AWE Proposal for TP1 for the Implementation of the Nuclear Warhead Capability Sustainment Programme

VOLUME 1

ANNEX J

AWE Aldermaston and Burghfield Nuclear and Explosives Safety Programme (NESP)

AND

AWE Response to NII Aspirations

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DOCUMENT APPROVAL

Prepared By	Approved for Issue By
[redacted]	A Jupp Director Assurance
Date:	Date:

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Issue 1	Minor revisions	April 2007	[redacted]	A Jupp

Previous issues of this document are to be destroyed or marked <u>SUPERSEDED.</u>

1. INTRODUCTION

1.1 This document identifies candidate items, which make up the Nuclear and Explosives Safety Programme (NESP) for the AWE Aldermaston and Burghfield sites.

2. SCOPE

2.1 The Scope of the NESP covers nuclear and explosives facilities and supporting activities together with infrastructure, on the Aldermaston and Burghfield sites.

3. PURPOSE

3.1 The purpose of the NESP is as follows:

1. To identify to the Company, the Customer and the Regulators all the principal areas where a reduction of risk is desirable and achievable.
2. To identify areas of improvement, to both the physical infrastructure and the management systems, against the Site Licence Conditions.

4. DERIVATION OF CANDIDATE ITEMS

4.1 The candidate items have been derived in accordance with the methodology outlined in the NESP Management Plan.

4.2 The candidate items have been grouped in line with the Regulator Interface Meetings (RIM) Level 3 meetings.

5. Reference Documents

AWE Aspiration Response paper reference number: AWE/DSDG/B/RP/AD/1941

APPENDIX 1 – NESP CANDIDATE ITEMS

BURGHFIELD

Owner: [redacted]

New Assembly Facility

1) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
The objective of the Assembly Project is to provide an enduring nuclear warhead assembly and disassembly facility that meets modern standards and is designed to deliver the current and future manufacturing programmes.	• Overhead lifting of warheads removed from the process as far as is possible • Improved containment	• NII Aspiration 1, 6 & 7. • HPCP Ref: DMP/EG1C/LL2908383	ATO 2015

PRS

2) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
The PRS has identified a number of shortfalls with some of the lifting equipment used at Burghfield. Uplift of the assembly/disassembly facilities, prior to replacement with new build, is being carried out to improve operations and address the shortfalls identified.	• Removal/replacement of the cranes in Buildings [redacted] will reduce likelihood of dropped load and [redacted] • Replacement of [redacted] crane.	• NII Aspiration 2 • HPCP Ref: DMP/EG1C/LL2908383	To be implemented in accordance with the project PRS Programme ref: XXX December 2008

Tooling Modifications

3) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
Introduction of new Flexible Warhead Processing System (FWPS) for dismantling / assembly of warheads.	• Improved lines of defence • Greater integrity of lifting devices	• NII Aspiration 2 • HPCP Ref: DMP/EG1C/LL2908383	2010

URANIUM

Owner: [redacted]

EUP

4) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
The existing uranium facility is coming to the end of its useful life and a replacement facility is to be built. The new facility will provide the capability for future production and will meet current standards for safety and the environment and requirements for working with nuclear material.	• Waste arisings reduced • Improved containment, both primary and secondary. • minimisation of orphan wastes e.g. oily waste	• NII Aspiration 12 • HPCP Ref: DMP/EUP/LL15581539. • HPCP Ref. EUP-HP-20 (Waste) • HPCP Ref EUP-HP-08 (Containment)	ATO 2016

A45 PRS Submission

5) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
The purpose of the PRS is to determine, by comprehensive assessment against modern standards, that the plant, processes, management, operations and facilities associated with A45, and pertaining to nuclear safety, are safe and that ageing and time related phenomena will not render them unsafe before the next PRS.	• Robust identification of safety systems, structures and components • Identification and ALARP review of shortfalls against modern standards	• NII Aspiration 13 • HPCP Ref. A45-HP-20 (PRS) • HPCP Ref A45-HP-18 (ALARP)	NSC February 2007 NII Decision Date Dec 07

A45 PRS Improvements			
6) Description	**Safety Improvements**	**NII Aspiration and HPCP Ref.**	**Implementation Date**
Following an initial review of the casting furnace as part of the PRS, operations have been placed under a Facility Management restriction, pending further assessment. Improvements will be implemented as part of the re-kit programme.	• Separation of operational and safety circuits • Improved operator feedback and control	• NII Aspiration 13 • HPCP Ref: A45 –HP-03	Handover October 2008

A45			
7) Description	**Safety Improvements**	**NII Aspiration and HPCP Ref.**	**Implementation Date**
Removal of non process material to A90	• Hazard reduction from removal of material from A45.	• NII Aspiration 14 • HPCP Ref: A45-HP-29	Planned for [redacted] however under review.

PLUTONIUM

Owner: [redacted]

A90 Rekit

8) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
The process will be modified to allow [redacted] This will involve the provision and installation of new casting furniture. The modification will allow increased capacity and throughput.	• Reduces operator dose burden through reduced operations and maintenance	• HPCP Ref: A90/PMP/MAN/1 Issue 2 - A90PMP25	Active commissioning May 2009

A90 PRS Submission

9) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
The purpose of the PRS is to determine, by comprehensive assessment against modern standards, that the plant, processes, management, operations and facilities associated with A90, and pertaining to nuclear safety, are safe and that ageing and time related phenomena will not render them unsafe before the next PRS.	• Robust identification of safety systems, structures and components • Identification and ALARP review of shortfalls against modern standards	• HPCP Ref: A90/PMP/MAN/1 Issue 2 - A90PMP135	Submission date to NII April 2008

DRAS

Owner: [redacted]

VIPER Upgrade

10) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
The control desk of VIPER does not meet modern standards. The PRS has identified a number of upgrades that will improve compliance with existing procedures and improve the quality of the information fed back to the operators. A PBR controlled requirements study is being carried out to address the long term future of VIPER, followed by any subsequent options study.	• Separation of control and safety functions • Improved operator feedback and control • Enhanced Operating Rule 12 compliance	• Aspiration 10 • HPCP ref: AWE/DWE20/07/B/F30001	NII decision date October 2007 Requirements study complete by May 07.

HYDRUS

11) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
The existing Hydrodynamics facilities are coming to the end of their useful lives. It has been proposed to build HYDRUS. This facility will be used to undertake 3 types of experiment: 1. [redacted] HYDRUS will meet current EH&S standards for working with nuclear material	• Two lines of containment for special rounds • Waste arisings reduced • Improved ability to decontaminate chamber • Elimination of blast mitigant materials for open firings	• NII Aspiration 7 & 9 • HPCP Ref: HFU/HYD/B/LL19724122/0357	ATO 2012 (under review)

[redacted] PRS Submission			
12) Description	**Safety Improvements**	**NII aspiration and HPCP Ref.**	**Implementation Date**
The purpose of the PRS is to determine, by comprehensive assessment against modern standards, that the plant, processes, management, operations and facilities associated with [redacted] and pertaining to nuclear safety, are safe and that ageing and time related phenomena will not render them unsafe before the next PRS.	• Robust identification of safety systems, structures and components • Identification and ALARP review of shortfalls against modern standards	HPCP Ref: AWE/SAC40/C/CRB/3000/01	Submission to NII March 08, NII Decision date Mar 09

[redacted] PRS Submission			
13) Description	**Safety Improvements**	**NII Aspiration and HPCP Ref.**	**Implementation Date**
The purpose of the PRS is to determine, by comprehensive assessment against modern standards, that the plant, processes, management, operations and facilities associated with [redacted] and pertaining to nuclear and conventional safety, are safe and that ageing and time related phenomena will not render them unsafe before the next PRS.	• Robust identification of safety systems, structures and components • Identification and ALARP review of shortfalls against modern standards • Improve storage of explosive components.	HPCP Ref: AWE/DWE20/7/B/F30001	Submission to NII Feb 09 .

[redacted] PRS Submission			
14) Description	**Safety Improvements**	**NII Aspiration and HPCP Ref.**	**Implementation Date**
Building [redacted] of the Hydrodynamic's Facility was due for closure in 2010. Due to programme demands it will be necessary to extend the operational life of [redacted] to	• Robust identification of safety systems, structures and components • Identification and ALARP review of shortfalls against modern standards	HPCP Ref: HFU/HYD/B/LL19724122/0357	Submission to NII by April 09

continue to undertake [redacted] trials involving fissile material within containment vessels. The purpose of the PRS will be to build on the engineering substantiation work already done to underwrite the safety of the [redacted] and to justify the continued operation of the building. The assessment against modern standards will ensure that the plant, processes, management and operations pertaining to nuclear safety will remain safe. The closure of [redacted] will be decided as a consequence of the evaluation of the Hydrus plan and programme.			
[redacted] PRS Submission			
15) Description	**Safety Improvements**	**NII Aspiration and HPCP Ref.**	**Implementation Date**
The purpose of the PRS is to determine, by comprehensive assessment against modern standards, that the plant, processes, management, operations and facilities associated with [redacted] and pertaining to nuclear safety, are safe and that ageing and time related phenomena will not render them unsafe before the next PRS. This review will develop further the work completed under Engineering Design Substantiation in support of the [redacted] Operational Safety Case.	• Underpin findings from the EDS process to ensure: a) Identification of safety systems, structures and components b) Identification and ALARP review of shortfalls against modern standards to include identification of safety systems, structures and components	• HPCP Ref: AWE/SAC40/C/CRB/3000/01	Submission to NII by Jan 2012

EXPLOSIVES

Owner: [redacted]

HEFF

16) Description	Safety Improvements	NII aspiration and HPCP Ref.	Implementation Date
The object of the [redacted] Project is to provide [redacted] to support the future AWE Programmes. [redacted]	• Reduces number of explosive moves on site and within the Facility. • Superior definition of, and improved levels of protection to personnel within the building. • Allows the closure of ageing facilities.	• NII Aspiration 8 • HPCP Ref. AWE/XTF/B/HPCP/06/001 DMP/LL17937221	ATO October 2011

MSER Licensing

17) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
AWE is required to obtain new site based HSE MSER explosives licences, which will replace the present MoD Defence Ordnance Safety Group (DOSG) building licences.	• Superior risk assessment / engineering justification.	• HPCP Ref. AWE/XTF/B/HPCP/06/001 DMP/LL17937221	HSE Licences by April 2008

DECOMMISSIONING AND WASTE MANAGEMENT

Owner: Heather Young

ILW Projects			
18) Description	**Safety Improvements**	**NII Aspiration and HPCP Ref.**	**Implementation Date**
A number of integrated projects have been proposed to characterise, minimise and stabilise the ILW stored at AWE pending a long term off site disposal solution.	• Reduction in the amount of ILW • Improved characterisation • Improved conditions for interim storage	NII Aspiration 15 & 16 HPCP: EDMS1/800F35E9/B/EP015	Processing complete 2025.
A1 Decommissioning			
19) Description	**Safety Improvements**	**NII Aspiration and HPCP ref.**	**Implementation Date**
The A1 Facility ceased operations at the end of 1997. Post Operational Clean-out (POCO) operations are complete and the Facility is now in Phase 3 decommissioning.	• Reduced waste legacy resulting in reduced risk	NII Aspiration 15 HPCP: EDMS1/800F35E9/B/EP015	Dismantling complete 2011.
ILW Stores Assessment			
20) Description	**Safety Improvements**	**NII Aspiration and HPCP ref.**	**Implementation Date**
The purpose of the PRS is to determine, by comprehensive assessment against modern standards, that the plant, processes, management, operations and facilities associated with WMG Solid Radioactive Waste Facility are safe and that ageing and time related phenomena will not render them unsafe before the next PRS.	a) Identification of safety systems, structures and components b) Identification and ALARP review of shortfalls against modern standards to include identification of safety systems, structures and components	HPCP: EDMS1/800F35E9/B/EP015	Submission to NII Sept 08 (TBC)

Integrated Waste Strategy			
21) Description	**Safety Improvements**	**NII Aspiration and HPCP ref.**	**Implementation Date**
The AWE Integrated Waste Strategy sets out the Company's intentions to provide a consistent framework for the sustainable management of all waste streams. This document outlines the overarching strategy, whilst the Integrated Waste Strategy Companion Document details AWE's historic and current waste management arrangements, as well as current and future legislative requirements.	In order to achieve a consistent approach to the management of waste across the Company for the foreseeable future six objectives have been developed by the Steering Group to provide a framework for developing the Strategy. 1. Improve AWE employee/contractor awareness and behaviours 2. Improve communication and provide easily accessible technical support and advice 3. Improve processes for sustainable waste management 4. Improve strategic planning for future waste management 5. Minimise waste production and increase segregation, re-use, recycling and recovery 6. Manage residual waste in a sustainable way (limit disposal to landfill) These objectives will be implemented through a series of commitments within the IWS.	Aspiration number 16, 17, 18. AWE Integrated Waste Strategy Report 144/07	March 2007.

CORPORATE ITEMS

Site Assessment/PRS

Owner: [redacted]

22) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
The purpose of the AWE(A) Site Assessment is to demonstrate through the production of a Site Safety Case that AWE(A) operates safely. This assessment is based upon a comprehensive review of individual Facility Safety Cases, the demands made on external supplies and services along with the capability to supply said services.	a) Identification and understanding of the safety implications within a Facility on the failure of a supply or service of up to 6 weeks. b) Identify AWE(A)s ability to supply a range of supplies and services to Facilities. c) Produce forward action plans to address any shortfall between what is required and what can be provided.	Developing an understanding of the NII aspirations and agreeing a realistic programme to undertake the Site Assessment.	Submission to NII April 2009 providing the programme is agreed, realistic and can be resourced.

Justification of AWE Activities

Owner: All HPCP Owners

23) Description	Safety Improvements	NII Aspiration and HPCP Ref.	Implementation Date
In presenting a case to regulators for the permissioning of a significant activity, AWE (with assistance from NWIPT as necessary) should fully justify the activity with reference to endorsed strategic objectives for the warhead ad research programmes.	• The reason for conducting the activity is visible to all • The activity is justified against high level objectives. • Mutual assurances and their underpinning logic are transparent.	• NII aspiration 20 • Will be phased in as hold points in the future HPCPs as necessary.	Progressively from January 2007 where applicable.

CORPORATE POLICY AND STANDARDS

Owner: [redacted]

Integration of Design and Safety Process			
24) Description	**Safety Improvements**	**NII Aspiration and HPCP Ref.**	**Implementation Date**
Integration of design and safety should reduce the chance of needing to make significant changes to plants and or facilities in the later stages of the design process. Early identification of hazards and appropriate application of ERICPD will help with the design, construction and operation of safe facilities	• Early integration of safety considerations into designs • Clarity of safety issues	N/A	April 2007

LC36 Baseline Rewrite			
25) Description	**Safety Improvements**	**NII Aspiration and HPCP Ref.**	**Implementation Date**
The LC36 Baseline tabulates Key Safety Functions (KSF), derived from AWE's safety management system. The original requirement was that "all nuclear safety SQEPed posts should be in the baseline". Since the last issue of the Baseline, the Company process for SQEPing has developed and applied very widely, so there are many more SQEPed roles	• A structure for demonstrating control of contractors • Better visibility of resources which control operations	N/A	June 07

APPENDIX 2 – AWE RESPONSE TO NII ASPIRATIONS

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
1.	The new assembly facility at AWE(B) should be designed, built and commissioned and brought into operation as soon as possible but in any case no later than [redacted] **Additional comment received on 7th March 2007** a)Financial approval at FEL 3 by MoD is an in-line activity so any delays in this process will have a direct knock-on effect to the project end-date. Anything which can therefore be done to ensure that there are no delays, such as pre-briefing or presentational improvements to the case would therefore help. If these were to be successful in	The existing facilities at AWE (B) have been in place for a significant period and were based on designs which catered for a different product to that which they are expected to handle now. As a result there will be difficulties in demonstrating continued functionality particularly with the current loading. Given the likely programmes of work at AWE (B), the fewer units processed in the old facilities, the lower will be the risks for workers and the public. a)NII assessment of various stages of the safety submissions account for 1 year of the project programme. Early engagement and/or phased safety submissions should be looked at in an attempt to shorten this activity. AWE and NII should continue to examine the project programme to determine whether any further flexibility can be achieved through the	A new facility is to be built with Agreement to Operate expected in [redacted] This date has been programmed for the following reasons: • time needed to design the most optimum facility and reduce risk within the design • time needed to construct once design is finalised • resource availability in terms of man power and funds All of the above will reduce the risk in terms of time, cost and design risk. a)AWE will be using the flexible permissioning approach detailed in CSI 808 for the construction of the new Assembly facility. Early engagement with stakeholders is a key component of this approach.	NESP item 1. HPCP : DMP/EG1C/LL2908383

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
	bringing MOD approval earlier, it would make NII assessment of the PCSR an in-line activity and hence this would need to be considered. Options would be a phased PCSR submission and/or early engagement with NII assessors to minimise the actual time taken to clear the PCSR when submitted.	flexible permissioning regime and thereby bring forward completion dates or take assessment requirements out-of-line.		
	b) It is likely that completion of the facility will be accomplished over a period of time and therefore AWE should consider planning the inactive commissioning in such a way that a production route through the building is available as soon as possible, allowing the commissioning work being completed in remaining parts of the facility to be undertaken in parallel. AWE should commit to the transfer of operations from the existing facility as soon as the	b) Notwithstanding the above, AWE should commit to the installation of all equipment as soon as reasonably practicable so that the building achieves its full throughput capability as soon as possible removing the requirement to continue work within the existing facilities.	b) This is AWE's intent and makes sound business sense. AWE will use the new facility as soon as the commissioning has been satisfactorily carried out.	

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
	new facility will allow rather than at some particular point within the production programme. c) It is recommended that the stakeholders identified above provide commitment that they will use best endeavours to progress the proposals for shortening the project programme and periodically report back to the level 2 RIM.		c) The aspiration responses relating to the new Assembly facility are items within the NESP. This document is part of the tender suite for TP1 and progress against items in the NESP are reported to the Level 2 meeting on a routine basis.	
2.	The existing assembly facilities at AWE (B) should cease operation as soon as possible.	ditto	The PRS for the current assembly facility has identified a number of improvements that can be made in the current facilities to allow for continued operations until the new facilities are available, such as; • Removal/replacement cranes in assembly buildings and replacement of loading bay crane which will reduce the likelihood of dropped loads.	NESP item 2 &3. HPCP: DMP/EG1C/LL2908383

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
			• Introduction of new flexible Warhead processing system for dismantling /assembly of warheads giving improved lines of defence and greater integrity of lifting devices.	
3.	AWE should endeavour to maximise the use of shallow refurbishment and minimise the use of deep refurbishment at AWE (B)	Reduction of risk	This is and will be the intent wherever possible.	Trident Manufacturing Plan Issue 1, Ref: AWE/HSP/5561/LM
4.	The new facilities at AWE (B) should be designed around the Trident Warhead and whilst not precluding any successor should not cater for speculative designs in preference to Trident.	Assumptions made in respect of previous designs were subsequently proved to be wrong.	All requirements for the new assembly facility are being captured from the Trident process in the first instance. On completion, these will be reviewed against the current understanding of any potential successor and where necessary, amended to provide the capability for both weapon systems.	NESP item 1. HPCP ref: DMP/EG1C/LL2908383 Mensa Sponsor Reqts Part 1, Ref: AWE/GE/LL2555934
5.	As a general safety principle, the new facilities at AWE(B) should be designed to handle the forecast Trident throughput with built-in contingency allowances and without the need for temporary mitigation methods to cope with production peaks.	The facility will operate for many years with a well known programmed for Trident warheads. It should be designed to minimise the quantities of HE within assembly cells and the potential insults which could affect either partially or fully assembled warheads. NII believes that there is more likelihood of unforeseen assembly or disassembly problems than a major accident occurring and therefore some or all of the	The current layout has the capability to deliver the current Trident throughput as per current working conditions. If necessary, working practices could be structured to provide enhanced utilisation of the facility and hence provide the required contingency.	NESP item 1 HPCP Ref: DMP/EG1C/LL2908383 Mensa Sponsor Reqts Part 2, Ref: EDMS1/800/A0EDC/EG 01/3/PS

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
		contingency allowance could be achieved by the incorporation of fully functional training facilities. In addition the new facilities should incorporate sufficient storage for component parts to avoid production tensions caused by operational difficulties at AWE (A)		
6.	Lifting of warheads or parts of warheads should be eliminated as far as possible in the new AWE (B) assembly facility	Minimise insults to HE	The design intent is to minimise lifting of warheads and their component parts as far as is possible.	NESP item 1. Design Safety Principles for New Assembly Process, Ref: EDMS2/8002B973/B/LS/SC0114
7.	All potentially hazardous operations should only be carried out within facilities designed to fully contain the hazard	e.g. [redacted] to align with SAPs.	Facility such as the new assembly facility or HYDRUS will be designed according to the risks associated with the processes. As such all potentially hazardous operations will only be carried out within facilities designed to contain the hazard so far as is reasonably practicable.	NESP item 1 & 11. Mensa Sponsor Reqts Part 2, Ref: EDMS1/800A0EDC/EG01/3/PS
8.	The design, construction, commissioning and operation of HEFF should be undertaken as soon as possible	It will permit the advancement of other safety improvement projects and allow the closure of a number of obsolete explosive facilities	This is required by the customer Programme. Approval to operate target is [redacted] This new facility will offer: • Safer processing with improved process worker protection, and less explosive handling and transportation. • Compliance with current design standards and current EHS and Explosive Regulations.	NESP item 16. HPCP ref: AW/XTF/B/HPCP/06/001, DMP/LL17937221

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
			• the closure of a number of obsolete facilities. • More efficient operations through collocation of operations and fewer operations staff. • Modern and more capable process plant and equipment leading to improved process control.	
9.	The design, construction, commissioning and operation of HYDRUS should be undertaken as soon as possible and the new facility should not require the use of mitigants.	It will permit the closure of obsolete facilities and will result in lower risks to the workforce. Also minimisation of waste	This is required by the customer Programme. Approval to Operate targeted for [redacted] (ATO date under review). HYDRUS will produce the following benefits: • Full operational capacity over full suite o[redacted]which is targeted for[redacted] • A Chamber designed for significantly larger bare weight charge limit. • Use of mitigants minimised where ever possible thus significantly reducing low level waste production. • Closure of obsolete facilities can take place once the new facility is fully operational. • Non toxic facilities can be refurbished. • Reduction in the number of explosive moves on site and within the facility.	NESP item 11. HPCP Ref: HFU/HYD/B/LL19724122/0357
10.	If VIPER is required to operate for more than 10 years, AWE should construct	The current facility has been operating for several decades and may be required to operate for several more	• A PRS has been carried out for the next ten years operations in VIPER. Funding has been made available to	NESP item 10. HPCP Ref:

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
	a new facility in which to house the current reactor and new support facilities/systems which should be brought into operation as soon as possible	depending on Government requirements. There is every likely hood that at some stage in the future the reactor will be required to [redacted] and the potential consequences for this are high. Whilst the reactor has seen little service, the facility in which it resides does not meet modern standards and could not reasonably practicably be improved. An option would be to construct an alternative facility meeting modern standards in respect of ventilation, segregation and redundancy of services etc. and transfer the reactor in say [redacted] This would allow the ongoing requirement for operation of VIPER in the short term. Even though the reactor has very limited burn-up AWE should not forget that many of the ancillary components have seen several thousand duty-cycles.	carry out the recommendations made within the PRS. AWE have initiated a project to review the long term requirements for this capability. The project will use the AWE project delivery and sanction process which includes the capture and agreement of the future capability requirements and the development of an appropriate delivery strategy through a formal optioneering process. This optioneering process will consider all capability delivery options including continued use of existing facilities, refurbishment of existing facilities, provision of new facilities and outsourcing. All optioneering is undertaken against a set of user requirements which includes the need to provide a capability that will meet the relevant standards for safety, security, environment and health. The next review point for this project is FEL Gate 1 in [redacted]	AWEW/DWE20/07/B/F3 0001
11.	New high-HAZCAT facilities constructed at AWE(A) should be sited as far away from areas of high site occupancy as possible.	Self – explanatory	This is AWE's intent where possible – For example Gemini has been moved.	CSI 800 Assurance Safety Principles 21 and 29.
12.	The design, construction, commissioning and operation		The New Uranium Facility Approval to operate expected [redacted] n line with customer	NESP item 4.

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
	of NUF should be undertaken as soon as possible to allow early closure of A45.		Programme requirements. This will have smaller waste arisings and improved containment, both primary and secondary.	HPCP Ref: DMP/EUP/LL15581539
13	The current PRS for A45 will be the last one.		• It is AWE's intention that the current PRS will be the last operational one for A45. The new facility is due to be fully operational in [redacted] • A45 will have completed the PRS by Feb 2007 which will justify operations until [redacted] • A Programme of Works to address shortfalls is being developed and some activities have already commenced. • The Rekit is programmed to take place between 2006-2009.	NESP item 5. HPCP Ref. A45-HP-20 (PRS) HPCP Ref A45-HP-18 (ALARP)
14.	Removal of non-process materials from A45 should take place as soon as possible		The current AWE strategy is to address the highest safety risks first e.g. decommissioning activities such as A1 and [redacted] It is planned to have the removal of non- process materials from A45 by [redacted] This strategy is under review and consideration will be given to accelerating the transfer of material from A45. AWE is currently working to the agreed NII called in programme.	NESP item 7. HPCP Ref: A45-HP-29
15.	Closure, POCO and decommissioning and clearance of obsolete facilities at AWE should be undertaken		AWE plc has successfully decommissioned and demolished a large number of facilities in the past 5 years. A decommissioning programme is in place and is fully integrated into the	NESP item 18. CSI 800 Assurance Safety Principle 4.

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
	as soon as possible		programme agreed with the customer. It reviewed on a regular basis and it is being developed to include the next generation of obsolete facilities.	HPCP: EDMS1/800F35E9/B/EP 015
16.	AWE should identify disposal routes for radioactive wastes currently sorted and utilised these as soon as possible. Where disposal routes are not available, AWE should convert wastes into a safe passive form as soon as possible without precluding eventual disposal options		A number of integrated projects have been proposed to characterise, minimise and stabilise the ILW stored at AWE pending a long term off site disposal solution. The processing target completion by 2025. Disposal routes have been found for the majority of the wastes with no straightforward disposal route. Focus is being given to the remaining wastes and further detail can be found in the Quinquennial Review due to be published in March 2007. The AWE Integrated Waste Strategy also includes commitments to address these issues.	NESP item 18 & 21 Requirement of the SRD. Strategy for the Management of RA Waste Streams, Trade Waste and North Ponds Discharges EDMS1/8006C610/B[redacted]W0300 2007 Quinquennial Review RA Waste Streams Requiring Further Work EDMS1/800E2FCE/B/EP 0800 AWE Integrated Waste Strategy, AWE Report 144/07.
17	Wastes should not be produced for which there is not an established disposal route		AWE has project design procedures that clearly stipulate the waste management requirements and intent for new facilities and operations. Each major project is required to confirm they have met the design guidance requirements at	Major Project Delivery Process, PDPM001 NESP Item 21 - AWE

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			each FEL gate. The AWE Integrated Waste Strategy also includes commitments to address these issues.	Integrated Waste Strategy, AWE Report 144/07.
18	AWE and MOD should agree what is waste and what is not.	Failure to do so is hampering waste strategies and clearance of old facilities e.g. A45	Agreement as to what is waste and what is not is necessary for completion of the Customer Programme. Items such as [redacted] have been declared as waste by AWE further discussions will take place with MOD via the AWE Integrated Waste Strategy process.	Requirement of the SRD document. NESP Item 21 – IWS 144/07
19	AWE should not automatically replicate the techniques used in existing facilities in the new ones it is constructing. It should aim to have facilities that are near to the top of the SAP 61/62 hierarchy as possible. It should seek to use the most appropriate technology and undertake such development work as is necessary to make this feasible, not withstanding the requirement to bring new facilities on stream as soon as practicable	Examples are: Use poisons to prevent criticality if this is appropriate and use passive safety rather than active systems. Do not allow water to be used in new [redacted] system is not to be used as the primary criticality control. High priority should be given to development of a passive engineered system to control fissile mass.	AWE is actively researching new technologies as part of its forward programme and successful candidates are then introduced into the design process. For example within the new Uranium Facility the following techniques are being adopted: • [redacted] with the option to go [redacted] • Better containment facilities using inert atmospheres requiring reduced RPE operations. • Limited moderator design is an option in the [redacted] • Criticality enhancements including limited in process SNM, passive controls design intent with limited software controlled interlocks and independent accountancy systems.	AWE Design Safety Principles – P24, CSI 800 & 880.

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20	NWR should critically examine AWE proposals for trials and experiments involving radioactive materials and agree only those which are essential to the strategic defence program.		All AWE activities are part of the customer programme and therefore required for the strategic defence programme. In presenting a case to the regulators for permissioning of a significant activity AWE will justify the activity with reference to endorsed strategic objectives for the warhead and research programmes. Further detail will be provided in the Hydrodynamic Strategy report written for the Executive once finalised.	NESP item 22 and via relevant HPCPs.
21	NWR should ensure that those [redacted] take account of the safety of workers and the public in relation to assembly and disassembly techniques and processes and the choice of materials consistent with the aims of the overall defence programme.		This is the intent. SPSCs will be applied to the design of any future system. As part of their regulatory activities NWR ensure that this has happened..	WSP 771, AWE/DSDG/B/GN/AD/122
22	AWE should implement a Staged Improvement Plan (NESP) which manages and targets risk reductions across the sites.		AWE are producing a NESP. Issue 3 Draft for Comment is being distributed shortly.	NESP Reference: AWE/DSDG/B/PZ/AD/210
23	AWE should plan to have sufficient SQEP resources in place to ensure that the SIP is not delayed	Lack of resource in some areas has caused unnecessary delays in making improvements w.r.t. current operations and delayed the clearance of old	The NESP is part of the overall programme. This forms part of the TP1 baseline and SQEP are essential to meet TP1. Resource planning taking place and new Unite	TP1

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		facilities e.g. criticality section.	system will aid more effective use of resource. Targeted recruitment drive taking place.	
24	MoD should ensure that the contractual processes involved are as flexible and streamlined as possible commensurate with appropriate financial management such that unnecessary delays to the project are avoided.		MoD and AWE have agreed an integrated process for the sanction of projects to ensure no unnecessary delays. The AWE process of staged review incorporates a Project Integrity Review (PIR) prior to sanction at the Project Review Board (PRB) (or relevant delegated body). MoD representatives participate both in the PIR and PRB in order to provide direct input of any MoD concerns. Integration of the MoD sanction process (through the Investment Appraisal Board (IAB)) with the AWE process enables projects, once sanctioned by the PRB, to continue whilst awaiting MoD sanction (up to a specified limit for the MoD main gate review).	Ref Document: SRD DPA Acquisition Management System and the Terms of Reference of the Facilities Review Board.
25	MoD's project funding should incentivise the rapid reduction of risk across AWE sites.		AWE is incentivised under the contract to deliver the entirety of the Systems Requirements Document (SRD). The SRD, in addition to defining the technical programme requirements, also contains MoD's requirements to meet relevant safety, environment, health and security standards. The AWE programme has been developed to meet the entirety of the SRD and ensure AWE meets relevant UK and international legislation. The Level 2 meeting has also agreed that there are no conflicting drivers to rapid risk reduction in this context and the NESP is the	SRD and NESP.

	NII Aspiration	NII Reason	AWE plc Response	AWE Reference Document
			vehicle to demonstrate this.	
26	NWR should ensure that manufacturing/ disassembly programmes are undertaken only to meet the UK strategic objective.	Maximise safety gains form new facilities/processes and minimise doses to operators.	All activities are detailed within the programme agreed with the customer and therefore required to meet the UK strategic objective.	NESP item 22
27	DOSG Aspiration – That AWE should seek regulator, in principle, endorsement prior to submission of PSR	Having in principle endorsements will avoid nugatory work for AWE project teams and identify regulatory concerns in an auditable and formal framework.	This is an expectation of the regulatory engagement model with hierarchy of interface meetings and application of Flexible permissioning based on agreed Hold Point control plans.	CSI 808 stipulates this requirement.

References

NESP – Nuclear and Explosives Safety Programme – REF AWE/DSDG/B/PZ/AD/210

HPCP – Hold Point Control Plan – these are individual portfolio or project documents that detail dates and regulatory hold points.