

RESTRICTED

Unit 3b Division 3 PROJECT ASSESSMENT REPORT No: 014/2007

HEALTH AND SAFETY EXECUTIVE

HM NUCLEAR INSTALLATIONS INSPECTORATE

PROJECT: Report to justify the Agreement to permission  
limited [REDACTED] and [REDACTED] activities at  
Burghfield.

SITE: AWE Burghfield

CONSENT/APPROVAL NO: N/A

LICENCE INSTRUMENT No: [REDACTED]

LICENCE and CONDITION NOs: 78, LC 22(1)

AUTHOR: [REDACTED] SIGNED: ..... Date.....

APPROVED: [REDACTED] SIGNED: ..... Date.....

Distribution:



Folder: 4.4.1.356

RESTRICTED

RESTRICTED

SUMMARY

In 2002 AWE submitted the Trident Modified Disassembly<sup>1</sup> Safety Case (TMDSC). NII had concerns over the methodology and asked for a revised risk assessment (RA) to be carried out. Licence Instrument [REDACTED] was issued to allow limited [REDACTED] in the meantime and with the restriction of [REDACTED] in Gravel Gerties. In mid 2003 a further LI [REDACTED] was granted allowing further limited [REDACTED] with the same constraint. At this time NII understood that the RA was continuing to be developed. In March 2004 NII reiterated in writing that a new RA was necessary and that further LIs would only be granted when adequate progress had been demonstrated. AWE programmed the RA for completion in April 2006, however, it was not completed and forecasts at the time indicated that it would not be completed until April 2007. On the basis that sufficient progress had not been made toward completion of the RA, and the ongoing PRS had indicated a number of shortfalls to the facility and plant, LI [REDACTED] was issued in August 2006 to allow AWE to [REDACTED] already held at AWE(B), but only following written confirmation from DNSR that the [REDACTED] were necessary in support of the UK Strategic Deterrent. The AWE(B) letter requesting LI [REDACTED] was annexed by a Schedule of Deliverables (SD)(reference 1), which was agreed by NII prior to the granting of the LI. This schedule required AWE(B) to introduce some risk-reducing measures in the short term, including the development of that part of the TMDSC which included the significant contributors to the overall risk of [REDACTED] operations, before any further LIs would be granted.

In [REDACTED] AWE(B) sought agreement to [REDACTED] but not [REDACTED] a number of units. DNSR confirmed by letter that an [REDACTED] of a minimum of [REDACTED] was necessary in support of the UK Strategic Nuclear Deterrent. Following site visits and examination of an "evidence" file supplied by AWE, NII granted LI [REDACTED] to permit the [REDACTED] of [REDACTED]

In [REDACTED] AWE asked for permission to [REDACTED] a request which was supported by NWR as being necessary in support of the UK strategic deterrent. On the basis of a number of assurances provided in the letter of request, NII granted LI number [REDACTED] to permit this work. LI [REDACTED] informed AWE that further LIs would be necessary to permission all [REDACTED] and [REDACTED] or [REDACTED] of [REDACTED] and [REDACTED] units.

AWE applied in [REDACTED] for permission to [REDACTED] a [REDACTED] and [REDACTED] based upon a need to support the UK Strategic Deterrent and on progress so far in achieving completion of the deliverables offered previously and against assurances provided in the December request letter.

<sup>1</sup> Whilst AWE(B) carries out both assembly and disassembly of Trident Warheads it is generally accepted that [REDACTED]

RESTRICTED

AWE's assertions were "tested" by means of inspections and discussions and found to be accurate and on this basis it was considered appropriate to grant [REDACTED]

One of the key safety improvements at AWE(B) identified by the PRS is the replacement of the [REDACTED] by an alternative process which does not involve [REDACTED]. AWE has been informed that NII wishes to see this modification implemented as soon as reasonably practicable and that further [REDACTED] and [REDACTED] to the facility will be permissioned on the basis that AWE is undertaking this task expeditiously. AWE has requested permission to [REDACTED] and [REDACTED] units to the facility on the basis of progress made with the [REDACTED] replacement and has supplied an evidence file to support this. Despite lack of time to carry out a detailed assessment of this evidence prior to issuing the LI, it is considered acceptable on a sampling basis (short notes from the two assessors have been stored in TRIM folder 4.4.1.356), in light of the advice from MoD of the necessity of the [REDACTED] and [REDACTED] and it is recommended therefore that LI [REDACTED] be issued.

## INTRODUCTION

The continuing use of Trident as the deterrent beyond the initial design lifetime is underwritten by the ability to maintain the serviceability of the existing stockpile. To achieve this, AWE needs to carry out disassembly and examination of units to maintain stockpile confidence and capability. Units need to be broken down for stockpile surveillance and other related reasons and to maintain Government commitments on warhead numbers.

A modified process for Trident disassembly at AWE(B) has been developed, which has incorporated a number of improvements compared to the original Trident disassembly process.

AWE has been using the Trident Modified Disassembly Process (TMDP) under the previous [REDACTED] limited agreements LI Nos. [REDACTED] and [REDACTED]

Because of the significant number of modifications being undertaken to address shortfalls identified during the PRS process, AWE has been informed that until these are completed and the safety case revised, it will be required to apply for permission to [REDACTED] and [REDACTED]

These permissions will be granted on the basis of satisfactory progress against a schedule of agreed deliverables aimed at ensuring adequate progress with remediation works.

AWE has now requested that NII agrees to the [REDACTED] of [REDACTED] and the [REDACTED] of [REDACTED]. This PAR provides a record of the basis upon which the regulatory decision has been reached. The basis of the arguments presented in the 6 previous Project Assessment Reports PAR 02/05 (dated [REDACTED]), PAR 74/2003 (dated [REDACTED]), PAR 25/2006 (dated [REDACTED]), PAR 33/2006 (dated [REDACTED])

RESTRICTED

PAR 40/2006 (dated [REDACTED]) and PAR 46/2006 (issued [REDACTED]) provides an auditable link to the current position.

The Nuclear Weapon Regulator (NWR) has informed NII that the units which AWE has requested permission to [REDACTED] and [REDACTED] are necessary in support of the UK Strategic Defence. This note is saved in TRIM folder 4.4.1.356.

Since the granting of LI [REDACTED] NII inspectors have monitored progress in the project to replace the [REDACTED] and have undertaken a number of meetings with AWE. AWE has presented a programme for replacement of the [REDACTED] at a meeting at Redgrave Court on 22 March 2007 and it is against this programme that NII now judges that adequate progress has been made so that LI [REDACTED] can be issued.

#### PERMISSIONING STRATEGY FOR AWE BURGHFIELD

In order to secure ongoing improvements to the safety case, the processes and plant at AWE Burghfield, a strategy of permissioning has been adopted by NII, under which AWE is permitted only to undertake limited defined operational activities. Following such activities and prior to Agreement of the next phase of operations, reviews take place to determine that progress has been made against identified issues. It is planned that a number of licence instruments will be used to monitor progress with the PRS remedial works and continuing development of the safety case through until at least the end of September 2007. Briefly the licence instruments will cover:

| LI number     | Proposed activity                      | Main deliverable   |
|---------------|--|--|
| LI [REDACTED] | Permissioning of [REDACTED]            | Progress against identified deliverables including civil inspections, mechanical inspections and the risk assessment |
| LI [REDACTED] | Permissioning of further [REDACTED]    | Progress against identified deliverables including civil inspections and mechanical inspections                      |
| LI [REDACTED] | Permissioning of the use of [REDACTED] | Agreement of a programme for the replacement of the [REDACTED] and progress against this activity                    |
| LI ***        | Permissioning of further [REDACTED]    | Progress against PRS remedial works  |

RESTRICTED

BASIS FOR DECISION

The decision to agree to the [REDACTED] and [REDACTED] of units at this time is based upon NII judgement that satisfactory progress has been made against key programme steps for the [REDACTED] replacement. The issues are:

- Production of a Preliminary Safety Report (PSR)
- Option Study Addendum
- Supplier selection
- Procurement strategy
- Structural risk reduction measures

**PSR**

The production of a preliminary safety report is a prerequisite for a category A plant modification at AWE. It is clear therefore that if this is not produced on time the whole project could slip. A draft PSR has been supplied which is currently undergoing assessment within the licensee's organisation and is scheduled to be sent to the July NSC meeting. This deliverable is therefore on target. No time has been available to carry out a detailed assessment of the document and indeed it is not NII's policy to do so since a debate with licensees on the content of documents which have not undertaken due-process can adversely affect the integrity of the licensee's internal process. The document does however appear to address the key issues. The document, along with an associated HAZOP report, will be examined over the next few weeks and any appropriate advice/comments will be given to AWE.

**Option study addendum**

NII had concerns that the documentation provided after the optioneering process had been carried out did not adequately demonstrate that the chosen solution to the problem reduced risks ALARP. AWE also recognised this and it was agreed therefore at the meeting on 22 March 2007 that an addendum to the optioneering report would be produced by the end of May 2007. A document has now been prepared and has been supplied as part of the evidence pack for LI [REDACTED] – four weeks ahead of target. This will be examined within the next few weeks.

**Supplier selection**

AWE has undertaken a health safety and quality audit of the preferred supplier for the replacement [REDACTED] and has included the report in the evidence pack. The supplier is now registered on AWE's "Approved Suppliers" list. A draft technical specification has been produced which is currently undergoing review by the DA.

**Procurement strategy**

This document is supplied and was produced in support of the supplier selection and registration process.

The above documents have been briefly examined by [REDACTED] who has provided a note which whilst listing a number of technical issues to be followed up, states: "*The document indicates that AWE has made significant*

RESTRICTED

*progress in developing a replacement for the [REDACTED] and have now documented the ALARP process by which they have selected the chosen option. The choice has largely been driven by cost, achieving an early delivery date and minimising uncertainty in the design aspects. ..."*

**Structural risk reduction measures**

A number of structural risk reduction measures to strengthen the existing building are being undertaken in parallel with the [REDACTED] replacement programme. A design house has been engaged and a contract is in place for this work. A draft "Basis of Design" document has been produced and is currently undergoing internal QA checks. The draft BOD document has been supplied and will be examined in detail over the next few weeks. A brief examination of the BOD has been undertaken by [REDACTED] who has provided a note saying:

*"It appears to me, from the information available, that AWE is progressing this issue and that more progress is being made than is reflected by the issue of this draft document...."*

and that in his judgement the document is broadly acceptable though there are technical issues which will need to be followed up.

**CONSULTATION WITH OTHER STAKEHOLDERS**

NII has consulted with DNSR's NWR to confirm that the requested operations are necessary in support of the UK strategic defence programme.

NII has not consulted EA in relation to this LI request since there are no environmental issues in relation to the proposed activities.

NII has not consulted any other parts of HSE such as FOD or HiD since NII is the lead HSE regulator for the AWE(B) licensed site and there are no issues pertinent to other parts of HSE associated with the proposed activities.

**CONCLUSIONS**

AWE appears to be making satisfactory progress in terms of the replacement of the [REDACTED] and the parallel project to strengthen that part of the facility.

DNSR has confirmed the need to undertake the [REDACTED] and [REDACTED] operations specified in the AWE LI request letter, in support of the UK strategic defence programme.

**RECOMMENDATIONS**

It is recommended that:

NII should issue Licence Instrument No. [REDACTED] agreeing to the [REDACTED] and the [REDACTED]

## RESTRICTED

NII should not issue further Licence Instruments in relation to [REDACTED], [REDACTED] and [REDACTED] operations unless AWE provides continuing evidence that progress with the [REDACTED] replacement and PRS remediation work is being undertaken as fast as reasonably practicable.

## REFERENCES

| Description  | Identification   | TRIM location           |
|--|--|-------------------------|
| Licensee's request letter  | EDMS1/800FF336/B/LS/N0400 dated [REDACTED]   | 5.1.3.365               |
| Confirmation from DNSR of the need for [REDACTED] and [REDACTED] | E-mail [REDACTED] to [REDACTED] dated [REDACTED]   | 4.4.1.356               |
| Draft PSR for 8L2 crane replacement                              | DMP/GG/LL20222777 8L2 Remedial works crane replacement and building modifications PSR                | 4.4.1.356               |
| HAZOP report produced for [REDACTED] replacement PSR             | DMP/GG/LL 20223144 Keyword HAZOP report for [REDACTED] and [REDACTED] concept design                 | 4.4.1.356               |
| Draft optioneering options study                                 | DMP/GG/LL24074664 [REDACTED] Transfer system – ALARP Demonstration (Addendum to optioneering report) | 4.4.1.356               |
| Supplier health safety and quality audit report                  | DMP/LL23516403   | 4.4.1.356               |
| Information from Approved Suppliers list                         | E-mail from [REDACTED] to [REDACTED] dated 2 April 2007  | 4.4.1.356               |
| Draft technical performance specification                        | DMP/GGEC/LL???? [REDACTED] technical performance specification.                                      | 4.4.1.356               |
| Procurement strategy   |  | 4.4.1.356               |
| Draft BOD for [REDACTED] structural works                        | DMP/GGEC/LL???? Draft BOD for strengthening masonry walls of [REDACTED]                              | 4.4.1.356               |
| Civil assessment note  | E-mail to [REDACTED] from [REDACTED] dated 30 April 2007   | 4.4.1.356               |
| Mechanical assessment note                                       | E-mail to [REDACTED] from [REDACTED] dated 30 April  | 4.4.1.356               |
| Permissioning project report                                     | PAR 014 - 2007   | 4.4.1.356               |
| Licence instrument checksheet                                    | N/A  | 4.4.2.1654              |
| Licence instrument   | LI [REDACTED] BUR 77191 N  | 4.4.2.1654<br>5.1.3.367 |