DSG(2014)C040

Decommissioning, Fuel and Waste (DFW) Programme

Magnox & Restoration (MAG&R) Licensed Sites

ONR Plan for Regulation of the Dounreay Site in 2014/15

“To provide efficient and effective regulation of the nuclear industry, holding it to account on behalf of the public”.

TABLE OF CONTENTS

Document Approval and Revision History

Document Identifier				
Identifier	**Revision**	**TRIM reference(s)**		
ONR Plan for Regulation of the Dounreay Site 2014/15	1A			
Document Approval				
Role	**Name**	**Position**	**Signature**	**Date**
Author		Nominated Site Inspector		9 June 2014
Approver		MAG&R Sites SI		9 June 2014

Revision History				
Revision	**Date**	**Author**	**Approver**	**Description**

Circulation List	
Organisation	**Name**
ONR	
Licensee	Director Assurance
Local stakeholder group members	Secretary, Dounreay Stakeholder Group

LIST OF ABBREVIATIONS

ALARP	As low as reasonably practicable
CDG	Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations
CNS	Civil Nuclear Security
COMAH	Control of Major Accident Hazards Regulations 1999
DECC	Department for Energy and Climate Change
DFW	Decommissioning Fuel and Waste (Programme)
EA	Environment Agency
EAct	Energy Act 2013
EIADR	Environmental Impact Assessment for Decommissioning Regulations 1999
FOD	Field Operations Directorate (of HSE)
FOI	Freedom of Information Act
GDF	Geological Disposal Facility
HAW	Higher Activity Waste
HID	Hazardous Installations Directorate of HSE
HSE	Health and Safety Executive
HSWAct	Health and Safety at Work etc Act 1974
IAEA	International Atomic Energy Agency
ILW	Intermediate Level Waste
IMG	Intervention Management Group
INES	International Nuclear and Radiological Event Scale
IRRs	Ionising Radiations Regulations 1999
LC	Licence Conditions
LCLC	Local Community Liaison Council
LETP	Liquid Effluent Treatment Plant
LI	Licence Instrument
LLW	Low Level Waste
MAG&R	Magnox & Restoration Sites
MHSWR	Management of Health and Safety at Work Regulations
MOP	Magnox Operating Plan
MoU	Memorandum of Understanding
NDA	Nuclear Decommissioning Authority
NISR	Nuclear Industries Security Regulations 2003
NRW	Natural Resources Wales
OEF	Operational Experience Feedback
ONR	Office for Nuclear Regulation
PAR	Project Assessment Report (ONR)
PAS55	Publicly Available Specification for the optimized management of physical assets (BSI standard)
PBO	Parent Body Organisation
PCSR/PCmSR	Pre-Construction/Commissioning Safety Report
REPPIR	Radiation (Emergency Preparedness and Public Information) Regulations 2001
RMT	Radioactive Materials Transport
RRO	Regulatory Reform (Fire Safety) Order 2005
RSP	Relevant Statutory Provision (of HSWA 1974)
RSRL	Research Sites Restoration Ltd
RWMC	Radioactive Waste Management Case
RWMD	Radioactive Waste Management Directorate (part of NDA)
SEPA	Scottish Environment Protection Agency
SLC	Site Licence Company
SNM	Special Nuclear Material
SSG	Site Stakeholder Group

1. INTRODUCTION

1.1 The Office for Nuclear Regulation (ONR) is the principal nuclear safety and security regulator in the UK; this role includes regulation of the 37 licensed nuclear sites. One of these is the Dounreay licensed site. This plan, covering the period from April 2014 to March 2015, has been developed taking into account the ONR Decommissioning Fuel and Waste (DFW) Programme Operating Strategy and the Magnox & Restoration (MAG&R) sites' sub-programme strategy. ONR's high-level Strategy and Operating Plan are available on the ONR website.

2. PURPOSE AND SCOPE

2.1 This document sets out our planned activities for the regulation of the Dounreay licensed site for the year 2014/15. The document focuses principally on regulation of nuclear and radiological safety on the site, which is owned by the Nuclear Decommissioning Authority (NDA) but operated on its behalf by the Site Licence Company (SLC) Dounreay Site Restoration Ltd (DSRL). It also mentions ONR's general approach to regulation and integration of other areas of ONR regulatory oversight, including nuclear security, safeguards, transport of radioactive materials, conventional safety and EIADR. ONR is now a separate public corporation and it has taken on the role, from HSE, of enforcing authority for conventional or industrial health and safety.

2.2 The regulation of radioactive discharges to the environment from licensed nuclear sites is undertaken by the Environment Agency (EA) in England; National Resources Wales (NRW) in Wales, and in Scotland by the Scottish Environment Protection Agency (SEPA). ONR co-ordinates its regulatory work with EA, NRW and SEPA in accordance with separate Memoranda of Understanding (MoU), to promote effective joint working.

2.3 The purpose of this document is to inform interested parties of the basis for the regulatory activity that ONR intends to undertake at the Dounreay site in 2014/15 and what ONR intends to achieve through its activities. Delivery and review of this plan is managed as outlined in Section 6 below.

3. ONR'S REGULATORY APPROACH

3.1 ONR is an independent enforcing authority created on the 1 April 2014 as a public corporation under the Energy Act 2013 and its mission is "To provide efficient and effective regulation of the nuclear industry, holding it to account on behalf of the public". ONR has a number of core regulatory functions and undertakes activities in line with internationally accepted standards, established by the International Atomic Energy Agency (IAEA), these are:

- Authorisation of, or permissioning safety and security related activities;
- Inspection and Enforcement;
- Review and Assessment; and
- Setting safety and security standards.

The expected outcomes from the above activities are: -

- A nuclear industry that has a culture of continual improvement and sustained excellence in operations.
- A nuclear industry that controls its hazards and security effectively.

- ONR stakeholders who value ONR's work as an effective, efficient, and independent regulator.

3.2 In regulating licensed sites in pursuit of the above outcomes ONR inspectors aim to:

- Ensure compliance with regulatory requirements;
- Make balanced judgments in relation to activities on site;
- Influence safety and security improvements on site; and
- Engage with stakeholders.

4. DFW PROGRAMME & THE MAG&R SITES

4.1 ONR has adopted programme working to provide a more flexible and efficient approach to performing its regulatory and other activities. The DFW Programme has established an Operational Strategy, which provides a framework of objectives for the regulatory activities on all 19 DFW sites. This plan is aligned to the MAG&R sub-programme strategy. The MAG&R sub-programme is responsible for the regulation of safety and security at 12 of the 37 UK licensed sites. Dounreay is operated by DSRL who is the licence holder. The other sites in the scope of the MAG&R sub-programme are the sites licensed to Magnox Ltd (ML) and Research Sites Restoration Ltd (RSRL) at: -

- Bradwell (ML)
- Berkeley (ML)
- Chapelcross (ML)
- Dungeness A (ML)
- Hinkley Pt A (ML)
- Hunterston A (ML)
- Oldbury (ML)
- Sizewell A (ML)
- Trawsfynydd (ML)
- Harwell (RSRL)
- Winfrith (RSRL)

Note: Preferred bidder to operate the above sites from 1 September 2014 has recently been announced as "Cavendish Fluor Partnership" by the NDA.

4.2 To coordinate regulation of the licensed nuclear sites ONR appoints a lead or Nominated Site Inspector who is the principal focal point for the licensee and any other duty-holders on the site in relation to nuclear safety matters. This inspector is based in the ONR office in Liverpool and will make routine visits to Dounreay to undertake inspection and other regulatory work. The lead inspector is supported by other inspectors in undertaking the front line regulation of the site.

4.3 More information can be found in Annex 1 relating to the DFW Operational Strategy and the expected strategic outcomes for the Programme. The MAG&R sub-programme has developed a set of objectives which directly support the DFW strategy and all regulatory activities on the sites are aligned with one or more of these objectives, these are as follows: -

- Regulating safe decommissioning and dismantling of nuclear facilities to an agreed interim end-state.

- Regulating shutdown Magnox reactors in defueling safely, in preparation for transition into the decommissioning phase.

- Regulation of the safety and management of the front end fuel cycle, disposition of its bi-products and consolidation of historic fuel legacies.

- Regulating safe management of radioactive waste inventories in accordance with national and international standards.

- Undertake inspection and other activity to ensure the MAG&R licensees safely manage the hazards and activities on their sites.

- Monitor duty-holders programmes of work emanating from the lessons identified for the UK from the Fukushima accident which are pertinent to the MAG&R sites.

- Ensure that proportionate and timely periodic reviews of safety are undertaken, assess submissions and agree action plans for implementing any reasonably practicable improvements identified by the reviews.

- Engage with stakeholders, producing reports where necessary within expected timescales, and responding to any queries raised.

5. REGULATION OF THE DOUNREAY SITE

5.1 This document is concerned with regulation of safety and security on the Dounreay licensed site. The DFW strategy and MAG&R objectives outlined above inform the site specific plans, including this one, to ensure that they consider the broader context when mapping out how best to secure safety and security at Dounreay. The 12 sites within the MAG&R sub-programme are considered, along with the 7 other sites in the DFW programme, to present a lower hazard when compared to some other licensed nuclear sites. The following sub-sections provide some general information related to ONR's core activities as they are applied to the Dounreay site.

Inspection (Planned and Reactive) & Enforcement

5.2 The Inspection effort expended on the Dounreay site is considered to be proportionate to the risk presented by the site and reflects the nature and magnitude of the hazards on the site. It is aimed at providing ONR with confidence that the licensee is complying with its statutory obligations and that workers and the public are protected from the hazards of the site. The inspection plan for the Dounreay site during 2014/15 is set out in Appendix A. This plan has been developed to target inspection of the licensee's arrangements and other safety measures considered to provide the most important contribution to safety and in Annex 2 further explanation is provided on the basis for the inspection approach being taken. Additional reactive inspection, or inspection associated with Intervention Projects, may be appropriate and ONR inspectors may also carry out un-announced inspections at any time. In summary the baseline inspections for Dounreay will consist of approximately 60 inspections spread across the year. Where possible these will be aligned with intervention project requirements. ONR enforces the law through a graded approach starting at verbal advice for minor non-compliances through to prosecutions in a court of law for serious breaches of the law. An enforcement management model is in place to assist inspectors in applying their judgement to any particular situation where they are contemplating taking enforcement action.

5.3 By definition, reactive inspection cannot be planned. However, experience suggests that around 20% of available inspection time is spent on reactive work. Reactive inspection often covers responding to any incidents or events on the site notified to ONR or otherwise recorded through the licensee's arrangements. Criteria for prompting further ONR investigation are set out in Appendix B. The process for determining ONR's formal enforcement response to an incident or event is set out in internal guidance, found at:

http://www.onr.org.uk/documents/2014/enforcement-policy-statement.pdf

Intervention projects.

5.4 When ONR believes that circumstances have arisen that represent a challenge to safety (termed by ONR an 'issue'), or if a matter emerges that, if not addressed, has the potential to adversely affect safety, then it may set out an 'Intervention Project' to secure the necessary changes that it believes will address the issue. The associated issues are overseen by internal ONR management processes until remedial action is sufficient to consider the matter to be closed to the satisfaction of ONR. A number of intervention projects aimed at addressing safety issues relevant to the Dounreay site are listed in Appendix C.

Permissioning.

5.5 ONR operates within a 'permissioning' regime. Under nuclear site licence conditions (LC) ONR issues regulatory documents, which either permission an activity or require some form of action to be taken; these are collectively termed Licence Instruments (LI). Permissions can be given through use of the powers of the licence, or through power, or other means, derived from the licensee's arrangements made under the relevant LC. The key to receiving "permission" from ONR will normally be a description and demonstration of how duty-holders propose to manage their risk through provision of an adequate safety case or other necessary documentation.

Priorities for Regulation of Nuclear and Radiological Safety on Site

5.8 ONR's intervention priorities for this site are covered by the detail in Appendices A and B. This section provides a qualitative description of the application of the DFW and MAG&R sub-programme strategies.

6?H; >8L8F:G 8C: F?G@G"

5.9 Dounreay currently is decommissioning the Dounreay Fast Reactor (DFR), the Prototype Fast Reactor (PFR) and a number of facilities within Fuel Cycle Area (FCA) associated with fuel reprocessing. Waste management activities are associated with the retrieval, treatment and conditioning of Higher Activity Wastes (HAW) to a form suitable for storage. These operations involve hazards that are considered to be capable of leading to an offsite release of radiation/contamination and to have a potentially significant impact on workers within the facilities, although the overall risk is considered to be low.

5.10 It is possible that some interventions will be led by an Inspector other than the Nominated Site Inspector, and that the relevant intervention project may include a need to carry out associated inspection. Consequently different inspection topics may be pursued during the same visit by different inspectors. Some of these inspections may also utilise specialist inspector resource where necessary. Wherever possible, inspection will be combined to avoid excessive regulatory

conventional or industrial safety on licensed sites is the responsibility of ONR; this work is undertaken by HSE inspectors seconded in to ONR for these purposes. In addition, the enforcement of the Reform (Fire Safety) Order 2005 (RRO) and the Fire Scotland Act (2005) is undertaken by ONR. This legislation addresses 'general fire safety precautions' and related fire safety duties, which are needed to protect people in case of fire. ONR employs a team of Fire Safety Inspectors to assess compliance with the two statutes mentioned above, through a programme of audits covering all licensed sites in the UK, which prioritise high occupancy, high fire risk buildings and plant. Themed audits are considered to be the most effective way to directly and formally engage with licensees to confirm compliance with legislation to ensure that the licensees have appropriate management and procedural arrangements in place and to encourage development of industry best practice.

ONR's Fire Safety Inspectors have planned an audit for Dounreay in late 2014.

A conventional health and safety inspection is planned on site in June 2014. In addition to a general site familiarisation there will be an inspection of topics as yet to be confirmed, but likely to include workplace transport; the management of contractors; and the management of asbestos containing materials.

7>; 219A;8F 5;89HDFG -CJ?FDCB;CH8A/BE89H *GG;GGB;CH <DF ,;9DBB?GG?DC?C= 5;=IA8H?DCG %)))!8G 8B;C:;: -/*,5 "

5.16 The EIADR requires that the environmental impact of decommissioning nuclear power stations and other nuclear reactors be considered in detail before consent for the work to commence is given. Almost all of the MAG&R sites have reactors on them which are in the scope of EIADR. Those installations which commenced decommissioning prior to 1999 when EIADR came into force, are subject to requirements related to any changes or extensions to decommissioning plans that may have a significant adverse effect on the environment. ONR EIADR officers maintain liaison with these sites and carry out site audits to assess the progress of decommissioning projects and to confirm that the impact on the environment is being managed and minimised appropriately.

There are no EIADR audits planned for Dounreay in 2014/15.

58:?D89H?J; 18H;F?8AG 7F8CGEDFH 68<;HK"

5.17 The RMT team is responsible for regulating safety during the transport of radioactive material by road and rail in GB, and advises on its transport by air and sea within UK territorial waters. The RMT team carries out inspections at consignors' premises to secure compliance with the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG). As part of their responsibilities the RMT team also assess and approve transport packages for use in the UK and abroad. Approved packages are designed, manufactured and tested to IAEA safety standards; which are adopted worldwide.

There is one CDG inspection planned for Dounreay in 2014/15.

+?J?A 219A;8F 6;91F?HK +26 "

5.18 ONR CNS team is responsible for approving security arrangements within the civil nuclear industry and enforcing compliance to prevent theft of nuclear or other radioactive materials, the sabotage of nuclear or other radioactive materials or nuclear facilities, and to protect sensitive nuclear information. CNS

inspectors monitor compliance against the approved Nuclear Site Security Plan, as required under the Nuclear Industries Security Regulations 2003 (NISR). This is supplemented by targeted planned and unannounced inspections on a bi-monthly basis, or as appropriate depending upon performance and risk to security. Joint safety/security emergency exercises on sites are a regular feature of joint programme working arrangements within ONR. In addition, counter terrorist exercises are held periodically to test the sites' contingency plans in response to a security event and are assessed by a team of security inspectors.

5.19 The CNS inspection programme for Dounreay for 2014/15 includes a repeat of the holistic review undertaken in February 2014 encompassing the disciplines of physical, personnel and information security. ONR CNS are integrated into the wider ONR assessment of the Exotics programme to ensure security considerations are incorporated into the planning process for despatch, transport and receipt of material. To this end there is a planned rehearsal exercise scheduled for the 2014 which will include ONR CNS representation.

325 68<;=18F:G"

5.20 Nuclear safeguards are measures to verify that countries comply with their international commitments not to use nuclear materials (Plutonium, Uranium and Thorium) from their civil nuclear programmes to manufacture nuclear weapons. The primary safeguards 'regulators' are the international safeguards inspectorates of the International Atomic Energy Agency (IAEA) and the European Commission (Euratom), and it is their independent verification and conclusions on which the safeguards regime depends. This means that ONR's safeguards role differs from its role in regulating nuclear safety, security and transport. Safeguards inspections in the UK are performed by Euratom (and in some cases the IAEA). ONR does not determine their scheduling or findings, but ONR Safeguards works with the safeguards inspectorates and the UK organisations being inspected, including by monitoring inspection activities and outcomes and being in a position to intervene if necessary with Euratom, the IAEA and/or the UK organisations concerned to help ensure that safeguards obligations for the UK are met in a proportionate manner and are suitably aligned with other domestic regulatory requirements.

5.21 The overarching objective for the DSRL site is therefore successful safeguards implementation including suitably positive follow-up to the routine monthly site inspections performed by Euratom, as reviewed jointly with ONR Safeguards and DSRL. Specific objectives in addition to this include ensuring, with Euratom and DSRL, timely implementation of agreed nuclear material accountancy and safeguards arrangements for the proposed Unirradiated Fuel Characterisation Facility (UFCF) and associated material transfers; and implementation by DSRL of agreed nuclear material accountancy arrangements for supplier obligation accountancy.

6. ONR MANAGEMENT OVERSIGHT

6.1 ONR operates a process that requires monthly management reports of progress against delivery of this plan within the DFW programme. In addition, an Intervention Management Group (IMG) exercises oversight of emergent and competing priorities and risks to the delivery of the programme and plans for all MAG&R sites. This oversight includes the consideration of feedback from operational experience. The IMG usually meets once a quarter.

6.2 More locally oriented Intervention Progress Groups (IPG) are also established to focus on sites of a similar nature within the MAG&R sub-programme. Significant in-year changes are accommodated as and when they arise, subject to appropriate internal ONR re-prioritisation processes. The plans are also reviewed quarterly to ensure that regulatory attention continues to match any major changes to the hazard on site or following any emerging new safety issues. The normal planning cycle is such that its re-issue and preparation for the next annual cycle starts in the Autumn each year.

Further Integration of Regulatory Responsibilities

6.3 Part of the rationale for making ONR a Public Corporation through statute, separate from HSE, is to realise the benefit to be gained by combining previously separate nuclear regulatory functions within one regulatory organisation, the so-called 'one-stop shop' for nuclear regulation. Thus the regulatory functions mentioned in Section 5 above all now clearly fall within ONR's scope of responsibility.

6.4 ONR is seeking to further develop working level interactions with the intention to further harmonise and integrate the different functions to the extent practicable by:

- Identifying from others' plans when inspections of mutual interest are due and arrange for one inspection to cover all these interests where possible.
- Continuing with joint safety and security emergency exercises.
- Arranging for inspection plans to be copied to licensees where appropriate, to provide an opportunity to identify and avoid any potential duplication of effort.
- Involving all regulatory functions in the ONR governance/oversight arrangements.

APPENDIX A – SITE INSPECTION PLAN FOR THE DOUNREAY SITE - 2014/15

The plan below sets out the areas for ONR inspection, which each plant, or area, on site will be subject to, as well as those aspects of site-wide arrangements. In addition it sets out indicative timings, although there is a degree of flexibility in the plans that allows the Site Inspector(s) to perform inspection of other activities should the need arise, including reacting to any incidents or events that may have occurred on site.

In addition, unannounced inspection may occasionally be carried out; these inspections may include inspections outside normal working hours. It is the usual practice to advise the licensee, in the preceding month, that an unannounced inspection is due.

The extent of planned inspection is intended to be proportionate to the nature and magnitude of the hazard presented by the facilities and activities on the site.

The plan will be subject to regular review and revision, as necessary, throughout 2014/15.

Dounreay Site Inspection Plan

Area	A	M	J	J	A	S	O	N	D	J	F	M
Site	System* (3.3) LC 7 Safeguards	LC 11 CNS Safeguards	LC 16 LC 26 Safeguards	LC 7 LC 32 CNS Fire RMT Safeguards	LC2 LC 22 CNS Safeguards	System* (5.1) LC 11 LC 23 LC36 CNS Safeguards LMFS	LC 7 CNS Safeguards	LC 15 LC 35 CNS Safeguards	LC 28 Safeguards	LC 7 LC 36 CNS Safeguards	System* (4.4) LC12 LC 24 Safeguards	LC 32 CNS Safeguards
Fuels					LC 15 LC 26						LC 4	LC 21 LC 22
Waste		LC 10 LC 12	LC 26		LC 22		LC 23 LC 24	LC 27 LC 28		LC 7 LC 26		
Decommissioning	LC35		LC12 LC26 LC 28		LC 22			LC 35	LC7 LC 26			
PFR		LC 35	LC12 LC26					LC 28 LC 35			LC 7	
DFR		LC 35	LC12 LC26					LC 28 LC 35			LC 7	

* 3.3 –civil structures, 5.1 –emergency arrangements equipment, 4.4 – nuclear lifting and handling

APPENDIX B – ONR INVESTIGATION CRITERIA

The following is taken from ONR guidance to inspectors in determining whether to investigate an incident on a licensed nuclear site.

A. Incidents periodically notified to ONR inspectors.

Where inspectors receive notifications of incidents NOT falling into the categories B-D below, they should ensure that the licensee has addressed the matters raised in accordance with the arrangements made under LC7, and appropriate action in the interests of safety has been taken.

B. All incidents or events that:

- Are rated on the International Nuclear and Radiological Event Scale (INES) at Level 1 or above by the licensee, whether deemed provisional or final; or
- Are deemed to meet the HSE/ONR Publication Criteria, and match one of the following ONR incident categories*: NS01, NS02, NS03, RS01, RS02, RS03, RS05 & RS08.

These incidents or events should be subject to a preliminary investigation on site by an ONR inspector, with the outcome being recorded in their associated report.

C. Any incident or event; where it is immediately evident or where initial enquiries or a preliminary investigation of the circumstances surrounding the incident reveal that: -

- There appears to be a significant challenge, or potentially significant challenge, to nuclear safety;
- It appears there was, or could have been a significant breach of nuclear site licence conditions or other relevant statutory provisions;
- There has been, or there was potential for, a release of radioactivity above, or that approached, the statutory reporting limits;
- There has been, or there was potential for a dose to an individual or group above, or that approached, the statutory dose limits;
- The licensee had acted knowingly in not taking conservative action; or
- There have been a number of incidents that have the same apparent cause.

These events should be the subject of a more formal investigation by ONR and a specific investigation report should be produced.

D. Incidents that do not fall within the above criteria, but give rise to political or public concern, could be subject to investigation and might also result in production of an investigation report as necessary.

* More information on ONR's incident categories are contained in a guide which can be found on the website at:-

http://www.onr.org.uk/operational/inspection/onr-opex-gd-001.pdf

APPENDIX C – INTERVENTION PROJECTS FOR DOUNREAY SITE - 2014/15

This Annex consists of copies of ONR project scope definition documentation used for management of those Intervention Projects that have been set up to address what ONR has identified as regulatory issues at the Dounreay site; these are as follows:

MAR 001	Removal of in-DFR breeder material and transportation to Sellafield
MAR 002	Recovery and treatment of metal coolant from DFR and PFR reactors and ancillary facilities
MAR 004	Exotic fuels
MAR 005	DFR and PFR Raffinate and ADU Floc Encapsulation
MAR 006	Radioactive Waste Management Strategy
MAR 007	Shaft & Silo Retrieval Project
MAR 009	Interim and Long-term Higher Active Waste Stores
MAR 042	Leadership and Management for Safety/Organisational Capability

Further details of the site specific intervention projects listed above are contained in the following intervention project scope documents.

Milestone delivery dates are subject to change through the year.

Intervention Project Scope DSRL Removal of in-DFR breeder material and transportation to Sellafield			
Unique Ref:	ONR – DFW - 2014/15 – MAR001		
Site/Operator/Generic	Dounreay Site Restoration Limited		
Lead Inspector:			
Outline of Safety/Security Issue (include Database Unique Ref)	Dounreay Exotic Fuel and Irradiated Materials. Issue: A failure to retrieve, repackage and transport to Sellafield of the remaining in-reactor breeder material from DFR within the existing MOP timescales may impact on the ability of DSRL to complete hazard reduction activities on the site. Subsequent investigation has shown that the DFR breeder material and associated furniture is damaged due to reactor operations and therefore the planned retrieval methodology and timescales are being reviewed.		
Description of the work:	This intervention is targeted to ensure DSRL take the required action to recover the DFR in reactor breeder material, complete any repackaging work and transport to Sellafield within the extant MOP. DSRL are currently revising tooling and the LTP to reflect the revised approach and timings. Essentially the milestones for permissioning and key deliverables will remain unchanged in content but have all been delayed by approximately 2 years.		
Outcome:	Implementation of a program of inspection and other interventions to give assurance that DSRL is taking the required action to complete the hazard reduction in the required timescales. LI 515 issued for in reactor work which remains valid.		
Operating Plan Objective:	Undertake inspection and other activity to ensure the MAG&R licensees safely manage the hazards and activities on their sites.		
Planned Project Milestones:	Date:	Milestone Description:	Output:
	Estimate of date of completion	Brief description of principal milestones	e.g. IR/CR/AR/PAR , reg letter, LI (type), etc
	September 2013	SEOR updated and issued to ONR	n/a
	September 2015	PCmSR for BFR active commissioning	LI and PAR
	June 2015	POSR for BFR operations	LI and PAR
	July 2017	PMSC for movement of in reactor breeder fuel for repackaging	letter
Timescale for completion:	Active retrievals to start in March 2015 as part of active commissioning, with bulk retrievals expected to start in July 2015.		
Endorsed by: (IMG/IPG/etc and Date)			
	<Please note that once approved, the basic information above should <u>not</u> be amended unless a local change request has been initiated and approved (see change process held in HOW2). Very minor changes can be approved through the IPG.>		

Progress Update (Optional - for use by lead inspector)	Date:	<Use this box as you see fit to update progress against the intervention>

Intervention Project Scope DSRL Recovery and treatment of metal coolant from DFR and PFR reactors and ancillary facilities.			
Unique Ref:	ONR – DFW - 2014/15 – MAR002		
Site/Operator/ Generic	Dounreay Site Restoration Limited		
Lead Inspector:			
Outline of Safety/Security Issue (include Database Unique Ref)	There are remaining bulk quantities of NaK coolant at DFR and Na coolant at PFR that represent a significant ongoing hazard on the Dounreay site. The presence of quantities of bulk Na / NaK represents a significant ongoing hazard at DFR and PFR, the principal hazard being fire with associated radiological release.		
Description of the work:	This intervention is targeted to ensure that DSRL take the required action to retrieve and neutralise the remaining significant quantities of metal coolant in a safe and timely manner. This will be achieved by routine interaction and early engagement with the licensee to gain an early understanding of its intentions and to minimise the amount of formal assessment work required. DFR have started on the drilling of hot traps into the reactor vessel which will permit them to begin extracting the bulk NaK and treat using the extant NDP. This work is expected to be completed by March 2014. PFR are designing a similar NDP which is intended to be mobile based on a skid design, although it will use the same WVN process as has been used successfully at DFR (and elsewhere in the world). As part of this intervention there will be an international benchmarking component with the French ASN. This work was started in 2011 with a joint visit to SuperPhoenix and Dounreay, and the intention is to progress this into 2014/5 with the objective of sharing decommissioning experience between ONR and ASN, to develop an understanding of regulatory posture and to share good practice and general learning.		
Outcome:	Implementation of a program of inspection to gain regulatory confidence in the licensee program, to affirm that lessons have been learnt from the EBR2 accident, and to assess the PCmSR/POSR for bulk retrievals at PFR.		
Operating Plan Objective:	Regulating safe decommissioning and dismantling of nuclear facilities to an agreed interim end-state		
Planned Project Milestones:	Date:	Milestone Description:	Output:
	Estimate of date of completion	Brief description of principal milestones	e.g. IR/CR/AR/PAR , reg letter, LI (type), etc
	June 2014	DFR completes retrieval and treatment of all bulk NaK from within the reactor. DFR NDP starts decommissioning.	None other than to acknowledge a major milestone at DSRL.
	June 2014	Initial discussion for 2014/5 ASN/ONR program in Paris, (facilitated by ONR international team).	Letters of understanding between ASN and ONR.
	May 2014	Submission of PCSR for PFR reactor vessel sodium retrieval, design justification.	Early engagement. Letter of acknowledgement (do not intend to examine at this stage)
	March 2015	Submission of PCmSR / POSR for PFR NaK retrievals, including KNK treatment using the WVN	PAR and LI

		process.	
	March 2019	All bulk and trace coolant removed and neutralised at DSRL	n/a
Timescale for completion:	March 2019, although PFR LTP is currently under review.		
Endorsed by: (IMG/IPG/etc and Date)			
	<Please note that once approved, the basic information above should not be amended unless a local change request has been initiated and approved (see change process held in HOW2). Very minor changes can be approved through the IPG.>		

Progress Update (Optional - for use by lead inspector)	Date:	<Use this box as you see fit to update progress against the intervention>

Intervention Project Scope Dounreay exotic fuels			
Unique Ref:	ONR – DFW - 2014/15 – MAR004		
Site/Operator/ Generic	Dounreay Site Restoration Limited		
Lead Inspector:			
Outline of Safety/Security Issue (include Database Unique Ref)	Dounreay Exotic Fuel and Irradiated Materials. Issue: Some exotic fuels are in a state that does not represent the optimum for long term storage, whether at Dounreay or elsewhere.		
Description of the work:	This intervention is targeted at influencing DSRL in their development of acceptable strategies for the conditioning and repackaging of fuel which is currently not passively safe for long term storage, as part of their decommissioning programme for exotic fuels. Initial attention will be on ensuring that current plans for a new characterisation facility to determine future options for passivating fuels come to fruition. Subsequent interventions will address wider issues intended to ensure that all material at Dounreay designated within the NDA's spent exotic fuels strategy are suitably passivated for long term storage. They will also address the transfer of this material to other UK licensed sites if that is the outcome of ongoing consultation on the UK national strategy for exotic fuels disposition.		
Outcome:	Implementation of a programme of fuel characterisation in a new un-irradiated fuels characterisation facility (UFCF), and of management of irradiated fuels.		
Operating Plan Objective:	Regulation of the safety and management of the front end fuel cycle, disposition of its bi-products and consolidation of historic fuel legacies.		
Planned Project Milestones:	Date:	Milestone Description:	Output:
	Estimate of date of completion	Brief description of principal milestones	e.g. IR/CR/AR/PAR , reg letter, LI (type), etc
	End Oct 14	Receipt of UFCF PCSR	LI and PAR
	End Dec 14	PCSR/PCmSR for repacking and transfer to Sellafield of sub-assemblies	LI and PAR
	End Jan 15	PCSR/PCmSR, processing soluble enriched uranium	LI and PAR
	End Jun 15	POSR, processing soluble enriched uranium	Letter
	End Mar 15	Readiness inspection ahead of UFCF active commissioning.	IR and letter
	End Jun 15	Receipt of UFCF PCmSR	LI and PAR
Timescale for completion:	TBC – to coincide with LI and PAR for UFCF active commissioning, considered to be the final permissioning step for UCFC.		
Endorsed by: (IMG/IPG/etc and Date)			
	<Please note that once approved, the basic information above should <u>not</u> be amended unless a local change request has been initiated and approved (see change process held in HOW2).		

	Very minor changes can be approved through the IPG.>

Progress Update (Optional - for use by lead inspector)	Date:	<Use this box as you see fit to update progress against the intervention>

Intervention Project Scope Dounreay- **DFR and PFR Raffinate and ADU Floc Encapsulation**			
Unique Ref:	ONR – DFW - 2014/15 – MAR005		
Site/Operator/ Generic	Dounreay Site Restoration Ltd.		
Lead Inspector:			
Outline of Safety/Security Issue (include Database Unique Ref)	DFR and PFR raffinate and ADU Floc are currently in liquid form in ageing tanks with ageing structures and need to be immobilised into safe passive state for long-term storage		
Description of the work:	The Dounreay Cementation Plant is to be modified to accommodate immobilisation of higher activity liquors then operate a programme to remove and immobilise the liquors to a timescale that is compatible with the ability of the storage facility to continue with adequately safe storage. The storage facility is to be modified to include an encapsulation process line for ADU floc immobilisation		
Outcome:	Waste-streams immobilised into safe passive state for long-term storage		
Operating Plan Objective:	Regulating safe management of radioactive waste inventories in accordance with national and international standards		
Planned Project Milestones:	Date:	Milestone Description:	Output:
	May. 2014	ADU floc PCSR submission	LI or Release of hold point
	Mar. 2015	ADU floc PCmSR submission	Letter
	Nov. 2014	PFR Raffinate PSR submission	Letter
	Mar. 2015	PFR Raffinate PCSR submission	LI or Release of hold point
	Mar. 2016	PFR Raffinate PCmSR submission	LI or Release of hold point
	Jun. 2016	PFR Raffinate POSR submission	N/A
Timescale for completion:			
Endorsed by: (IMG/IPG/etc and Date)			
	<Please note that once approved, the basic information above should <u>not</u> be amended unless a local change request has been initiated and approved (see change process held in HOW2). Very minor changes can be approved through the IPG.>		

Progress Update (Optional - for use by lead inspector)	Date:	<Use this box as you see fit to update progress against the intervention>

Intervention Project Scope Dounreay RadWaste Management Strategy			
Unique Ref:	ONR – DFW - 2014/15 – MAR006		
Site/Operator/ Generic	Dounreay Site Restoration Ltd.		
Lead Inspector:			
Outline of Safety/Security Issue (include Database Unique Ref)	DSRL wishes to use TruShield containers and RCBs to package a number of waste-streams. DSRL is proposing to modify the LLW store for the interim storage of ILW, potentially extend DCP store and build a new ILW store.		
Description of the work:	This Intervention Project relates to consideration of Strategy proposals including waste package acceptability		
Outcome:	Radioactive Waste Management Strategy that is acceptable to the Regulators		
Operating Plan Objective:	Regulating safe management of radioactive waste inventories in accordance with national and international standards		
Planned Project Milestones:	Date:	Milestone Description:	Output:
	Jun. 2014	Adequate underpinning of Strategy	Letter
	Mar. 2015	TruShield LoC	
	Mar. 2015	RCB LoC	
Timescale for completion:			
Endorsed by: (IMG/IPG/etc and Date)			
	<Please note that once approved, the basic information above should <u>not</u> be amended unless a local change request has been initiated and approved (see change process held in HOW2). Very minor changes can be approved through the IPG.>		

Progress Update (Optional - for use by lead inspector)	Date:	<Use this box as you see fit to update progress against the intervention>

Intervention Project Scope Dounreay – Shaft & Silo Retrieval Project			
Unique Ref:	ONR – DFW - 2014/15 – MAR007		
Site/Operator/ Generic	Dounreay Site Restoration Ltd.		
Lead Inspector:			
Outline of Safety/Security Issue (include Database Unique Ref)	ILW is not currently passively safe, requiring the radioactive waste in the Dounreay Shaft and Silo to be emptied and packaged safely as soon as is reasonably practicable.		
Description of the work:	Early engagement as design develops and assessment of safety submissions to determine adequacy.		
Outcome:	Shaft and silo emptied and waste in passively safe form for long-term storage		
Operating Plan Objective:	Regulating safe management of radioactive waste inventories in accordance with national and international standards		
Planned Project Milestones:	Date:	Milestone Description:	Output:
	Apr. 15	Shaft PCSR submission	LI
	Apr. 15	Silo PCSR submission	LI/Release of hold-point
	Dec. 16	Shaft PCmSR submission	LI
	Dec. 16	Silo PCmSR submission	LI/Release of hold-point
Timescale for completion:			
Endorsed by: (IMG/IPG/etc and Date)			
	<Please note that once approved, the basic information above should <u>not</u> be amended unless a local change request has been initiated and approved (see change process held in HOW2). Very minor changes can be approved through the IPG.>		

Progress Update (Optional - for use by lead inspector)	Date:	<Use this box as you see fit to update progress against the intervention>

Intervention Project Scope Dounreay – Provision of Interim and Long-term HAW Stores			
Unique Ref:	ONR – DFW - 2013/14 – MAR009		
Site/Operator/ Generic	Dounreay Site Restoration Ltd.		
Lead Inspector:			
Outline of Safety/Security Issue (include Database Unique Ref)	DSRL proposes to convert LLW store for interim storage of HAW and build a new store/DCP extension for long-term storage		
Description of the work:	To assess the suitability of stores design and operation to maintain integrity of waste packages and demonstrate that they remain passively safe.		
Outcome:	HAW packages remain passively safe over the period of long-term storage		
Operating Plan Objective:	Regulating safe management of radioactive waste inventories in accordance with national and international standards		
Planned Project Milestones:	Date:	Milestone Description:	Output:
	Apr. 14	LLW store modification proposal	LI or Release of hold point
	Sept 14	PSR for new store construction	Letter
	Jan 15	PCSR for new store construction	Release of hold-point
	Dec 15	PCmSR for new store construction	Release of hold-point
	Feb 16	DCP modification proposal	Release of hold-point
Timescale for completion:	Not yet known due to site funding limits		
Endorsed by: (IMG/IPG/etc and Date)			
	<Please note that once approved, the basic information above should <u>not</u> be amended unless a local change request has been initiated and approved (see change process held in HOW2). Very minor changes can be approved through the IPG.>		

Progress Update (Optional - for use by lead inspector)	Date:	<Use this box as you see fit to update progress against the intervention>

Intervention Project Scope Dounreay L&MfS & Organisational Capability			
Unique Ref:	ONR – DFW - 2014/15 – MAR042		
Site/Operator/ Generic	Dounreay Site Restoration Ltd.		
Lead Inspector:			
Outline of Safety/Security Issue (include Database Unique Ref)	Regulatory interactions with DSRL relating to organisation capability during 2013 has raised questions about its implementation of LC 36 arrangements and the L&MfS culture. This has been compounded by recently identified resource difficulties resulting from the Annual Site Funding Limit that are likely to further impact on organisational capability.		
Description of the work:	L&MfS assessment of the Dounreay organisation with particular reference to implementation and impact of organisational change.		
Outcome:	Regulatory position on L&MfS and recommendations for improvement/further intervention		
Operating Plan Objective:	Regulating safe decommissioning and dismantling of nuclear facilities to an agreed interim end-state		
Planned Project Milestones:	Date:	Milestone Description:	Output:
	Estimate of date of completion	Brief description of principal milestones	e.g. IR/CR/AR/PAR , reg letter, LI (type), etc
	30/11/14	Outcome of L&MfS intervention	AR
	31/3/15	Recommendation close-out	Letter
Timescale for completion:			
Endorsed by: (IMG/IPG/etc and Date)			
	<Please note that once approved, the basic information above should <u>not</u> be amended unless a local change request has been initiated and approved (see change process held in HOW2). Very minor changes can be approved through the IPG.>		

Progress Update (Optional - for use by lead inspector)	Date:	<Use this box as you see fit to update progress against the intervention>

APPENDIX D – PERMISSIONING RESPONSE STANDARDS FOR MAG&R SITES

Cat 1/A Mod: Normally subject to derived powers' Licence Instrument (LI), typically an Agreement, or an Acknowledgement if a similar proposal has been previously assessed as satisfactory and circumstances have not changed in the meantime.

Cat 2/B Mod: Subject to a derived powers LI or permission through other means following ONR assessment and guidance, or judgement, that: -

- There is some doubt over its categorisation.
- There is doubt over adequacy of licensee arrangements.
- The proposal is contentious or novel in safety terms.
- It is made under arrangements that have not been utilised for some time, e.g. if a new building is the first to commission for many years and it is considered necessary to examine the efficacy of the LC21 arrangements.

NB: A Category 2/B proposal would not normally be called-in on the basis of its safety categorisation alone.

Category 3/4 or C/D Mod Proposal: may be called-in if deemed necessary and treated like a Category 2/B modification.

Indicative ONR Response Times to Licensees' Proposed Activities

Re-licensing application:	6 months
Consent application under LC:	3 months
Approval of Arrangements under LCs	3 months
Agreement application under LCs:	3 months
Category 1/A modification proposal to Plant, Organisation or Safety	
Case - Acknowledgment/Agreement under LC Arrangements:	3 months
Notified/Specified Category 2/B Mod for Acknowledgement/Agreement	
Under LC arrangements:	3 months
Notified/Specified Cat 3/4 or C/D Mod for Acknowledgement/Agreement	
under LC arrangements:	1 month
Where ONR does not intend to examine a submission under FP arrangements	1 month
Cat 2/B modification proposal through Licensee's 28 Day Rule:	In 28 Days
Periodic safety review submission:	12 months
De-licensing application:	12 months

ANNEX 1 – DFW STRATEGY & MAG&R ACTIVITIES

The table below contains information relating to the DFW Operational Strategy and the expected outcomes which are directly relevant to the MAG&R sub-programme, with an associated commentary on the MAG&R activities contributing to delivery of these strategic outcomes.

Ref	Strategic Outcome	MAG&R Activity
1. Safe and secure decommissioning and dismantling of nuclear facilities to an agreed end-state.		
1.1	Definition of appropriate end-states for all DFW sites.	This will be incorporated into compliance inspection carried out against LC 35. Working with strategy colleagues to support development of interim and final end-state criteria. In addition permissioning the transition into Care & Maintenance for the defueled Magnox reactors.
1.2	Licensees develop and implement coherent strategies for decommissioning and dismantling nuclear facilities in a manner that progressively reduces hazards and is in accordance with relevant national and international standards.	This will be covered by compliance inspection informed by ONR guidance (see paras 5.7-5.10 below) and by benchmarking work through international exchange agreements with other national regulators, as appropriate.
1.3	Duty-holders maintain effective organisational capability and resilience, including strong leadership and management for safety, which encompasses effective internal challenge.	This is covered by specific intervention projects and compliance inspections using an inspection approach that is proportionate for lower hazard sites. In addition an approach developed by LMfS specialists to focus on the importance of an effective safety culture.
1.4	Licensees have effective learning from experience processes so that good practice is promulgated throughout the industry.	Targeted intervention projects and LC7 inspections will address these aspects.
1.5	Decennial Periodic Reviews of Safety (PSR) are undertaken in a proportionate manner and in the light of reducing hazards and risks.	This will be covered for MAG&R sites through LC15 inspections and site specific and corporate interventions to provide confidence that PSR are proportionate to the stages of the lifecycle of the facilities.
1.6	A more integrated approach to regulating safety, security, transport and safeguards activities.	Through improvements to oversight working arrangements and through producing model site plans outlining the work of all the ONR regulatory functions.
1.7	Demonstrably safe and secure 'interim' decommissioning conditions including for Care & Maintenance (C&M) of Magnox reactors for the period prior to final decommissioning.	Specific intervention projects; notably engagement with Magnox and assessment of the safety case and organisational arrangements proposed to transition Bradwell into the C&M phase.
2. Shutdown Magnox reactors will defuel safely in preparation for transition into the decommissioning phase.		
2.1	A comprehensive and systematic verification process is implemented to confirm that reactors are free from irradiated fuel.	To ensure that the successful verification and our inspections of the Chapelcross arrangements are captured for Sizewell A and Oldbury.
2.2	Licensees ensure that SSC that may affect safety are maintained through changes of lifecycle phase until no longer demanded by the safety case.	Through LC 22, 27 & 28 inspections at Oldbury and Sizewell A.

3. Safe and secure management of the front end fuel cycle, disposition of its bi-products and consolidation of historic fuel legacies.		
3.2	The UK's inventory of fuel and other fissile material remaining from Magnox and legacy Restoration sites' operations is conditioned, packaged and consolidated in a safe and secure manner.	Support to the DFW project through site specific intervention projects at Dounreay and Harwell aimed at UK Materials Consolidation.
4. Safe and secure management of the UK's radioactive waste inventories in accordance with national and international standards.		
4.1	A coherent, transparent strategy(and its implementation) for influencing and regulating the safe and secure storage, conditioning and disposition of radioactive waste inventories	Led by the Strategies sub-programme. MAG&R to provide any support where necessary and to regulate progressive safe hazard reduction at the MAG& R sites.
4.6	Effective regulatory influence of NDA and other regulatory bodies in the development of decommissioning and radioactive waste management strategies.	Support to the Strategy sub-programme and engagement as necessary with NDA representatives to ensure nuclear safety is not being unduly compromised be proposed changes in strategies.
5. Licensed nuclear sites regulated by the MAG&R sub-programme achieve sustained improvements and are compliant with their legal obligations.		
5.1 to 5.5	MAG&R sites are compliant with the NIA 1965; REPPIR; IRR99; EIADR; NISR2003 and the Regulatory Reform (Fire Safety) Order etc.	Addressed through delivery of the site specific integrated intervention plans.

ANNEX 2 – NOTES ON INSPECTION METHODOLOGY APPLIED FOR LOWER HAZARD SITES

1. This Annex provides further information on the way in which the inspection plans for the Magnox & Restoration sites are derived, recognising the need to be proportionate to the lower radiological risks and hazards presented by these sites.

2. A new inspection methodology was devised within the DFW programme and implemented during 2012/13. ONR has reviewed and revised its approach following feedback on its use. In addition an ONR-wide review of approaches to compliance and permissioning inspection had been completed. This Annex summarises the approach ONR has now adopted in developing the site specific inspection plans and underpins consistently proportionate and targeted regulation to the 12 sites in the MAG&R sub-programme. The methodology for inspection seeks to achieve two things:

   - To define an approach which enables inspectors to plan and undertake proportionate inspections with a strong emphasis on outcome.
   - To provide a framework for prioritising regulatory attention and securing appropriate resource.

Potential Inspection Topic Areas

3. The inspections undertaken by ONR are aimed at providing confidence and confirming that workers and the public are protected from any nuclear or radiological hazards at licensed sites. It is often helpful to the inspectors when seeking to judge the efficacy of the licensees' arrangements to undertake their inspections in certain broad topic areas. These areas provide a framework for planning inspections within which relevant Licence Conditions can be addressed on an individual or group basis. The inspections may be grouped in the following six areas;

   - Sound plant and site leadership and management, with a good safety culture across and within the whole site, including the contractors;
   - Effective management of decommissioning and radioactive waste;
   - Systems Inspections - Implementation of preventative and protective measures identified in adequate and up-to-date safety cases that ensure that the plant remains tolerant to design basis events;
   - A good reporting culture and effective OEF processes;
   - Measures for dealing with abnormalities, emergencies and beyond design basis events that are in place and routinely tested; and
   - Effective internal self-regulation and management systems.

   Further information on the attributes included for examination during the above inspections can be found below.

4. The actual manner in which Licence Conditions are grouped into the thematic areas during an inspection is at the discretion of the individual inspector. However, there are certain principles that the inspector takes into account when drawing up, or modifying their plans. One aim of the plan is to inspect the following LCs usually at least once a year ie 7, 10, 11, 12, 22, 23, 24, 28, 32, 34, 35 and 36, these LC are considered, for the MAG&R sites, to represent the most significant to examine in the interests of nuclear safety. In addition there is a commitment to undertake systems inspections and to cover all the relevant systems on the site over a 5 year period; the framework for Systems Inspections is outlined in ANNEX 3 below. The number of these inspections in any one year is dependent on the stage that the site has reached in its decommissioning phase.

Inspection Attributes for the 6 topic areas

1 Sound plant, site and SLC leadership & management with a good safety culture across and within the whole site, including the contractors, which can be judged against the extent to which the following apply:

   - Managers make conservative decisions and set high standards that are both reinforced verbally and by actions during routine plant visits.

- Workers demonstrate commitment to observing site norms and standards and are all, including contractors, treated in an equitable manner.
- Senior managers create an environment of mutual respect and are open and honest with staff and they value the work of the safety representatives, and promote an open reporting culture to support learning from experience.
- Roles and associated competence requirements are clearly defined and sufficient resources allocated to safety related roles.
- Challenges and deficiencies are addressed positively, promptly and effectively and associated acquired knowledge channelled into continuous improvement at all levels in the organisation.
- Workers are actively supported through effective training, mentoring and coaching.

Inspection of the above may include licence compliance inspection of: LC 7, LC 10, LC 17, LC 26, LC 36 and MHSWR.

2 Effective management of decommissioning and radioactive waste, which can be judged against the extent to which the following apply:

- The licensee minimises waste accumulations on site, from operations and decommissioning activities, it adopts the established hierarchy for waste.
- The site has an up-to-date Integrated Waste Strategy (IWS), where relevant, that reflect UK [or devolved] Government policy. Decommissioning programmes secure a progressive reduction in hazard.
- Where applicable, effective radioactive waste management safety cases are in-place.
- Proposals for Waste Package design, where relevant, should align with relevant good practice defined by NDA's Radioactive Waste Management Directorate.
- The licensee actively includes multi-agency dialogue on radioactive waste strategy.

Inspection of the above may include compliance inspection of LC 32, LC 34 and LC 35

3 Systems Inspections - Preventive and protective measures identified in adequate and up-to-date safety cases that are implemented in practice to ensure that the plant remains tolerant to design basis events, which can be judged against the extent to which the following apply:

- The fault schedule has been properly developed, relevant faults selected, and associated protective/preventive measures examined and found to be adequate (specialist expertise may be necessary for this).
- Workers are aware of which Structures, Systems and Components (SSCs) have safety functions.
- Plant maintenance and modification arrangements ensure that the functionality of SSCs is not compromised.

Inspection of the above usually include compliance inspection of LC 12, LC 23, LC 24, LC 27, LC 28 & 34

4 A good reporting culture and effective OEF processes, which can be judged against the extent to which the following apply:

- Licensee has an active reporting culture, recording and investigating and trending events and identifying and implementing corrective actions to help prevent recurrence ie an effective OEF process.

- Staff and managers actively pursue and address organisational learning opportunities from all relevant sources.

Inspection of the above may include compliance inspection of LC 7, LC 17 & MHSWR

5 Measures for dealing with abnormalities, emergencies and beyond design basis events are in place and routinely tested, which can be judged against the extent to which the following apply:

- Plant operators are routinely assessed on their ability to deal with abnormal/unusual events and occurrences.
- HIREs are in date and have been assessed by ONR as acceptable.
- A plan exists and is implemented to test the component parts of licensee's emergency preparedness arrangements.

Inspection of the above may include compliance inspection of LC11 and REPPIR.

6 Effective internal self-regulation and management systems, which can be judged against the extent to which the following apply:

- A person has been allocated responsibility for the internal challenge function.
- Site oversight of compliance is effective and the site routinely reviews its own compliance status and initiates effective remedial action when necessary
- Considerations by the Nuclear Safety Committee and any other safety advisory group are routinely reported to ONR, and that their advice is acted upon.

Inspection of the above may include compliance inspection of LC 13, LC17 and MHSWR.

ANNEX 3 – SYSTEMS BASED INSPECTIONS - SAFETY FUNCTIONS AND SYSTEM GROUPINGS

1. Introduction

The listing below is intended to represent a summary of the key nuclear safety functions and related structures and systems identified in facility safety cases, which contribute to plant operations being carried out within identified operating limits and conditions. The systems are grouped into five areas representing the main safety functional requirements taken from the safety cases and as included in IAEA standards.

2. Safety Functional Requirements and Associated Safety Structures and Systems

Control of Reactivity (S1)

1) CIDAS.
2) Shielding.
3) Management Controls (for non-geometrically safe plant).

Cooling (S2)

1) Cooling provisions for plant and equipment or stored material, including by natural circulation.

Confinement of Radioactive Material (S3)

1) Cells, RPVs, LLW & ILW Vaults, Tanks and Waste Packages.
2) Gloveboxes and bagging.
3) Civil Structures (e.g. ponds, reactor halls).
4) Modular Decontamination Structures.
5) Furnaces/ Kilns.

Safety Support Systems (S4)

1) Essential Supplies (e.g. Electrical, Compressed Air, Inert gas).
2) Fire Protection (Compartments, Detection & Suppression).
3) HVAC to support containment or for plant control rooms.
4) Nuclear Lifting and Handling (e.g. Cranes, hoists, de-fuelling machine).
5) Contamination/Radiation Monitoring and Operator claims and actions.

Site Wide Systems (S5)

1) Emergency Arrangements Equipment (e.g. radios, PA tannoy, vehicles, monitoring instrumentation etc).

Notes:

1. Safety system descriptions: Safety System(S)/Grouping/System Number e.g.: S1.1 = CIDAS.

2. Cooling Systems S2.1 – engineered process cooling systems are not generally claimed by the safety cases for Magnox & Restoration sites, however cooling of ancillary equipment or to protect persons may be needed and these are included if required by the plant safety case.