Appendix L

Legislation

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APPENDIX L
LEGISLATION

CONTENTS

1 RADIOACTIVE WASTE

1.1 Policies and Strategies

This section provides relevant additional detail to policies and strategies referred to in the Magnox Limited IWS report and Site appendices. It is not intended to be an exhaustive section on all policies and strategies that refer to radioactive waste, but it does cover those that are of key importance to Magnox Sites.

1.1.1 Managing Radioactive Waste Safely[1]

The Committee on Radioactive Waste Management (CoRWM) was formed in 2003 to review options for safely managing the UK's solid, higher activity radioactive waste and reported in July 2006[2] recommending geological disposal as the final end state but recognising that interim storage would be required for several decades. In October 2006, the Government and devolved administrations published a framework for the long term management of the UK's higher activity radioactive waste[3] and announced that they would consult on a framework for implementation of geological disposal.

The devolved administrations have since adopted the following positions:

- The Welsh Assembly Government[4] stated that acceptance of the main Committee on Radioactive Waste Management (CoRWM) recommendations is not an indication that it will support the future implementation of a facility in Wales, nor the adoption of policies consistent with that.
- The Scottish Government does not accept that geological disposal is the right way forward for higher activity wastes (including ILW), but will continue to support the CoRWM recommendations for a robust programme of interim storage and would also support further joint research on other long-term management options"[5]
    - The Scottish Government Policy[6] is that the long-term management of higher activity radioactive waste, should be in near-surface facilities. Facilities should be located as near to the site where the waste is produced as possible. Developers will need to demonstrate how the facilities will be monitored and how waste packages, or waste, could be retrieved. All long-term waste management options will be subject to robust regulatory requirements. Therefore in this document any reference to geological or final disposal means near surface, near site storage/ disposal facilities when applied to Chapelcross

[1] DEFRA 2001, Managing Radioactive Waste Safely: Proposals for Managing Solid Radioactive Waste in the UK
[2] CoRWM 2006, Managing our radioactive waste safely: CoRWM's Recommendations to Government
[3] UK Government, The Government's response to the report by CoRWM on Managing Radioactive Waste Safely, 25 October 2006
[4] Welsh Assembly Government 2008: Managing Radioactive Waste Safely: Geological Disposal of Radioactive Waste. Amendments to the DEFRA White Paper
[5] Scottish Government. News Release by the Cabinet Secretary for Rural Affairs and the Environment, 25 June 2007, http://www.scotland.gov.uk/News/Releases/2007/06/25101822
[6] Scottish Government, Scotland's Higher Activity Radioactive Waste Policy 2011, January 2011

and Hunterston A (storage differs from disposal in that the former implies intent to retrieve at a later time).

- Under devolved planning legislation, the Scottish Parliament has a right to refuse any deep facility for higher activity wastes.

The consultation on a framework for implementation of geological disposal was therefore limited to England, Wales and Northern Ireland and was completed in November 2007[7]. Following this consultation, in June 2008, DEFRA, Department for Business, Enterprise and Regulatory Reform (BERR), and the Devolved Administrations for Wales and Northern Ireland published a White Paper[8] which (among other things) sets out the process by which it is proposed that a site for deep geological disposal should be selected using a "voluntarism and partnership approach". It also sets out the indicative technical programme and aspects of design and delivery of a geological disposal facility (GDF), and lists the process and criteria to be used to decide the location of the facility. Within the White Paper, it is stated that NDA will ensure that its strategy (to which this IWS contributes) will allow for the safe and secure interim surface storage of higher activity wastes for a period of at least 100 years.

While these developments are crucial in the long term, in general, in the medium term they should have limited effect on this IWS, unless or until it became apparent that the design lives of ILW packages and/or storage facilities (e.g. on sites in Scotland) would have to be extended well beyond those currently assumed.

1.1.2 Review of Radioactive Waste Policy: Final Conclusions (Cm 2919) White Paper 1995[9]

This was the last comprehensive UK Government radioactive waste policy statement. Areas of this statement have been superseded by the decisions and actions of subsequent UK Government administrations as discussed below.

1.1.3 The Decommissioning of the UK Nuclear Industry's Facilities: Policy Statement[10]

The UK Government published a statement of its policy on decommissioning of nuclear facilities in September 2004. This updated and replaced some of the statements in Cm 2919.

1.1.4 OSPAR Radioactive Substances Strategy

The UK is a contracting party to the Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR Convention)[11]. The objective of the OSPAR Radioactive

[7] DEFRA, DTI and the Devolved Administrations for Wales and Northern Ireland. Managing Radioactive Waste Safely: A framework for implementing geological disposal: A public consultation, June 2007
[8] DEFRA, BERR, and the Devolved Administrations for Wales and Northern Ireland. Managing Radioactive Waste Safely: A Framework for Implementing Geological Disposal. Cm 7386, June 2008
[9] Cm2919, Review of Radioactive Waste Management Policy: Final Conclusions, 1995
[10] DTI 2004, The Decommissioning of the UK Nuclear Industry's Facilities, September 2004
[11] OSPAR Commission 1992, Convention for the Protection of the Marine Environment of the North East Atlantic

Substances Strategy is to prevent pollution of the maritime area from ionising radiation through progressive and substantial reductions of discharges, emissions and losses of radioactive substances, with the ultimate aim of concentrations in the environment near background values for naturally occurring radioactive substances and close to zero for artificial radioactive substances.

1.1.5 UK Strategy for Radioactive Discharges July 2009[12]

The revised UK Strategy builds on and widens the scope of the previous strategy issued in 2002 bringing all information on radioactive discharges into one place. It covers the period until 2030 and includes aerial as well as liquid discharges from operational and decommissioning activities and includes both the nuclear and non-nuclear sectors. It sets out the progress made on reducing discharges and emissions to the environment; and at the sectoral level, the outcomes which are expected to be achieved and by when; and sets a strategic framework for addressing radioactive discharges over the next 20 years.

The strategy demonstrates how the UK is implementing its obligations in respect of the UK's commitments on radioactive discharges under the OSPAR Convention and forms the UK's national plan on how it will meet the intermediate and overall objectives of the OSPAR Radioactive Substances Strategy.

DEFRA has issued statutory guidance to the Environment Agency on the implementation of this strategy, including the move to BAT[13]. This document provides additional information about the adoption and application of BAT and the role of the radioactive substance regulation environmental principles (REPs) in the context of radioactive discharges (see Section 1.2.3).

Scottish Ministers issued similar guidance to SEPA in February 2008[14].

1.1.6 Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom[15]

This UK Government Policy statement, published March 2007 amends or replaces parts of the Cm2919 White Paper. It covers all aspects of the generation, management and regulation of solid LLW. It sets out a pragmatic and flexible approach to the management and regulation of solid LLW, explicitly permitting the use of solutions other than the disposal of LLW to the Low Level Waste Repository (LLWR) depending on the intrinsic hazard of the material.

The policy:

- Permits the export of LLW to other Organisation for Economic Co-operation and

[12] DECC 2009, UK Strategy for Radioactive Discharges July 2009
[13] DECC 2009, Statutory Guidance to the Environment Agency Concerning the Regulation of Radioactive Discharges into the Environment
[14] Scottish Government 2008, Environment Act 1995 The UK Strategy for Radioactive Discharges Statutory Guidance, February 2008
[15] DEFRA 2007, Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom, March 2007

Development (OECD) and EU countries for the purposes of recovery of reusable materials or for treatment that make its subsequent storage and disposal more manageable. There is a proviso that such export should not materially add to the wastes needing to be disposed of in the country of destination.

- Amends Cm2919 to permit the import of LLW from other countries for the same purposes.
- Redefines solid LLW, presenting opportunities for the treatment and disposal of LLW. Within the UK, LLW is now defined as "radioactive waste having a radioactive content not exceeding four GBq/te of alpha or 12 GBq/te of beta/gamma activity. Very Low Level Radioactive Waste (VLLW), a sub-category of LLW, is now defined as either:
    - **Low Volume (LV) VLLW ('dustbin-loads')** for disposal "to an unspecified destination with municipal, commercial or industrial waste, each 0.1m^3 of waste containing less than 400 kBq of total activity or single items containing less than 40 kBq of total activity" - there are specific limits for wastes containing carbon-14 or hydrogen-3 (tritium); or
    - **High Volume (HV) VLLW for bulk disposal** "with maximum concentrations of four MBq/te of total activity which can be disposed of to specified landfill sites. For waste containing hydrogen-3 (tritium), the concentration limit for tritium is 40 MBq/te. Controls on disposal of this material, after removal from the premises where the wastes arose, will be necessary in a manner specified by the environmental regulators".

The latter definition of HV VLLW for bulk disposal is of particular relevance to decommissioning sites. Magnox Ltd is currently making significant efforts to establish routes for VLLW, and has submitted applications to the relevant environmental agencies to allow existing RSA authorisations to take advantage of new opportunities.

As well as redefining categories of LLW, it requires waste managers to develop plans, such as this IWS, for the management of all radioactive waste including LLW based on:

- The minimisation of waste arisings (both activity and mass).
- Consideration of all practicable options for the management of LLW (utilising the waste hierarchy); a presumption towards early solutions to waste management.
- Appropriate consideration of the proximity principle and waste transport issues.

1.1.7 UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry[16]

The UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry was issued by the NDA in August 2010. It was prepared in response to the Policy described above.

[16] NDA 2010, UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry, August 2010

The aim is to provide a high level framework within which LLW management decisions can be taken flexibly to ensure safe, environmentally acceptable and cost-effective management solutions that reflect the nature of the LLW concerned. To deliver this aim, three strategic themes have guided the development of this strategy:

- The waste hierarchy;
- The best use of existing LLW management assets;
- The need for new fit-for-purpose waste management routes.

The strategy is to apply the waste hierarchy more effectively to the management of LLW. It sets out the preference for managing LLW at higher levels of the hierarchy, which will mean a move away from the past focus on disposal. In order to improve availability of alternative waste management options, LLW Repository Ltd is to offer metal treatment, incineration and alternative very low level waste (VLLW) disposal, in addition to its existing services. These services will encourage better segregation of waste and the application of the waste management hierarchy.

The LLW Strategy requires that managing LLW should not be separated from managing other radioactive wastes and non-radioactive wastes (Controlled wastes) and implementation will require an integrated waste management approach.

1.1.8 NDA Strategy

The NDA has a Strategic Management System in place, divided into three areas.

Strategic Themes and Topic Strategies – 6 strategic themes have been identified: Site Restoration; Spent Fuels; Nuclear Materials; Integrated Waste Management; Business Optimisation; and Critical Enablers. These themes are further divided into individual strategies, known as Topic Strategies, which are developed and maintained to deliver the NDA's mission under the Energy Act (2004). Topic Strategy documents are developed and owned by NDA subject matter specialists, known as 'Strategic Authorities', and are periodically published on their website.

NDA Strategy - The NDA is required under the Energy Act (2004) to review and publish its Strategy at least every 5 years. It covers the duration of their mission and summarises the current position and maturity of the Strategic Themes and Topic Strategies at the time of publication. It is a statutory document which is publicly consulted. It was first published in 2006, and a second revision was approved by UK Government and Scottish ministers in April 2011[17].

Site Strategy Specifications - have been issued to each Site Licence Company (SLC). The content is derived from the Topic Strategies and helps to improve the alignment between each LTP and the main NDA Strategy. The specification is owned by the NDA and produced in collaboration with SLCs and relevant Strategic Authorities.

[17] NDA, Strategy, 2011

1.1.9 NDA National IWS

The NDA undertook to produce a National IWS in its 2006 strategy. Since then it has launched its Strategy Management System[18] (SMS), which includes estate-wide coverage of individual topics including higher activity waste, lower activity waste and non-radiological and hazardous wastes. In December 2009, the NDA published an Integrated Waste Management Overview[19], which, together with these three SMS topics, comprises a National IWS, which at present focuses on the management of radioactive waste. It identifies 6 principles to underpin waste strategy:

1) Give priority to reducing risk by retrieval and immobilisation of potentially mobile historical wastes stored on NDA sites.
2) Support the core NDA principles of protecting safety, security and the environment, and value for money.
3) Apply the waste hierarchy.
4) Drive for 'early' waste solutions rather than leaving waste liabilities unaddressed. Waste management activities must be integrated with other activities and take account of the sustainability principles.
5) Decide how to manage wastes on the basis of business cases that take account of Principles 1 to 4.
6) Engage with our stakeholders about potential and actual development in waste management from earliest stages. The overview acknowledges the NDA's role in improving site waste management by providing opportunities for more joined-up working between sties and 'economy of scale' solutions and by providing opportunities for more diversified waste disposal routes.

1.1.10 The NDA's Research and Development Strategy to Underpin Geological Disposal of the United Kingdom's Higher-activity Radioactive Wastes

In March 2009, the Radioactive Waste Management Directorate (RWMD) of the NDA published its research and development strategy[20] to underpin the implementation of a geological disposal facility developed from consultation undertaken during 2008. Responses to the consultation were required by November 2008. The specific R&D themes that will be addressed during the current phase of our geological disposal programme are to:

- Develop and expand its high-level waste and spent fuel R&D programme to develop generic designs for disposal of these materials and to assess their safety to appropriate levels of confidence, ensuring that we make appropriate use of the knowledge base obtained in overseas programmes.

[18] Strategy Management System, March 2009, Doc No : SMS/GEN/018
[19] NDA 2009, Integrated Waste Management: Overview, December 2009, EDRMS No:3.18-2 [SMS/TS], 11636153
[20] NDA 2009, The NDA's Research and Development Strategy to Underpin Geological Disposal of the United Kingdom's Higher-activity Radioactive Wastes, March 2009, NDA/RWMD/011 - Issue 1

- Support the development of future management strategies for materials such as uranium and plutonium by developing the technical understanding of disposal issues associated with these wastes.
- Continue R&D into intermediate-level waste disposal, focusing on specific topics that have been identified as important for ensuring safety, or for optimising waste management.
- Address implementation issues by carrying out R&D into topics such as technical aspects of retrievability and the implications of disposing of all types of higher activity waste in a single geological disposal facility.
- Prepare for site characterisation by developing appropriate skills and techniques to support development of a geological disposal facility in a range of geological environments.
- Investigate the social aspects of implementing a geological disposal facility to help it to work effectively with local communities.

1.1.11 Exemption Orders Review Programme

As part of the Government's aim to simplify regulation, a review of Exemption Orders under the Radioactive Substance Act 1993 was initiated in 2006 to make them easier to use, while still ensuring they provide appropriate protection to human health and the environment. The new exemptions regime should come into force in October 2011 throughout the UK. Legislation in Scotland has been laid with England and Wales, and Northern Ireland to follow shortly.

1.2 Legislative and Regulatory Requirements

1.2.1 Nuclear Installations Act 1965 (NIA 65)

Magnox Ltd sites are licensed under NIA65 which places requirements on the sites with regard to the management and accumulation of radioactive waste. Licence Condition (LC) 32 requires nuclear licensed site operators to make arrangements for minimising, so far as is reasonably practicable, the rate of production and total quantity of waste accumulated on site. The management of radioactive waste on sites licensed under the Nuclear Installations Act 1965 (as amended) (NIA65) is regulated by the ONR which is part of the HSE. The disposal of radioactive and non-radioactive waste from nuclear licensed sites is regulated by the EA.

1.2.2 Safety Assessment Principles for Nuclear Facilities[21]

The HSE has issued safety assessment principles for its inspectors to guide their decision making in the nuclear permissioning process. This includes principles with regard to radioactive waste management, decommissioning and the control and remediation of radioactively contaminated land. The Environment Agency has also recently issued its

[21] HSE 2008, Safety Assessment Principles for Nuclear Facilities: 2006 Edition, Revision 1, January 2008

Radioactive Substances Regulation Environmental Principles (interim). This sets down a suite of fundamental and developed environmental principles. The principles are consistent with the Government Policy outlined in above.

1.2.3 Radioactive Substances Regulation - Environmental Principles (REPs) and Principles of Optimisation in the Management and Disposal of Radioactive Waste

The Environment Agency has developed a set of radioactive substance regulation environmental principles[22] (REPs) to form a consistent and standardised framework for the technical assessments and judgements that it makes when regulating radioactive substances.

The REPs provide guidance that helps underpin its decisions, including those about permitting and compliance which it regulates directly, those where it is a consultee or adviser, or otherwise have influence. The REPs necessitate the use of best available techniques (BAT) by operators and the EA has written separate supporting guidance on the principles of optimisation in the management and disposal of radioactive waste[23].

1.2.4 Joint Regulatory Guidance on the Management of Higher Activity Radioactive Waste[24]

The HSE, the Environment Agency and the Scottish Environment Protection Agency (SEPA) have developed a series of joint guidance on the management of higher activity radioactive waste. The guidance comes in three parts:

- **Part 1: Guidance on the regulatory process** - explains the regulatory process associated with the management of higher activity radioactive waste on nuclear licensed sites in the UK and describes regulatory expectations with respect to the production of radioactive waste management cases.
- **Part 2: Guidance on Radioactive Waste Management Cases** - describes regulatory expectations with respect to the production, content, maintenance and review of radioactive waste management cases (RWMCs), and provides links to further guidance on how the components that support an RWMC may be produced. The primary purpose of a RWMC is to 'provide a transparent demonstration of adequate radioactive waste management for the waste streams covered'. It is intended that the RWMC indicate in summary form how the key elements of long-term safety and environmental performance will be delivered for the management of the waste stream or streams covered. The RWMC will 'be a key input into design considerations for future waste processing and storage facilities, ensuring that such facilities are compatible with the wastes they are intended to receive'. Following

[22] EA 2010, Regulatory Guidance Series No RSR1, Radioactive Substances Regulation - Environmental Principles, April, 2010
[23] EA 2008, RSR: Principles of Optimisation in the Management and Disposal of Radioactive Waste, April 2010
[24] HSE, EA, SEPA 2010, The Management of Higher Activity Radioactive Waste on Nuclear Licensed Sites, February 2010.

consultation with the regulators, Magnox Ltd has decided to enhance the IWS Site Appendices to meet the requirements of the RWMC guidance.

- **Part 3: Technical guidance modules (a-d)** - provide technical guidance on what the regulators expect to see in radioactive waste management cases:
    - **Part 3a: Waste minimisation, characterisation and segregation -** provides an overview of the relevant policy drivers, regulatory requirements and expectations relating to waste minimisation, characterisation and segregation during the management of higher activity radioactive waste on nuclear licensed sites.
    - **Part 3b: Conditioning and disposability** (trial issue)- provides an overview of the relevant policy drivers, regulatory requirements and expectations relating to waste conditioning and disposability during the management of higher activity radioactive wastes on nuclear licensed sites.
    - **Part 3c: Storage of radioactive waste** (trial issue) - provides an overview of the relevant policy drivers, regulatory requirements and expectations relating to the storage of higher activity radioactive wastes on nuclear licensed sites.
    - **Part 3d: Managing information and records relating to radioactive waste** - provides an overview of the relevant policy drivers, regulatory requirements and expectations relating to managing information and records about higher activity radioactive wastes on licensed nuclear sites. It covers existing national and international standards and practices for managing information. It also discusses some of the specific issues associated with managing information about radioactive waste over the long term.

1.2.5 Environmental Permitting (England and Wales)

The Environmental Permitting Regulations (England and Wales) 2010 (EPR10) were introduced on 6 April 2010, replacing the 2007 Regulations. In 2007, the Regulations combined the Pollution Prevention and Control (PPC) and Waste Management Licensing (WML) regulations. EPR10 widened the scope to include radioactive substances, water discharge and groundwater activities and provision for a number of Directives, including the Mining Waste Directive.

In many cases, activities can proceed on site under an Exemption to EP10, which is formally issued by the Environment Agency. The exemption order regime is currently under review (see Section 1.1.11).

In England and Wales, the EPR10 regulations have almost entirely repealed the Radioactive Substances Act 1993 (RSA93). The former provisions for “keeping or use” and “accumulation” and “disposal” have been replaced by a number of “activities” where “activity” is a generic environmental permitting term to describe what is subject to regulation. For a licensee, the principal activities are

- Disposal of radioactive waste on or from those premises
- Receipt of radioactive waste for the purposes of disposing of that waste

The EA normally grants a permit to include both of these activities, to allow the transfer of wastes between sites for ease of disposal, unless the operator chooses not to be permitted for the receipt of waste. The EA has issued guidance on how it regulates radioactive substance activities on nuclear licensed sites under EPR10[25].

1.2.6 Radioactive Substances Act 1993 (RSA93) (Scotland)

The RSA93 is concerned with control over the security of radioactive materials and with ensuring that any appropriate and justified accumulation and disposal of radioactive waste occurs with minimum impact on the general public and the environment.

There is also a series of 18 Exemption Orders which define low risk activities that can be exempted from permitting - for example, domestic smoke detectors. RSA93 was incorporated into Schedule 23 of the EPR10 in England and Wales in April 2010 and the revised exemptions framework will follow when the EO review is completed in late 2010. RSA 93 remains in force in Scotland and Northern Ireland.

The authorisation to dispose of radioactive waste issued under RSA93 places conditions and limits on the disposal of radioactive waste. This includes specifications made by the Environment Agency in the Compilation of Environment Agency Requirements (CEAR), which is part of the RSA93 authorisation.

A particular objective under the RSA93 authorisation and one of the Radioactive Substances Regulation Environmental Principles (REP) is that radioactive waste should be disposed using BPM. This satisfies the requirements of a number of Government Policies outlined in Section 1.1 above. SEPA will not issue a RSA93 authorisation unless the Operator is able to demonstrate that its waste management and disposal options represent the BPEO applied using the BPM. The RSA93 authorisation sets limits on the disposal of radioactive waste. These limits must not be exceeded but there is a further requirement to use BPM to minimise the:

- Creation of waste requiring disposal
- Activity of gaseous and aqueous discharges to the local environment
- Volume of waste transferred to other premises
- Environmental impact of discharges.

SEPA will not issue a RSA93 authorisation unless the Operator is able to demonstrate its use of BPM.

1.2.7 The Carriage of Dangerous Goods and Use of Transportable Pressure Receptacles Regulations 2009 (SI 2009/1348) (CDG 2009)

As a signatory to the European agreement concerning the International Carriage of Dangerous Goods by Road (ADR), and a member state of the EU, the UK is committed to

[25] Regulatory Guidance Series, No RSR2, The regulation of radioactive substances activities on nuclear licensed sites, March 2010

harmonisation of national and international regulations, as far as possible. Therefore, in order to align with the ADR (94/55/EC) and RID (96/49/EC) Directives, governing the carriage of dangerous goods by road and rail respectively, a consolidating set of regulations came into force on 10 May 2004. These were substantially restructured in 2007 to include all classes of dangerous goods for both road and rail transport. The 2007 regulations revoked the previous regulations on the transport of radioactive materials by road (SI 2002/1093).

The Carriage of Dangerous Goods and Use of Transportable Pressure Receptacles Regulations 2009 revoke the 2007 regulations and have been restructured so as to directly reference the ADR for the majority of duties.

1.2.8 The Transfrontier Shipment of Radioactive Waste and Spent Fuel Regulations 2008 (SI 2008/3087)

Regulatory permission to send radioactive waste outside of the UK for processing or disposal is subject to the requirements of the Transfrontier Shipment of Radioactive Waste Regulations, which are enforced by the Environment Agency. The 2008 Regulations extended the scope of the former 1993 regulations to include fuel sent for reprocessing. Another key change is that consent is deemed to be granted if no reply has been received from the competent authority within two months of the date of acknowledgement of receipt, or three months if the competent authority concerned has requested an additional month.

1.2.9 Environmental Impact Assessment for Decommissioning Regulations 1999 (EIADR99)

The purpose of the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 is to require assessment of the potential environmental impacts of projects to decommission nuclear power stations and nuclear reactors, with submission then to the Health and Safety Executive (HSE) for consent prior to carrying out dismantling or decommissioning work. EIADR requires public and other relevant stakeholders to be consulted from an early stage, regarding the environmental impacts of the options being considered.

This places requirements with particular regard to environmental impacts such as but not limited to, minimising transport, use of local facilities and minimising nuisances. Significant changes to mitigations stated or the scope of the decommissioning project defined in the Environmental Statement for Site may require consultation and public review.

1.2.10 Radioactive Contaminated Land

In 2005, DEFRA issued proposals to bring radioactively contaminated land into the Contaminated Land Control Regime under Part 2A of the EPA 1990 (see section 2.2.1). A technical report and methodology for radioactively contaminated land exposure assessment (RCLEA) has been issued and the Radioactive Contaminated Land (enabling Powers) (England) Regulations 2005 (SI 2005/3467) came into force in January 2006. DEFRA's aim is to make this consistent with the CLEA methodology for non-radioactive contamination. Radioactive contamination is included where harm is being caused or there is a significant possibility of such harm from land.

Regulations introduced in 2007 bring land contaminated by a nuclear occurrence" within the within the regime. In very broad terms, this covers "off-site" radioactive contamination from licensed nuclear sites, and certain other situations. Under the Contaminated Land (England) Regulations 2006 and land on a nuclear site is prescribed for the purposes of section 78C(8) of the EPA 90 as land required to be designated as a special site.

The equivalent legislation in Scotland is:

- The Radioactive Contaminated Land (Scotland) Regulations 2007 (SI 2007/179) (as amended).

1.2.11 Euratom Treaty (Article 37)

Under Article 37 of the Euratom Treaty, there is a requirement to inform and seek opinion from European Union Member States on radioactive waste management plans that could impact affect other on member states.

1.2.12 Nuclear Industry Sector Plan[26]

The NISP was produced by the Environment Agency, jointly with the nuclear industry, as a rolling framework of agreed national environmental objectives and priorities for the sector over the next five to ten years, with the aim of seeking to achieve environmental benefits beyond those achieved through regulatory compliance alone. It comprises a set of high level objectives and indicators of performance covering both statutory and non-statutory activity – objective 2 is to minimise and manage solid wastes. The plan requires Sites to report key environmental indicators annually to the Environment Agency.

[26] EA 2005, Improving Environmental Performance: Sector plan for the nuclear industry, Version 1, November 2005

2 NON RADIOACTIVE WASTE

This section provides relevant underpinning to the policies and strategies referred to in the Magnox Limited IWS report and Site appendices. It is not intended to be an exhaustive section on all aspects of legislation that refer to non-radioactive waste.

2.1 EU Waste Directives

UK waste legislation comes, for the most part, from decisions made in the European Union (EU), in the form of European directives and regulations. A European directive is a framework of instructions which member states must transpose into their national law by creating their own regulations. European regulations become law in all member states immediately when they come into force.

2.1.1 Revised Waste Framework Directive October 2008[27]

UK waste legislation comes, for the most part, from decisions made in the European Union (EU), in the form of European directives and regulations. A European directive is a framework of instructions which member states must transpose into their national law by creating their own regulations. European regulations become law in all member states immediately when they come into force.

The Waste Framework Directive (WFD) 2008/98/EC sets the basic concepts and definitions related to waste management and lays down waste management principles such as the "polluter pays principle" or the "waste hierarchy".

It defines ‘Waste’ as “any substance or object which the holder discards or intends or is required to discard”. It also defines when certain specified waste ceases to be defined as waste, i.e. when it has undergone a recovery, including recycling, operation and complies with specific criteria to be developed in accordance with the following conditions:

(a) the substance or object is commonly used for specific purposes;

(b) a market or demand exists for such a substance or object;

(c) the substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and

(d) the use of the substance or object will not lead to overall adverse environmental or human health impacts.

The directive is intended to reduce the landfill of waste as well as potent greenhouse gases arising from such landfill sites by promoting the use of waste as a secondary resource. The directive lays down a five-step hierarchy of waste management options which must be applied by Member States when developing their national waste policies:

- waste prevention (preferred option)

[27] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives

- re-use
- recycling
- recovery (including energy recovery)
- safe disposal, as a last resort

2.1.2 EC Waste Incineration Directive (WID) 2000[28]

Incineration is defined in EU legislation as the thermal treatment of wastes with or without recovery of the combustion heat generated. As well as conventional burning, it includes thermal treatment processes such as pyrolysis, gasification or plasma processes, provided the substances resulting from the treatment are subsequently incinerated. The WID brings a wide range of combustion processes within the definition of incineration including:

- Municipal waste incinerators
- Hazardous waste incinerators
- Incinerators for clinical waste, sewage sludge or animal remains
- Small in-house incinerators
- Waste oil burners and roadstone coating
- Burning of paper or biomass
- Cement kilns and power stations burning waste
- Carbon regeneration
- Metal decontamination and recovery
- Waste gasification

The directive has been implemented through the Pollution Prevention and Control regime in the UK. Permits have been drawn up to include the WID requirements.

2.1.3 The Hazardous Waste Directive 1991[29]

This directive has been repealed by the recently revised Waste Framework Directive 2008. However, the requirements of this directive have not yet been transposed into UK law and therefore the UK regulations still reflect the requirements of the 1991 Hazardous Waste Directive. This is transposed into UK law by the Hazardous Waste (England and Wales) Regulations 2005 and the List of Waste (England) Regulations 2005, and in Scotland, the Special Waste Amendment (Scotland) Regulations 2004.

The Hazardous Waste Directive defines hazardous waste and provides additional controls on its tracking, movement and management.

[28] Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste
[29] Council Directive 91/689/EEC of 12 December 1991 on hazardous waste

2.1.4 The WEEE Directive 2003 and the ROHS Directive 2008

The WEEE (Waste Electrical and Electronic Equipment) Directive[30] aims to reduce the quantity of waste from electrical and electronic equipment and to increase its reuse, recovery and recycling. It affects producers, distributors and recyclers of electrical and electronic equipment. WEEE waste includes household appliances, information technology (IT) and telecoms equipment, audiovisual equipment (i.e. televisions, videos, and hi-fis), lighting, electrical and electronic tools, toys, leisure and sports equipment.

The WEEE Regulations 2006 (as amended)[31] enforce that WEEE is treated in accordance with the requirements of Article 6 of the WEEE Directive.

The Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS) Directive[32] aims to limit the environmental impact of electrical and electronic equipment when it reaches the end of its life by reducing the quantities of four heavy metals and two brominated flame retardants which it may contain (lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE)).

> *However the RoHS Directive applies primarily to those who manufacture electrical and electronic equipment; those who import these goods into the EU; those who export to other Member States; and, those who re-brand equipment produced by others.*

2.2 Legislative and Regulatory Requirements

Regulatory objectives and principles that are relevant to Magnox sites include those listed below. In addition, all authorisations and consents place requirements that the sites shall be kept in good repair and systems and arrangements should be maintained.

2.2.1 Environmental Protection Act 1990 (EPA90)

Anyone that produces or handles construction or demolition waste has a legal and social obligation for its disposal; this is called the duty of care. Under Section 34(1) of the Environmental Protection Act 1990 (as amended) a legal duty of care is imposed on anyone, who imports, produces, carries, keeps, treats or disposes of controlled waste or, as a broker, has control of such waste, to ensure that:

- Waste is not illegally disposed of or dealt with without a licence or in breach of a licence or in a way that causes pollution or harm.
- Waste does not escape from a person's control.

[30] Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on Waste Electrical and Electronic Equipment (WEEE).
[31] The Waste Electrical and Electronic Equipment (Waste Management Licensing) (England and Wales) Regulations 2006 Statutory Instrument 2006 No. 3315.
[32] The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2008 Statutory Instrument 2008 No. 37.

- Waste is only transferred to an authorised person or to a person for authorised transport purposes.
- When the waste is transferred, it is accompanied by a full written description so that each person who has it knows enough to deal with it properly and thus avoids committing an offence under Section 33 of the Act.

Authorised persons to carry waste include the waste collection and / or disposal authority (as per the insertion of Section 63A of the Waste Minimisation Act 1998 (Section 4.2.11)), waste management licence holders and registered waste carriers. Authorised transport purposes are:

- The transport of controlled waste within the same premises between different places in those premises;
- The transport to a place in Great Britain of controlled waste which has been brought from a country or territory outside Great Britain not having been landed in Great Britain until it arrives at that place; and
- The transport by air or sea of controlled waste from a place in Great Britain to a place outside Great Britain.

The Environmental Protection (Duty of Care) Regulations 1991[33] impose requirements under Section 34(5) of the Environmental Protection Act 1990 (as amended),

> *"On any person who is subject to the duty of care as respects the making and retention of documents and the furnishing of copies of them."*

In essence the duty of care requires that all reasonable steps are taken to ensure that no unauthorised handling or disposal of controlled wastes occurs and that controlled wastes are transferred only to an authorised person together with a written description of the waste.

2.2.2 Site Waste Management Plans Regulations 2008

In England the requirement to prepare, update and implement a site waste management plan is set out in the Site Waste Management Plans (SWMP) Regulations 2008 (SI 2008 no.314) which came into effect on 6th April 2008. The regulation requires a site waste management plan to be prepared for any construction project with an estimated cost greater than £300,000 excluding VAT. The regulation does not yet apply to Northern Ireland, Scotland or Wales, however the production of site waste management plans are promoted within the construction industry as an example of best practice as a means of reducing and minimising waste.

It is stated within the Regulations that 'where a nuclear licensed site has an IWS in place that includes waste from construction activities, a separate SWMP is not required, provided all the obligations set out in the SWMP Regulations are included in the strategy.' Magnox Ltd has recognised that the current structure of the IWS does not fully meet these requirements (e.g. with regard to authorisations/signatures, project specific waste data gathering, project specific methods for reducing waste during conception, design and specification, new build

[33] The Environmental Protection (Duty of Care) Regulations 1991. Statutory Instrument 1991. No. 2839.

projects, records such as waste carrier and waste management licenses). Therefore Magnox Ltd has taken the decision to ensure that sites produce an over-arching SWMP which will provide a 'sign post' document to demonstrate compliance. The SWMP must be supported by Project Waste Management Plans (PWMPs) for the given thresholds, which will provide the detail. SWMPs and PWMPs must be completed in line with the requirements of the relevant company standard[34].

2.2.3 Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended) and Town and Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011

Under the Town and Country Planning Act there are requirements relating to environmental impact assessments for certain constructions required to facilitate decommissioning.

2.2.4 Non-radiological Waste Regulations

There are numerous regulations covering the off-site collection and disposal of non-radiological waste (hazardous, non-hazardous and inert). Those most relevant include:

- Hazardous Waste (England) Regulations 2005 (as amended)
- Hazardous Waste (Wales) Regulations2005 (as amended)
- List of Waste (England) Regulations 2005 (as amended)
- List of Waste (Wales) Regulations 2005 (as amended)
- Special Waste (Scotland) Regulations1997 (as amended)
- Landfill (England and Wales) Regulations 2002 (as amended)
- Waste Electrical and Electronic Equipment Regulations 2006 (as amended)
- Controlled Waste Regulations 1992 (as amended)
- Waste Batteries and Accumulators 2009

[34] S-201 Production of Site Waste Management Plans, June 2011.