design to facilitate decommissioning, such that the following can be fulfilled at an acceptable cost: • reduction of the radioactive dose received by workers, • reduction of radioactive waste and hazardous material. Sub-Chapter 5.1, section 4.3 describes the means to ensure that design features which facilitate decommissioning do not interfere with the correct operation of the nuclear facility. Sub-Chapter 5.2, section 2 describes arrangements that facilitate both decommissioning and maintenance. Sub-Chapter 5.2, sections 3.1 and 3.2 detail measure to limit contamination of systems and the spread of contamination, hence reducing the dose to workers. Sub-Chapter 5.2, section 4 provides information of decommissioning waste taking into account the decommissioning strategy, treatment and conditioning of waste. The tables present in section 4.4 give Raw waste estimations and the volume of final packages for ILW from decommissioning.	
				SRWSR [7]	Section 8.1 identifies features designed with decommissioning in mind. For example, see the following subsections: - 8.1.1.1 Choice Of Materials Of Construction To Minimise Neutron Activation; - 8.1.1.2 Optimisation Of Neutron Shielding to minimise the activation and contamination of equipment; - 8.1.1.5 Ease Of Removal Of Major Process Components Section 12.2.5 describes how after approximately 60 years of operation or as required the ISF can be extended to permit storage of decommissioning ILW. Section 12.4.6 discusses decommissioning of the ILW ISF itself.	
				IWS [11]	Section 5.5 describes the decommissioning strategy. Design measures to facilitate decommissioning are outlined in this subchapter as well as an estimate of the raw decommissioning wastes.	
	19	Demonstration of Compliance with Waste Storage Limits	Definition of an appropriate programme for demonstrating the continuing compliance of	ELI0800226 [10]	Sections 3.2.4 and 5.1 - Expected quantities of waste of the lifecycle are estimated in the referenced section. The facilities will be designed to be consistent with these quantities. Section 5 outlines the procedures for package control, guidance, surveillance and retrieval of ILW packages at the ISF.	No information currently on a waste monitoring programme. More information will be included in the SS-PCSR as the safety case is further

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail of requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
			waste stored within the storage limits. Aspects to address this requirement include: 1. The definition of storage limits; 2. The definition of a waste monitoring programme; 3. the definition of a waste storage procedure.	UKEPR-0008-001 [8]	Section 1.7.2 describes how no loose particulate contamination is expected to be present in the ISF during normal operations, as all radioactive material will be contained in packages that will have been thoroughly monitored for surface contamination at the Effluent Treatment Building. Section 3.2 states that during storage in the ISF, monitoring of all packages will not be required to be a standard procedure, but periodic checking of a sample of packages will be conducted (e.g. if indicated from remote visual inspection). Section 3.2.4 discuses restriction of discharges.	developed during the Licensing Phase.

5. TABLE 3: MAPPING FOR SPENT FUEL

a	*b*	*c*	*d*	*e*	*f*	*g*
No	**Related item number(s) from previous Guidance**	**Requirement (text from JRG**	**Additional detail requirement where necessary**	**RP references providing information to meet requirement**	**Summary of how the RP references provide the required information**	**Comments**
3. General contents General contents of a RWMC may include, in summary form:						
3.1	2 and 20	The waste streams (including their source of arising, characteristics, inventory and quantities)	See also item 6.1 regarding secondary wastes	PCER	Sub-chapter 6.2, section 3.2.2 describes how spent nuclear fuel arises.	
				IWS [11]	Section 5.4 provides an overview of the management of spent fuel.	
3.2	-	The current ownership of the waste streams		No reference required	At the GDA stage, no waste has been produced, so ‘current ownership’ of waste streams is not applicable at present. It is anticipated that all ILW will be in the ownership of the operator/ licensee until disposal.	
3.3	16	The management strategy for the waste streams	See also items 6.1 to 6.9	PCER	Sub-chapter 6.2, section 3 describes the spent nuclear fuel management strategy for the lifecycle.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				IWS [11]	Section 5.4 in particular describes the strategy for spent fuel.	
				SRWSR [7]	Section 1, Figure 1 provides a flow diagram of the radioactive waste streams Section 13.1.2 describes spent fuel export. Sections 13.2 and 13.3 describe the processes and procedures for the management of spent fuel within a wet ISF and a dry ISF respectively. Section 14.2.2 describes spent fuel transport arrangements.	
				ELI0800224 [14]	All sections. This document outlines the pool-based interim storage facility for spent fuel assemblies.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
3.4	1 and 2	Proposed waste management processes	See also items 6.1 to 6.9	PCER	Subchapter 6.5 section 4.2.2.2 describes wet underwater unloading of casks from beneath the pool. Subchapter 6.5, Section 4.2.3 describes spent fuel unloading for dry storage technologies, stating that only the vault type dry storage is provided with an unloading hot cell.	
				PCSR	Chapter 9 deals with related to the management of spent fuel. Section 3 describes auxiliary systems such as the Spent Fuel Cooling and Purification System. Section 4.3 describes the fuel handling system and section 4.3.1.2 describes the main defueling and refuelling operations including removal of spent fuel assemblies for transfer to the underwater fuel storage rack in the fuel building. Section 5.1 describes the Spent Fuel Cask Transfer Facility. Section 2 of sub-chapter 11.3 provides details of the waste management process for spent nuclear fuel. Section 4 of sub-chapter 11.5 provides information on the arrangements for interim storage of spent fuel.	
				SRWSR [7]	Section 1 provides a waste stream flow diagram, including spent fuel. Section 9 provides an overview of spent fuel treatment and storage options. SRWSR section 9.3.1.1 describes dry unloading. Section 13.1.2 describes how, after 10 years storage in the spent fuel pool, the fuel assemblies will be transferred, using a shielded transport container, to the interim storage facility, to be stored for up to 100 years prior to final disposal. Section 13.1.3 outlines operations for removal of spent fuel from the spent fuel pool. Options for both wet and dry unloading are discussed further in Sections 13.2 and 13.3 respectively.	
3.5	1	Relevant buildings and plant involved (e.g. for conditioning or storage) and their physical state	Note that the ‘physical state’ is not relevant at this stage as the spent fuel pool will be a newly built facility Decisions regarding site layout will be made during the site licensing stage therefore not applicable in the GDA. Options for both wet and dry storage of SF are presented. The decision will be operator specific. The choice between dry and wet unloading will also be operator specific			

No	Related item number(s) from previous Guidance	Requirement (text from JRG	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
			Spent fuel pool	PCER	Sub-chapter 1.2 section 3.1.5 provides information on the location and installation criteria related to the spent fuel storage pool. Sub-chapter 1.2, section 3.2.2.3 states that the spent fuel storage pool will be housed in the fuel building. Sub-chapter 6.5, section 4.2.2.4 describes spent fuel assembly transfer from the reactor fuel building to the ISF. Sub-chapter 6.5, section 4.2.3 describes unloading for dry storage technologies.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				PCSR	Sub-chapter 9.1, section 3 outlines the Spent Fuel cooling and purification system. Sub-chapter 9.1, section 9.1.3 Figure 1 gives an overview of the pools in the Fuel Building and the Reactor Building. Subchapter 9.1, section 5.1 describes the Spent Fuel Cask Transfer Facility. Section 9.1.5.1 – Figure 1 shows the Spent Fuel Cask Transfer facility. Subchapter 15.3 provides PSA of accidents in the spent fuel pool.	
				IWS [11]	Section 1.3 describes the layout including the main facilities for the processing and storage of waste.	
				SRWSR [7]	Section 2.1 states the reference case assumptions for spent fuel management including maintenance/refurbishment of the ISF for up to 100 years from the time that spent fuel is first placed in it. Section 13 describes the spent fuel ISF.	
			Interim storage facility (ISF)	Note that the location of the ISF for spent fuel is a site specific issue and its exact location is not yet known. The GDA contains options for both dry and wet storage of spent fuel; decision is operator specific; no option can be excluded.		More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				PCER	Subchapter 6.5, section 4.1 describes how, after 10 years in the spent fuel pool, the fuel assemblies will be transferred to the ISF to be stored for up to 100 years prior to final disposal. Subchapter 6.5, section 4.2 provides a summary of the requirements for design, construction and operation of a wet ISF) for spent fuel. Subchapter 6.5, section 4.2.2.4.7 describes the option of spent fuel storage in a long-term storage pool	

No	Related item number(s) from previous Guidance	Requirement (text from JRG	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				SRWSR [7]	Section 13.1.2 describes how, after 10 years storage in the spent fuel pool, the fuel assemblies will be transferred, using a shielded transport container, to the ISF, to be stored for up to 100 years prior to final disposal. Section 13.1.3 states that in the reference case the ISF will be based on the reactor site, but that further consideration could be given at licensing stage to the option of a centralised facility to accommodate spent fuel from several reactors, either on the site of one of the reactors or at a separate site. Section 13.3 describes the two sub-options for a dry ISF: Dry Storage in Flasks and Dry Vault Storage	
				ELI0800224 [14]	Section 3.1 also discusses the option of a centralised facility.	
				ELIDC0902019 [15]	Section 6.6 provides a generic outline plan for design, licensing, construction, and operation of a spent fuel ISF. Planning assumptions are given and a baseline plan is developed based on the different authorisations, consents and agreements needed to construct a facility and a high-level analysis of the duration of the various activities	
				ELI0800224 [14]	Section 3.2 describes the design of such a wet ISF. Section 3.3.1 outlines considerations for the location of a wet ISF.	
3.6	3	Relevant aspects of the facility organisation and the management of radioactive waste (eg the overall waste strategy for the site);	We interpret this item in terms of organisation and management across the site and all waste streams, rather than physical management of each waste stream as in item 3.3. See also items 6.1 to 6.9	PCER	Sub-chapters 2.1 and 2.2 cover organisation and management during the GDA stage and in construction The details of spent fuel facility management structure and safety management arrangements are site specific and will therefore be part of the SS-PCSR. .	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				IWS [11]	Sections 2.3 and 2.4 summarise organisation and management during the GDA stage	

No	Related item number(s) from previous Guidance	Requirement (text from JRG	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
3.7	4	Interdependencies among all steps in generation and management of radioactive waste management;	For spent fuel, the key interdependencies are between its treatment and storage and what secondary wastes arise	PCER	Sub-chapter 6.2 section 3 gives an overview of the spent nuclear fuel strategy. Figure 19 presents the solid radioactive waste and spent fuel streams. Section 3.2 in particular discusses spent fuel arisings while 3.4.2 provides an overview of options for spent fuel storage. Sub-chapter 6.3 section 2 provides a description of spent nuclear fuel arisings Subchapter 6.5 section 4.2.2.4 describes spent fuel assembly transfer from the reactor fuel building to the ISF. Sub-chapter 6.5, section 4.1 describes the design assumptions for spent fuel interim storage. Sub-chapter 6.5, section 4.2 describes the options and requirements for spent fuel interim storage. Sub-chapter 6.4 section 4.1 describes the solid waste treatment systems. Sub-chapter 5.2 provides information on the minimisation of secondary wastes during decommissioning.	
				IWS	Section 3.3.3 states that “wastes arising from the operation of the spent fuel store will require appropriate management as for similar wastes produced by the operation of the station.”	
				SRWSR [7]	Section 9.3 describes spent fuel treatment and storage options. Specifically, section 9.3.1.2.3 provides a comparison between wet and dry interim storage technologies outlining the advantages and drawbacks of each, including what secondary waste is generated. Section 13 discusses in more detail the options for spent fuel interim storage facilities. Section 13.2.2.5 in particular describes the purification of storage pool water	
				UKEPR-0016-001 [21]	Chapter 6, section 3.4 discusses secondary waste. Chapter 6, section 4 discusses secondary waste together with the sensitivity of the waste streams to the decommissioning processes.	
				UKEPR-0009-001 [9]	Section 3.2.4 describes how discharges (secondary effluents) are restricted. Section 4.4 describes optimisation of waste management requirements.	
3.8	29	How the generation of radioactive waste is minimised.	See also item 7.1	PCER	Sub-chapter; 6.2, section 3.2.2 and sub-chapter 6.3 section 2 describes the better energy yield of the EPR™ due to its design features and enhancements in fuel performance, relative to the previous generation of reactors. This will reduce the total volume of spent fuel for storage and disposal. Subchapter 6.3, section 2 and sub-chapter 8, section 3.2.1 describes the design features that will reduce the volume of spent fuel (e.g. increased efficiency and increased burn up).	

No	Related item number(s) from previous Guidance	Requirement (text from JRG	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				SRWSR [7]	Section 9.1.3 describes how secondary wastes are minimised by design and by applying operating experience with this type of reactor plant. Section 9.3 describes spent fuel treatment and storage options. Specifically, section 9.3.1.2.3 provides a comparison between wet and dry interim storage technologies outlining the advantages and drawbacks of each. It states that a drawback of underwater storage is the production of liquid and solid secondary waste (resins etc.).	
				BAT report [12]	Section 3.5 item 3 and section 3.6 item 3 both describe how the EPR™ has increased fuel performance compared to a typical PWR, therefore reducing spent fuel arisings for a given power output.	
3.9	7	How the radioactive waste is adequately controlled and contained.	See also items 8.4 to 8.12.	PCER	Sub-chapter 6.5, section 4.2.2.4 describes one of the safety objectives of underwater interim spent fuel storage as being to keep fuel shielded and contained.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				IWS [11]	Section 5.4 describes the strategy for storage of spent fuel assemblies	
				SRWSR [7]	Sections 2 and Chapter 13 describe how spent fuel storage facilities provide safe and secure containment of radioactive material.	
				ELI0800224 [14]	Section 3 describes the design requirements for spent fuel pool-based interim storage facility and outlines basic storage technologies. Sections 4.2.1 and 4.2.2 outline the safety principles that will be applied and policies that will be complied with at the facility. Section 4.2.3 outlines the radiological hazards with which the facility will be designed to control. Section 4.2.4 lists the fundamental safety functions relating to the design of the facility. Section 4.2.5 lists the requirements for safety systems. Section 4.2.6 describes the design features of the facility to withstand external hazards.	
3.10	8	How any safeguards and security issues will be addressed;		ELI0800226 [10]	ELI0800226, section 6.1.3.6 outlines security matters.	The protection of the facility will be described in the Security Plan.
				SS-PCSR	The facility security arrangements including the security management system are site specific and will therefore be part of the SS-PCSR	

No	Related item number(s) from previous Guidance	Requirement (text from JRG	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
3.11	9	How the radioactive waste meets the relevant requirements to enable its transport;	See also items 6.7 and 8.2	IWS [11]	Requirements for transport from the reactor site to the proposed Geological Disposal Facility (GDF) are defined by RWMD. The risks arising from this operation are assessed in a Generic Transport Safety Assessment. The RWMD Letter of Compliance (LoC) process, provides assurance that a waste transport package meets foreseen requirements for transport and disposal Section 3.4 outlines assumptions for storage, conditioning and disposal of waste and describes the UK Government's assumption, for GDA stage that a GDF will be available.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				SRWSR [7]	Section 14.2.2 is concerned with spent fuel transportation and details casks that can be used for carriage of spent fuel.	
3.12	45	Quality assurance arrangements	See also item 8.16	PCER	Subchapter 2.1 describes the project organisation and subchapter 2.2 describes quality and environmental management.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				IWS [11]	Section 2.4 outlines the quality systems in place for GDA stage.	
				SS-PCSR	All activities will be subject to a quality assurance programme encompassing the entire procurement cycle including the option selection process, the detailed design, construction and the operation. Quality documentation will be generated and maintained in accordance with the Site Licence Conditions. Local procedures will be developed as part of the SS-PCSR.	
3.13	56, 58	Information and records management arrangements.	See also item 10.1 to 10.4	PCER	Sub-chapter 6.5 section 6 describes how records of spent fuel accepted into, stored in and exported from the interim storage facilities will be retained in accordance with the requirements of the Nuclear Site Licence Conditions.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				R010 002 (A) [17]	This document details the type of information that will be maintained and the means of ensuring the information is retained.	
				SRWSR [7]	Compliance with requirements of Site Licence Conditions on keeping nuclear related records Section 10.1.4 provides an outline of the arrangements for identifying and recording information that may be required in the future to facilitate the subsequent management of radioactive substances and facilities.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				UKEPR 0008.01 [8]	Section 6.2.5 outlines the arrangements for enabling the retrieval of specific waste packages for inspection. Section 7.4 provides an outline of data retention and record management for stored waste and waste facilities.	

RP references providing information to meet requirement	Summary of how the RP references provide the required information
4 The RWMC should refer where appropriate to relevant safety and environmental cases or other supporting documentation for detailed information and assessments.	
RP references providing information to meet requirement	**Summary of how the RP references provide the required information**
PCSR	Sub-chapter 3.1, section 1.2.5. describes safety functions, safety classification and associated requirements relevant to waste storage Sub-chapter 9.1 - Fuel Handling and Storage. This subchapter describes the role, design basis and provide a preliminary safety analysis for the following systems concerned with spent fuel. Section 2.2 - Underwater fuel storage rack, Section 3.2 - Spent fuel cooling and purification system, section 4.2 – Fuel handling system, section 5.1 - Spent Fuel Cask Transfer Facility. Sub-chapter 15.0, section 1 identifies potential radioactive releases due to spent fuel storage pool and spent fuel handling facilities. Section 15.0 Table 1 identifies fault groups associated with spent fuel analysis that are addressed in the PSA. Subchapter 15.3 provides PSA of accidents in the spent fuel pool in the event of non-draining (loss of cooling chain) or in the event of draining. Subchapter 15.5, section 3.2 assesses individual risk to any person off-site due to one of the spent fuel related fault groups identified in subchapter 15.0 Table 1. Subchapter 16.3, section 4 provides a discussion on fuel damage in the spent fuel pool.
UKEPR0009-001 [9]	Section 2 provides information on the safety aims and design safety principles for the spent fuel interim storage facility. Section 3 provides a preliminary assessment of risks and hazards for the spent fuel interim storage facility. Section 4 provides information on the minimisation of active safety management over the lifespan of the facility.

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
6. Radioactive waste management strategies. The RWMC should summarise how the management of the relevant waste stream(s) fits into the overall waste strategy for the site and, by referencing the integrated waste strategy as appropriate, include:						
6.1		Any subsidiary or secondary waste streams produced	See also item 7.1 – secondary waste is potentially generated in conditioning and treatment	IWS [11]	Section 5.5 identifies methods that will be used to minimise secondary waste production. The reference case design for spent fuel involves interim storage in a pool, with filtering of pool water using ion exchange resins Wet or dry interim storage may be used after this – each has advantages and disadvantages, one aspect of which is the generation of secondary wastes.	
				SRWSR [7]	Section 7 outlines the options for the treatment of the different types of solid radioactive wastes arising from operation. Secondary wastes arising are identified. Within the constraints of the regulatory requirements it is intended that there will be flexibility for individual utilities to select and optimise their own waste management strategies.	
6.2	21	Identification of the ultimate destination for the wastes, be it disposal or long-term storage		PCER	Sub-chapter 6.2, section 3.4.2 discusses the ultimate destination of spent fuel. Sub-chapter 6.3, section 3.2 (table 2), presents the different waste pathways in the UK taking into account the UK classification for waste and spent fuel. Sub-chapter 6.5, section 4.3 will be updated to address the research needed to ensure the waste and spent fuel can be stored, transported and disposed of. Sub-chapter 6.5, section 5.3 will be updated to address the disposability of spent fuel.	
				IWS [11]	Sections 3.4 and 5.4 describe the UK Government's assumption that a GDF will be available, and that spent fuel will be sent to the GDF rather than being reprocessed.	
				UKEPR 0009.01 [9]	Section 7 addresses plans for the retrieval of spent fuel from the ISF for onward processing or disposal.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
6.3	22	The options and processes considered to convert the raw waste into a product that is suitable for long-term interim storage and/or disposal (including any pre-treatment stages		PCER	Sub-chapter 6.2, section 3 describes the spent nuclear fuel management strategy for the lifecycle of the UK EPR. Sub-chapter 6.5, section 4 identifies the spent fuel storage options; wet storage, dry storage in metal casks and dry vault type storage. The wet ISF is described. Sub-chapter 8.2, section 3.3.3.1 identifies that filtration is involved in the treatment of all the types of spent fuel effluent. Sub-chapter 6.5, section 4.3 will be updated to address the research needed to ensure the waste and spent fuel can be stored, transported and disposed of. Sub-chapter 6.5 (to be updated) describes the current status of discussions with NDA regarding the disposability of spent fuel.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				SRWSR [7]	Section 9.3 identifies the spent Fuel Treatment and Storage options. A decision has not been made yet as to which option will be selected; this is an operator specific decision, only to be made by the future operator.	
6.4	23	The reasons and assumptions used to reject options		SRWSR [7]	Section 13 describes the three spent fuel storage technologies considered. A decision has not been made yet as to which option will be selected.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				BAT report [12]	Section 3.2 identifies reasons (in 5.2 of the table) for rejecting methods for preventing the evaporation of tritium from the spent fuel pool.	
6.5	24	The reasons, assumptions, uncertainties, calculations and conclusions for selecting the preferred option(s), including comparison of the safety and environmental performance of the preferred option(s) with the options that were not selected		SRWSR [7]	Section 13 describes the three spent fuel storage technologies considered. A decision has not been made yet as to which option will be selected.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				BAT report [12]	Section 3.2 identifies that health and safety reasons (in 5.2 of the table) dictate the preferred option.	
6.6	25	How the preferred option is consistent with the IWS		IWS [11]	Section 2 shows a possible Waste Strategy Lifecycle, which includes spent fuel.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				SRWSR [7]	Section 2 shows a possible Waste Strategy Lifecycle, which includes spent fuel. The strategy has been aligned with existing Government policy and guidance concerning the Decommissioning and Waste Management Plan (DWMP) Base Case for new nuclear power stations in the UK.	
6.7	26	How the preferred option is consistent with existing and reasonably foreseeable provisions for transport, storage and (in England and Wales) disposal;		PCER	Sub-chapter 6.5, section 4 describes the arrangements for spent fuel storage. Sub-chapter 6.5, section 5.3 states that the NDA Disposability Report concludes that, for the Reference Case, spent fuel from operation and decommissioning should be compatible with plans for transport and geological disposal of higher activity wastes and spent fuel.	
				IWS [11]	Section 3.4 and 5.4 describe the UK Government's assumption, for GDA stage, that a GDF will be available, and that spent fuel will be sent to the GDF.	
				SRWSR [7]	Section 2 discusses the strategy for the storage of spent fuel and identifies base case assumptions.	
6.8	27	Details & Plans for any Stakeholder or Public Consultation	.	IWS [11]	Section 3.5 outlines engagement with internal and external stakeholders on environmental and waste management issues related to environmental and waste management issues associated with the design.	
				SRWSR [7]	Section 5.1 outlines lliaison with UK Regulators and potential waste service providers	
6.9	28	The use of, and implications for, existing waste disposal routes if the preferred option is selected.		IWS [11]	Section 3.4 identifies assumptions, risks and opportunities relating to waste management.	
				SRWSR [7]	Section 2 discusses the strategy for the storage of spent fuel and identifies base case assumptions.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
7. Waste minimisation, characterisation and segregation. The RWMC should summarise how the management of the relevant waste stream(s) applies the requirements for minimisation, characterisation and segregation, details of which may include:						
7.1	29	Description of the techniques to be adopted to prevent or minimise arising (including how any secondary wastes generated during conditioning will be prevented or minimised)	Minimisation of spent fuel generation	PCER	Sub-chapter; 6.2, section 3.2.2 and sub-chapter 6.3 section 2 describe the better energy yield of the EPR™ due to its design features and enhancements in fuel performance. This will reduce the total volume of spent fuel arising. Sub-chapter 8, section 3.2.1 describes the reactor design features that will reduce the volume of spent fuel (e.g. increased efficiency and increased burn up).	
				BAT report [12]	Section 3.5 item 3 and section 3.6 item 3 both describe how the EPRTM has increased fuel performance compared to a typical PWR, thus reducing spent fuel arisings.	
			Minimisation or prevention of secondary wastes	PCER	Sub-chapter 6.5, section 4 identifies the spent fuel storage options; wet storage, dry storage in metal casks and dry vault type storage. If the dry storage option is selected, conditioning will involve enclosing the spent fuel in containers, which will become secondary waste	
				PCSR	Sub-chapter 9.1 discusses fuel handling and storage. Spent fuel is stored in the spent fuel pool. Spent ion exchange resin will arise.	
				SRWSR [7]	Section 9 gives an overview of the arrangements for management of spent fuel. Section 9.3 describes spent fuel treatment and storage options. Specifically, section 9.3.1.2.3 provides a comparison between wet and dry interim storage, outlining the advantages and drawbacks of each. A drawback of wet storage, as stated in this section, is the production of secondary waste liquid and solid (resins, etc.) from treatment of the pool water.	
7.2	30	The details of the methods to be used for the segregation and characterisation of wastes and the steps to be taken to avoid dilution.		PCER	Sub-chapter 6.2, section 3 describes the spent fuel management strategy	
				SRWSR [7]	Section 13 describes the three spent fuel storage technologies considered.	
				UKEPR 0009.01 [9]	Section 2.4.3 identifies Design Safety Principles for interim storage, including spent fuel characterisation and segregation.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
7.3	31	The evidence that the (segregated) waste streams can be characterised to the level necessary to ensure compliance with the specifications for waste packaging (eg with respect to potential variability or heterogeneity).		SRWSR [7]	Section 9 presents the predicted spent fuel characteristics	
				UKEPR 0009.01 [9]	Section 2.4.3 identifies Design Safety Principles for interim storage, including spent fuel characterisation and segregation. Section 6.2.4 identifies requirements for characterisation of spent fuel assemblies.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
8. Conditioning and disposability The RWMC should summarise how conditioning is applied in management of the relevant waste streams (in particular how disposability is ensured, details of which may cover:						
8.1		How passive safety will be achieved	See also 8.7 regarding passive measures to ensure criticality safety	SRWSR [7]	Section 13.3.3 describes specific safety features of dry storage in flasks.	
8.2	33	The evidence that the waste package produced will be consistent with existing and reasonably foreseeable provisions for transport, storage and disposal. For most higher-activity radioactive wastes this will take into account advice provided by the NDA RWMD in the form of a Letter of Compliance. Where other options are considered, eg decay storage, then this evidence will need to be derived by the licensees themselves;		IWS [11]	Sections 3.4 and 5.4 describe the UK Government's assumption, for GDA stage, that a GDF will be available and the LoC process.	
				SRWSR [7]	Section 14 identifies provisions for transport of spent fuel along with details of the TN™13-2 cask.	
8.3		Identification of any significant issues that may challenge disposability. These issues should be set out in detail together with any assumptions made in arriving at that conclusion (eg incompatibility with a		PCER	Sub-chapter 6.5, section 5.3 will be updated to addresses the disposability of spent fuel.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				UKEPR0009-001 [9]	Section 1.4 states design assumptions for the spent fuel ISF in terms of the quantity of fuel assemblies, fuel assembly residual power and facility lifetime. Section 7.2 lists Design Safety Principles of particular importance in relation to final export of spent fuel from the facility.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
		specific facility design concept or feature thereof, incompatibility of the transport container with standard designs, or issues that may restrict the future choice of a geological environment for the disposal facility)		R10-017 (A) [18]	Section 2 identifies issues raised in the RWMD disposability assessment report and proposed resolutions. Section 3 identifies issues raised in the EDF/AREVA critique and proposed resolutions.	
8.4	34	The intended specification for the waste package (presented in a format suitable for external audit to ensure compliant packages have been produced)		SRWSR [7]	Section 14 identifies packages for the transfer of spent fuel, which may be used. Dimensions and thermal power ratings are specified for the TN™13-2 cask. Section 13.3.1.2 specifies dose rates from the TN DUO flask. Section 13.3.1.3 gives the TN DUO characteristics, including dimensions and thermal power ratings.	
8.5	35	How the inventory of individual packages will be controlled and measured, including demonstration that any heterogeneity or variability in the waste stream can be accommodated within the specifications for the final waste form;		PCER	Sub-chapter 6.5, section 4.3 will be updated to address the research needed to ensure the spent fuel can be stored, transported and disposed of.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase
				SRWSR [7]	Section 9.1.2 gives the predicted spent fuel characteristics and includes figures for heat generation by the spent fuel assemblies. Section 13.3 describes the dry ISF using Metallic Flasks Technology. Section 13.3.4 describes the dry storage vault ISF. Detailed assessments will be carried out during site licensing.	
				UKEPR0009-001 [9]	Section 7.4 lists operating and maintenance data, which must be controlled and managed during handling and storage for safe and reliable operation. Temperature is included.	
				SS-PCSR	Arrangements for monitoring heat generation will form part of the SS-PCSR.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
8.6	6, 36	A demonstration that the proposed packaging and conditioning strategy uses BPM/ BAT to minimise long-term environmental impact and to ensure associated doses are ALARP		PCER	The GDA contains options for both dry and wet storage of spent fuel; neither option is excluded. The decision between these options is an operator specific one. Sub-chapter 6.5, section 4.1 provides information regarding the ALARP requirement. Sub-chapter 6.5, section 4.2.1 introduces the two options. Subchapter 6.5, section 4.2.2and specifically section 4.2.2.4.7 (to be updated) describes the option of wet interim storage of spent fuel Sub-chapter 6.5, section 4.3 will be updated to address the research needed to ensure the waste and spent fuel can be stored, transported and disposed of. Sub-chapter 6.5, section 5.3 will be updated to address the disposability of spent fuel. This will include information on encapsulation facilities for spent fuel. Sub-chapter 8.2, section 3.2.1 identifies how BAT is applied to spent fuel.	
				SRWSR [7]	Section 1.1 states “the options presented can be used by utilities to demonstrate that the design makes use of Best Available Techniques”. Sections 9 and 13 describe Dry storage techniques. Section 13.1.2 provides information on when and how spent fuel is exported to the ISF. Sections 13.2 and 13.3 provide information on the wet and dry storage options Decisions regarding options will be made at the site licensing stage.	
				BAT report [12]	The BAT report provides evidence that the best available techniques (BAT) have been used to prevent, and where that is not practicable, minimise the production of radioactive waste at source and that, in the management of radioactive waste, BAT have been used to ensure that the overall environmental risk and impact are minimised.	
				SGN NT 100330 20 005 [19]	This report provides an overview of international practice and on-going development on spent fuel encapsulation and shows that the encapsulation of UK EPR spent fuel for disposal is technically feasible.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				UKEPR0009-001 [9]	Section 1.5 describes the applicability of BAT and ALARP to the spent fuel ISF. Section 1.6 describes the approach for compliance with the ALARP principle. Section 2.4.1 identifies adherence to DSPs contributing to the delivery of compliance with the ALARP Principle. Section 2.4.2 identifies requirements for employing BAT. Section 3 demonstrates that risks will be controlled to levels that are ALARP throughout the facility's operational life. Section 3.2.4 identifies that the design will employ BAT for the abatement of discharges of radioactivity to the environment and for the overall strategy for disposal of all wastes generated at the facility. Section 6.3 describes how the inspection and monitoring regime adopted will contribute to ensuring compliance with the ALARP principle. Section 6.4.6 identifies that procedures and equipment employed for spent fuel retrieval may need to be modified in order to maintain risks ALARP. Section 3.2.2 addresses normal operational doses. Section 3.2.3 addresses restriction of radiation exposure.	
				UKEPR0016-001-I00	Chapter 2 and chapter 6, section 8 provides information on the BAT assessment.	
				ELI0800224 [14]	An overview of the proposed pool-based interim storage facility for spent fuel is provided. Section 3 lists the design requirements.	
				ELIDC0902019 [15]	This plan aims to demonstrate that proposals for longer-term management of wastes are credible for both wet and dry storage options. Section 6.4 outlines demonstration of application of BAT and describes how the choice of storage facility (wet or dry) will be made. Section 8 describes the plan for operation of the spent fuel interim storage facility.	
8.7	37	A demonstration that the proposed strategy will not lead to significant increases in the possibility of a neutron chain reaction in a	Interpreted as important in *storage* as well as in a disposal facility	PCER	Sub-chapter 6.5, section 4.3 will be updated to address the research needed to ensure the spent fuel can be stored, transported and disposed of.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
		disposal facility		SRWSR [7]	Section 13.2 identifies measures to ensure criticality safety. Section 13.3 identifies that criticality safety is achieved by ensuring that the geometric arrangement of spent fuel is safe throughout the handling and storage operations. Measures to provide protection from dropped loads in the dry vault ISF are identified. Section 13.3 identifies design features to ensure sub-criticality of the metallic flasks.	
				UKEPR0009-001 [9]	Section 4.2.6.2 discusses load impact hazards and identifies safety measures.	
8.8	38	An assessment of the long-term performance and degradation of the waste containers	.	PCER	Sub-chapter 6.5, section 4.2.2.4.7 will be updated to address the safety of long-term spent fuel storage in pools.	
				SRWSR [7]	Section 9 presents performance and characteristics of spent fuel. Section 9.3 describes spent fuel treatment and storage options. Waste containers are also described.	
				UKEPR009-001 [9]	Section 3.3.5.4 discusses degradation mechanisms affecting spent fuel assemblies and means to prevention/mitigation. Section 5 discusses the maintenance of integrity of the fuel cladding during storage.	
8.9	-	Identification of any potential package failure mechanisms		SRWSR [7]	Section 10.3 provides a top-level description of the main hazards and a description of generic safety features that could be incorporated into the design of process equipment to control the hazards presented.	
				R10-006 (A) [16]	Section 4.2.1 provides an assessment of the long-term performance and potential package failure mechanisms.	
				UKEPR009-001 [9]	Section 5.2 provides information on the potential fuel damage mechanisms.	
8.10	39	Evaluation of any reactions that may take place between the waste and the conditioning matrix		PCER	Sub-chapter 6.5, section 4.3 will be updated to address the research needed to ensure the waste and spent fuel can be stored, transported and disposed of. Sub-chapter 6.5, section 5.3 will be updated to address the disposability of spent fuel.	
				SRWSR [7]	Section 9.3 provides a description of the fuel treatment options.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
8.11	40	An evaluation of the long-term performance of the waste form, e.g. assessment of the potential for cracking and chemical degradation.		PCER	Sub-chapter 6.5, section 4.3 will be updated to address the research needed to ensure the waste and spent fuel can be stored, transported and disposed of. Sub-chapter 6.5, section 5.3 will be updated to address the disposability of spent fuel.	
				SRWSR [7]	Section 9.1 describes the performance and characteristics of spent fuel.	
				R10-006 (A) [16]	Section 4.2.1 provides an assessment of the long-term performance and potential package failure mechanisms.	
8.12	41	Assessment of the potential for gas generation from the wastes in the long term		PCER	Sub-chapter 6.5, section 4.3 will be updated to address the research needed to ensure the waste and spent fuel can be stored, transported and disposed of. Sub-chapter 6.5, section 5.3 will be updated to address the disposability of spent fuel.	
8.13	42	Consideration of the impact of toxic materials as a result of release from a disposal facility and environmental impacts that might arise during, or as a result of, operations		PCER	Sub-chapter 6.5, section 5.3 presents an estimation of the effluents discharged and the waste produced by the operation of the reactor. Sub-chapter 6.5, section 5.3 will be updated to address waste encapsulation and disposal.	
				SRWSR [7]	Section 6.3.1 provides a waste stream datasheet for ion exchange resins, which includes wastes originating from the coolant purification system. Section 9 deals with material impacts on disposal. Section 9.2 provides information on the type and total quantity of core activated components expected over the 60-year operational phase. Section 9.3.1.1.3 provides information on environmental issues related to spent fuel unloading technologies.	
8.14	43	An assessment of the potential impact from any detrimental effects due to chemical species that may be present in the wastes or might		PCER	Sub-chapter 6.5, section 4.3 will be updated to address the research needed to that ensure that the waste and spent fuel can be stored, transported and disposed of.	
				PCSR	Sub-chapter 9.1 sections 1.4, 2.4, 3.5, 4.4 and 6.5 provide safety assessments for spent fuel handling and storage.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
		reasonably be expected to form; e.g. enhancement of radionuclide solubility through chemical complex formation		UKEPR 0009.01 [9]	Section 5.7 specifies the criteria for assessing whether a fuel assembly is damaged and also identifies options for the monitoring and long-term storage of spent fuel.	
8.15	44	How conditioned waste that does not meet specifications will be managed		PCER	Sub-chapter 6.5, Section 4 and Section 4.2.2.4.7 will be updated to address the safety of long-term spent fuel storage in pools.	
				UKEPR0009.01 [9]	Sections 5.3.1 and 5.3.2 discusses fuel integrity during wet and dry storage respectively Sections 5.7.1 and 5.7.2 discusses fuel assembly damage and the detection of damaged fuel respectively. Section 5.7.3 describes options for managing damaged fuel. Section 6 discusses the provisions and functions for the retrieval and inspection of spent fuel . Section 6.2.1 identifies design safety principles to be addressed. Section 6.2.2 discusses retrievability of spent fuel assemblies. Sections 6.2.3 and 6.2.4 discuss monitoring of spent fuel assemblies. Section 6.2.5 details the importance of accountancy and maintenance of records to enable the retrieval of specific waste packages. Section 6.3 and more specifically section 6.3.2 describe the inspection and monitoring regime. Section 6.4 describes the retrieval of spent fuel from the ISF. Sections 6.4.2 and 6.4.3 identifies procedures for retrieval of spent fuel from a wet and dry storage facilities respectively. Section 6.4.4 identifies procedures for retrieval of spent fuel from dry storage casks. Section 6.4.5 identifies procedures for retrieval of spent fuel from modular storage systems.	
8.16	45	Arrangements for quality assurance and records	See also 10.1 to 10.4	UKEPR0009.01 [9]	Section 7.2 details the need for accurate records relating to the final retrieval and processing for disposal. Section 7.4 provides an overview of data retention and records maintenance.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
8.17		How developments in disposal facility		PCER	Subchapter 6.5 section 4.3 describes research and development (R&D) programmes performed worldwide to define spent fuel storage acceptance criteria.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
		requirements will be taken into account.		SGN NT 100330 20 005 [19]	This document provides details of the R&D work already performed on fuel storage, including national and international programmes, and discusses potential future R&D required to meet new requirements.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
9. Storage of radioactive waste The RWMC should summarise how radioactive waste is stored, details of which may include:						
9.1	46	Storage capacity requirements		PCER	Sub-chapter 6.5, section 4.1 describes the design assumptions regarding the capacity required for a spent fuel ISF.	
				IWS [11]	Section 5.4 describes the assumed capacity of a spent fuel ISF.	
				SRWSR [7]	Section 13.3.2 describes the assumed capacity of a spent fuel ISF.	
9.2	47	Estimates of package lifetime and the proposed timescale for storage;		PCER	Subchapter 6.5, section 4.1 describes how, after 10 years in the spent fuel pool, the fuel assemblies will be transferred to the ISF to be stored for up to 100 years prior to final disposal.	
				SRWSR [7]	Section 13.1.2 describes how, after 10 years storage in the spent fuel pool, the fuel assemblies will be transferred, using a shielded transport container, to the ISF, to be stored for up to 100 years prior to final disposal. Section 13.1.3 states that in the reference case the ISF will be based on the reactor site, but that further consideration could be given at licensing stage to the option of a centralised facility to accommodate spent fuel from several reactors, either on the site of one of the reactors or at a separate site.	
				IWS [11]	Section 3.3.3, describe timing constraints and dependencies. Section 3.4 describes assumptions, risks and opportunities including some related to timing.	
				R10-006 (A) [16]	Section 4.2.1 summarises assessments of the long-term performance and potential package failure mechanisms. and in particular the limited need for human intervention to ensure longevity.	
				ELIDC0902019 [15]	Section 6.6, Figure 1 gives timescales for design, construction and commissioning of interim storage facility and indicates the latest possible times when activities should be done for facility to be available.	
				UKEPR0016-001-I00 [21]	Chapter 3, sections 1, 2.1, 3, 3.1 and 3.2 provide timing information. Chapter 7, section 2.4 provides information on the decommissioning plans.	
9.3	48	Demonstration that the conditioned wastes will remain within the agreed specification for final disposal throughout the storage period.		SRWSR [7]	Section 13 presents the predicted characterisation of spent fuel.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				UKEPR 0009.01 [9]	Presents predicted characterisation of spent fuel.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
9.4	32, 46, 49	How passive safety will be achieved.		PCSR	Sub-chapter 9.1 discusses fuel handling and storage. Section 2 discusses the underwater fuel storage rack and states functional criteria for containment of radioactive substances: containment being provided by the fuel cladding itself. Section 3 describes the spent fuel cooling and purification system. The water in the pools above the spent fuel assemblies is to be deep enough to ensure radiological protection of staff. Cooling is not by passive means, but for reliability the cooling system will comprise two main trains and a third independent train.	
				SRWSR [7]	Section 13 describes the spent fuel interim storage facilities and identifies that during storage and transport, spent fuel cooling is achieved entirely by passive processes. Shielding and containment are also described.	
				UKEPR0009-001 [9]	Section 4 describes passive measures used to achieve safety. Section 6.3 provides details of the monitoring and inspection regime for the reactor storage pool and ISF.	
9.5	50	the integrity of the storage arrangements;		SRWSR [7]	Section 13 describes features of spent fuel containers and of the ISF designed to ensure and monitor integrity, including shielding and heat removal, ventilation and leak-tightness	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				R10-006 (A) [16]	Section 4.2.1 summarises assessments of the long-term integrity and in particular the limited need for human intervention to ensure integrity.	
9.6	51	Arrangements for leak detection;		PCER	Sub-chapter 6.5, Section 4.3 will be updated to include the research needed to ensure that the waste and spent fuel can be stored, transported and disposed of.	
				SRWSR [7]	Sections13.2 identifies leak detection arrangements.	
				UKEPR 0009.01 [9]	Section 6.3.2.4 suggests that automated leak detection systems will not be used, and frequent inspection is unlikely. Section 3.2.1 states that In the case of dry storage, the air from the storage wells cooling system will be continuously monitored prior to stack discharge.	
9.7	52	Details of ventilation requirements and the filtration of airborne releases		PCER	Sub-chapter 6.5, section 4.1 will be updated to address the Spent Fuel ISF.	
				UKEPR0009.01 [9]	Section 3.2.1 provides information on the ventilation system in its use in containing radioactive materials. Section 3.2.4 provides information on the restriction of discharges. Section 4.2.1 provides information on the control of environmental discharges.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
9.8	53	Environmental monitoring arrangements		PCER	Sub-chapter 6.4, section 2.3.1 provides information on the Nuclear Island Liquid Effluent Monitoring and Discharge System. Sub-chapter 6.4, section 2.5.1 provides information on the system for collection, monitoring and discharge of waste from the conventional island. Sub-chapter 6.5, section 4.1 will be updated to address the Spent Fuel ISF. Sub-chapter 7.1 contains a list of EA guidance documents to be considered for monitoring of the environment, including: M11 (Monitoring Releases to Atmosphere from Nuclear Facilities), M12 (Monitoring Releases to Water from Nuclear Facilities) and M18 (Monitoring of Discharges to Water and Sewer). Sub-chapter 7.3 provides information on the monitoring of gaseous and liquid radioactive discharges. Sub-chapter 11.4 provides information on environmental monitoring.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase
				IWS [11]	Section 5.6 provides information on the monitoring arrangements.	
				UKEPR0009.01 [9]	Section 6.2.1 identifies Design Safety Principles, which address environmental monitoring aspects.	
				SS-PCSR	Monitoring and discharge systems will facilitate compliance with the site-specific authorised discharge limits for liquid and gaseous effluent. Local environmental monitoring procedures and responsibilities will form part of the SS-PCSR.	
9.9	18, 54	How the stored waste will be inspected and retrieved	See also item 8.15	SRWSR [7]	Section 13.2.2.3 provides information on the retrieval of spent fuel from the spent fuel storage pool. Section 13.3.3.1.1 describes provisions for inspection of the spent fuel flasks in the dry ISF. Section 13.3.4.2.1 provides information on the facilities for removal of fuel assemblies from the dry storage vault.	
				UKEPR 0009.01 [9]	Section 6.3 provides information on the inspection and monitoring regime. Section 6.4 provides information on the spent fuel retrieval procedures.	
				SGN NT 100330 20 0004 [20]	Document provides detail of the maintenance principles and design requirements, and their application.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
9.10	53, 55	How packages that show evidence of deviating from specification during storage will be managed		UKEPR 0009.01 [9]	Section 5 describes the provisions that will be made for fuel or equipment that fails to meet the required characteristics. Section 6.4.6 provides information on the potential implications of material ageing.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
10. Control, accountancy and records The RWMC should summarise how control, accountancy and records of the relevant waste stream(s) are to be applied, details of which may include:						
10.1	57	The arrangements for identification of information that may be required in the future to facilitate the subsequent management of radioactive substances and facilities		PCER	Sub-chapter 6.5, section 6 describes how records of spent fuel accepted into, stored in and exported from the interim storage facilities will be retained in accordance with the requirements of the Nuclear Site Licence Conditions. Sub-chapter 6.5, section 6 is to be updated to explain the requirement for the production, long-term management, maintenance and preservation of records for spent fuel.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				R010-002 (A) [17]	Compliance with requirements of Site Licence Conditions on keeping nuclear related records.	
10.2		the ongoing measures to demonstrate whether compliance with requirements and standards has been achieved;		-	Ongoing demonstration of compliance through conformity with Site Licence Conditions relating to Active and Reactive Monitoring/Auditing and Periodic Reviews Of Safety will be undertaken in accordance with requirements driven by SSSC	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
10.3	58	The timescales over which such information should be collected and retained.		PCER	Sub-chapter 2, section 2.1.3 describes the preservation and retention of records produced during GDA.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				UKEPR 0009.01 [9]	Section 7.4.3 identifies requirements for the secure storage of information.	
10.4	59	the environmental conditions for storage and long-term preservation of records.		PCER	Subchapter 6.5, section 6 Describes how records of spent fuel accepted into, stored in and exported from the interim storage facilities will be retained in accordance with the requirements of the Nuclear Site Licence Conditions. The retention and preservation of records will be undertaken in accordance with modern standards of good practice. Compliance with requirements of Site Licence Conditions on keeping nuclear related records. Paper and electronic storage will be used and suitable storage locations/conditions will be identified. Sub-chapter 2.2 provides information on Quality Management.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
				UKEPR 0009.01 [9]	Section 7.4 provides information on data retention and record maintenance.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
Items from previous RWMC Guidance [4] but not in current RWMC Guidance [3]						
	5	Key applicable legislation	Identification of any relevant: 1. Regulations; 2. Codes of Practice and Standards; 3. Modern Standards; 4. Best Practice	PCER	Sub-chapter 1.4, section 3 presents the basic regulatory requirements. Sub-chapter 1.4, section 3.1.3 identifies compliance with RSA 93 for the control of radioactive material and any subsequent accumulation and disposal of solid, liquid and gaseous radioactive waste. Sub-chapter 1.4, section 3.3 identifies legislation on which UK waste management practices are based. Sub-chapter 1.5, section 4 provides a comparison with international standards.	
				IWS [11]	Section 2.1 identifies the main regulatory policies and principles relating to waste management, which must be complied with. Section 2.2 describes the waste hierarchy around which the waste management policy for the design is based. Section 3.3.1 describes how the design has been heavily influenced by the development of French/ German policy and regulation and details objectives stated in letters from the French Nuclear Regulatory Agency.	
				SRWSR [7]	Section 3 describes the regulatory context of the management of solid radioactive waste in the UK. Aspects of the government policy on legacy spent fuel that are also applicable to new power station spent fuel have been taken into account. Section 10.1 describes the UK regulatory requirements that apply to operations occurring in the storage facilities. Section 14.2.2 outlines the IAEA package requirement for transport of spent fuel.	
				BAT report [12]	Section 3.5 & 3.6 describe how the design has increased fuel performance compared to a typical PWR, therefore spent fuel arisings are lower.	
				ELI0800224 [14]	Section 4.1 lists the UK legislative requirements which the spent fuel interim storage facility will meet.	
	11	Safety Functions; Systems, Design Basis, Operational & Accident	Description of the: 1. safety functions; 2. all safety systems; 3. their design basis; and 4. functioning in all	PCSR	Sub-chapter 9.1 Fuel Handling and Storage. The following sections describe the role, design basis and provide a preliminary safety analysis for the following systems concerned with spent fuel. Section 2 - Underwater fuel storage rack, Section 3 - Spent fuel cooling and purification system, section 4 – Fuel handling system, section 5.1 - Spent Fuel Cask Transfer Facility.	
				ELI0800224 [14]	Section 4.2 provides an overview of the safety assessment methodology that will be applied for the ISF for spent fuel. This section outlines the safety principles that will be applied at the facility as well as describing the safety systems and functions designed to prevent against hazards.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
			operational states, including accident conditions. In the latter case, it should also describe the appropriate measures taken to prevent incidents or accidents and how consequences would be mitigated should an incident or accident occur.	SRWSR [7]	Section 10.3.2 qualitatively discusses generic hazards that relate to the spent fuel management buildings. Section 13.2.4 discusses specific safety aspects related to wet storage of spent fuel Section 13.3.3 describes specific safety features for dry storage in flasks. Section 13.3.4.2.4 describes safety features for a vault-type dry interim storage facility.	
	12	Emergency Procedures, Accident Management, Inspection & Testing, SQEP, Operational Feedback	Description of: 1. the emergency operation procedures and accident management guidelines; 2. the inspection and testing provisions; 3. the qualification and training of personnel; 4. the operational experience feedback programme; and 5. the management of ageing.	UKEPR-0009-001 [9]	Section 4.3 discusses the optimisation of inspection and maintenance regimes for the spent fuel storage facility, describing the design approach to reducing the need for periodical inspections and maintenance as well as discussing process and equipment selection and the ageing phenomena.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
	13	Technical Bases for Operational Limits & Conditions	Details of any technical assessment that give rise to operational limits and/or conditions. Aspects to address this requirement include:	SS-PCSR	No decisions on ISF limits have been made yet. They will be addressed during the licensing stage.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase.
			1. Assessment of anticipated dose levels from wastes;	PCER	Sub-chapter 6.3, section 2 describes how the production of spent fuel is reduced hence optimising the nuclear fuel cycle from the environmental standpoint. Sub-chapter 6.5 section 4.1 discusses the required rate of water circulation (cooling capacity required) based on the heat output.	
				PCSR	Sub-chapter 3.1, section 3.2 gives the objectives for radiation doses to operators and members of the public during normal operations. Section 3.3 gives the dose limits to operators and members of the public due to accidents. Sub-chapter 9.1, section 3.2.1.1 describes the spent fuel pool cleaning system.	
				UKEPR-0009-001 [9]	Section 3 provides a preliminary assessment of risks and hazards for the spent fuel Interim storage facility. Section 3.2.2.1 specifically discusses normal operation doses to worker Section 3.2.2.2 describes doses to members of the public during normal operations. Section 3.2.3 describes provisions for the restriction of radiation exposure and section 3.2.4 discusses restriction of discharges. Section 4.2.3.2 describes the removal of decay heat from the fuel under wet storage options. Section 3.2.5 gives an overview of removal of decay heat from spent fuel. Section 3.2.5.2 describes the heat removal from the stored fuel under dry storage options. Section 3.2.5.3 describes the heat removal system.	
				SRWSR [7]	Section 13.1.4 provides general design data for spent fuel ISF. Section 13.2.1 outlines design data for the wet storage facility. Section 13.2.2.4 describes the cooling of the storage pool.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
			2. Assessment of release levels to the environment.	PCER	Sub-chapter 6.5, section 4.2.2.3.2 describes the safety functions for a spent fuel ISF.	
				UKEPR-0009-001 [9]	Section 3.2.4 describes how discharges from the spent fuel interim storage facility will be restricted.	
				ELI0800224 [14]	Section 6.2 provides a prediction of the environmental discharges for a pool-based interim storage facility for spent fuel assemblies.- Section 4.2.1 describes the radiation safety that will be applied at the interim facility. Section 6.1 provides a preliminary safety assessment for the facility including section 6.1.1.2 - Exposure to ionizing radiations.	
	14	Radiation Protection Policy, Strategy, Methods & Provisions Aspects to address this requirement include: 1. A Radiation protection policy; 2. A radiation protection strategy; 3. Radiation protection methods; 4. Radiation protection provisions.			As for 13 above.	
	15	Emergency Preparedness Arrangements	Aspects to address this requirement include: 1. An emergency response policy; 2. An emergency response strategy;	PCSR	Sub-chapter 18.3, section 4 discusses the principles that would be applied in the Emergency Plan.	More information will be included in the SS-PCSR as the safety case is further developed during the Licensing Phase

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
			3. An emergency response procedure; 4. Emergency response responsibilities.	SS-PCSR	Emergency arrangements, responses etc are site specific and dealt with in the SS-PCSR. The Emergency Plan will be developed in detail before commissioning of the plant and will form part of the SS-PCSR.	
	17	Decommissioning & End-of-life Aspects during Operation	Description of how decommissioning and end-of-life aspects are addressed during operation of the plant. Aspects to address this requirement include: 1. A decommissioning policy; 2. A decommissioning strategy; 3. A decommissioning plan.	SRWSR [7]	Section 13.2.5.1 describes three broad operational periods for the storage facility. This section states that after the final period the facility will be decommissioned.	
				IWS [11]	Section 5.5 describes the decommissioning strategy. Design measures to facilitate decommissioning are outlined in this subchapter as well as an estimate of the raw decommissioning wastes.	
	19	Demonstration of Compliance with Waste Storage Limits	Aspects to address this requirement include: 1. The definition of storage limits; 2. The definition of a waste monitoring programme; 3. the definition of a waste storage procedure.	SRWSR [7]	Section 13.2.1 – Design data for a wet interim storage facility. This section gives the design baseline for the interim storage pool (for one unit) indicating the total residual heat generated. Section 13.3 is concerned with a dry interim storage facility for spent fuel. For dry flask storage, the safety of storage is based on the flask itself. Section 13.3.1.3, Table 45 outlines the main characteristics of the flask. Section 13.3.3.1.1 describes how visual inspection of he outside surface of the flask will be performed every 6 months and refilling of the overpressure tank will be carried out once the pressure reaches 4 bars absolute pressure. Section 13.3.4.2.1 describes handling and storage of fuel assemblies for dry vault storage. Section 13.3.4.2.2 states that canisters can be loaded with up to 6 spent fuel assemblies whilst maintaining acceptable conditions for safe fuel storage.	

No	Related item number(s) from previous Guidance	Requirement (text from JRG)	Additional detail requirement where necessary	RP references providing information to meet requirement	Summary of how the RP references provide the required information	Comments
				ELI0800224 [14]	Section 5.5 describes long-term pool storage for spent fuel and identifies key safety functions for example pool leakage monitoring.	
				UKEPR0009.01 [9]	Section 5 discusses maintenance of fuel integrity during storage. Section 5.3.1 describes wet interim storage Section 5.3.2 describes dry interim storage.	

6. REFERENCES

1 Not Used

2 Not Used

3 The management of higher activity radioactive waste on nuclear licensed sites, Part 2, Radioactive waste management cases, Joint guidance from the Health and Safety Executive, the Environment Agency and the Scottish Environment Protection Agency to nuclear licensees, February 2010.

4 The management of higher activity radioactive waste on nuclear licensed sites, Part 2, Radioactive waste management cases, Joint guidance from the Health and Safety Executive, the Environment Agency and the Scottish Environment Protection Agency to nuclear licensees, November 2008.

5 Not Used

6 Not Used

7 SRWSR, Solid Radioactive Waste Strategy Report, NESH-G/2008/en/0123, Issue A, November 2008.

8 UKEPR-0008-001 Issue 01 “ILW interim storage facility”.

9 UKEPR-0009-001 Issue 01 “Spent fuel interim storage facility”.

10 Dry Interim Storage Facility for ILW, ELI0800226, Issue A, 20 November 2008.

11 GDA UK EPR – Integrated Waste Strategy Document UKEPR-0010-001 Issue 02 March 2010.

12 GDA UK EPR - BAT Demonstration, UKEPR-0011-001 Issue 03.

13 EPR UK – Decommissioning Waste Inventory, ELIDC0801302, Issue A, 21 November 2008

14 Interim Storage Facility for Spent Fuel Assemblies Coming from an EPR Plant ELI0800224, Issue A, November 2008.

15 Plan for the development of waste management facilities over the EPR lifetime, ELIDC0902019, Issue B, February 2010.

16 R10-006 (A) Issue 2, Human Factors in long-term waste management, February 2010.

17 R010-002 (A), Issue 3, Management of Records for Long Term Management of Spent Fuel and ILW. February 2010.

18 R10-017 (A), The Case for Disposability of Spent Fuel and ILW, February 2010.

19 Current French and International Research and Development Programmes for Interim Storage of Spent Fuel. SGN NT 100330 20 005 Revision A. AREVA. February 2010.

20 Maintenance of Interim Storage Facilities. SGN NT 100330 20 0004 Revision A. AREVA. February 2010.

21 UKEPR-0016-001 - GDA UK EPR – Decommissioning, UKEPR-0016-001 Issue 00, November 2010.

22 NT 100330 (A), SGN 1234 rev A – 09.06 Technical Note Encapsulation Facilities for Spent Fuel UK-EPR Project.

23 NXA/10747397 - Generic Design Assessment: Disposability Assessment of Wastes and Spent Fuel Arising from the Operation of the EPR Part 1 Main Report

24 ECUK110016 (rev A), EPR - Radioactive waste conditioning

APPENDIX 1 – REFERENCED SECTIONS OF THE PCER

Chapter	Title	UKEPR Document Number	Issue No and date of submission to UK Regulator
Chapter 1	Introduction and general description		to be published in March 2011
1.2	General description of the unit	UKEPR-0003-012	
1.3	Comparison with reactors of similar design	UKEPR-0003-013	
1.4	Compliance with regulations	UKEPR-0003-014	
1.5	Safety assessment and international practice	UKEPR-0003-015	
Chapter 2	Quality and Project Management	UKEPR-0003-020	
Chapter 3	Aspects having a bearing on the environment during operation phase	UKEPR-0003-030	
Chapter 4	Aspects having a bearing on the environment during construction phase	UKEPR-0003-040	
Chapter 5	Design aspects in relation to the decommissioning	UKEPR-0003-050	
Chapter 6	Discharges and waste - Chemical and radiological		
6.0	Safety requirements	UKEPR-0003-060	
6.1	Sources of radioactive materials	UKEPR-0003-061	
6.2	Details of the effluent management process	UKEPR-0003-062	
6.3	Outputs for the operating installation	UKEPR-0003-063	
6.4	Effluent and waste treatment systems design architecture	UKEPR-0003-064	
6.5	Interim storage facilities and disposability for UK EPR	UKEPR-0003-065	
Chapter 8	Best Available Techniques	UKEPR-0003-080	
Chapter 9	Principles and methods used for environmental approach at the design stage	UKEPR-0003-090	
Chapter 10	Site environmental characteristics	UKEPR-0003-100	
Chapter 11	Radiological impact assessment	UKEPR-0003-110	

APPENDIX 2 – REFERENCED SECTIONS OF THE PCSR

Chapter	Title	UKEPR Document Number	Issue No and date of submission to UK Regulator
Separate Doc	Introduction to the Safety, Security and Environmental Report (SSER)	UKEPR-0001-001	to be published in March 2011
Chapter 1	Introduction and general description		
1.1	Introduction	UKEPR-0002-011	
1.2	General Description of the unit	UKEPR-0002-012	
1.3	Comparison with reactors of similar design	UKEPR-0002-013	
1.4	Compliance with regulations	UKEPR-0002-016	
1.5	Safety Assessment and International Practice	UKEPR-0002-017	
Chapter 2	Generic Site Envelope and Data		
2.1	Site data used in the safety analyses	UKEPR-0002-021	
2.2	Site environmental characteristics	UKEPR-0002-022	
Chapter 3	General design and safety aspects		
3.1	General safety principles	UKEPR-0002-031	
3.2	Classification of structures, equipment and systems	UKEPR-0002-032	
3.3	Design of category 1 civil structures	UKEPR-0002-035	
3.4	Mechanical systems and components	UKEPR-0002-036	
3.5	Safety related Interfaces	UKEPR-0002-018	
3.6	Qualification of electrical and mechanical equipment for accident conditions	UKEPR-0002-037	
3.7	Conventional risks of non-nuclear origin	UKEPR-0002-038	
3.8	Codes & Standards used in the EPR design	UKEPR-0002-039	
Appendix 3	Computer Codes used in Chapter 3	UKEPR-0002-310	
Chapter 9	Auxiliary systems		

Chapter	Title	UKEPR Document Number	Issue No and date of submission to UK Regulator
9.1	Fuel Handling and Storage	UKEPR-0002-091	to be published in March 2011
9.2	Water Systems	UKEPR-0002-092	
9.3	Primary System Auxiliaries	UKEPR-0002-093	
9.4	Heating, Ventilation and Air-Conditioning Systems	UKEPR-0002-094	
9.5	Other supporting systems	UKEPR-0002-095	
Chapter 11	Discharges and waste – chemical & radiological		
11.0	Safety requirements	UKEPR-0002-110	
11.1	Sources of radioactive materials	UKEPR-0002-111	
11.2	Details of the effluent management process	UKEPR-0002-112	
11.3	Outputs for the operating installation	UKEPR-0002-113	
11.4	Effluent and waste treatment systems design architecture	UKEPR-0002-114	
11.5	Interim storage facilities and disposability for UK EPR	UKEPR-0002-115	
Chapter 12	Radiation Protection		
12.0	Radiation Protection Requirements	UKEPR-0002-120	
12.1	Radiation Protection Approach	UKEPR-0002-121	
12.2	Definition of Radioactive Sources in the Primary Circuit	UKEPR-0002-122	
12.3	Radiation Protection Measures	UKEPR-0002-123	
12.4	Dose uptake Optimisation	UKEPR-0002-124	
12.5	Post-Accident Accessibility	UKEPR-0002-125	
Chapter 15	Probabilistic Safety Analysis		
15.0	Safety requirements and PSA objectives	UKEPR-0002-150	
15.1	Level 1 PSA	UKEPR-0002-151	

Chapter	Title	UKEPR Document Number	Issue No and date of submission to UK Regulator
15.2	PSA for Internal and External Hazards	UKEPR-0002-152	to be published in March 2011
15.3	PSA of Accidents in the Spent Fuel Pool	UKEPR-0002-153	
15.4	Level 2 PSA	UKEPR-0002-154	
15.5	Level 3 PSA: Assessment of off-site risk due to postulated accidents	UKEPR-0002-155	
15.6	Seismic Margin Assessment	UKEPR-0002-156	
15.7	PSA Discussion and Conclusions	UKEPR-0002-157	
Chapter 16	Risk Reduction and Severe Accident analyses		
16.1	Risk Reduction Analysis (RRC-A)	UKEPR-0002-161	
16.2	Severe Accident Analysis (RRC-B)	UKEPR-0002-162	
16.3	Practically eliminated situations	UKEPR-0002-163	
16.4	Specific studies	UKEPR-0002-166	
Chapter 20	Design aspects in relation to the decommissioning		
20.1	General principles – Regulations	UKEPR-0002-201	
Chapter 21	Quality and Project Management		
21.1	Project organisation	UKEPR-0002-211	
21.2	Quality & Environmental (Q&E) management	UKEPR-0002-212	