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Interim Waste Store Operating Licence Application
Document IWS-O-LA-OLC

INTERIM WASTE STORE OPERATING LICENCE OPERATIONAL LIMITS AND CONDITIONS

(Rev. 1)



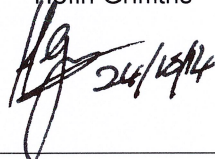
**Prepared By
Australian Nuclear Science and Technology Organisation**

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Australian Nuclear Science & Technology Organisation
Interim Waste Store Operating Licence - Operational Limits & Conditions

REVISION SHEET		Document IWS-O-LA-OLC		
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1	Revised Section 3 of the document to address SAC comments.	Alamgir Kabir  23/10/14	Simon Bastin  23/10/14	Hefin Griffiths  24/10/14

CONTENTS

1 PURPOSE AND SCOPE 4

2 OPERATIONAL LIMITS AND CONDITIONS 4

3 SAFETY RELATED ITEMS 4

4 ISSUES RELATED TO OLCs..... 5

5 REFERENCES 6

1 PURPOSE AND SCOPE

The purpose of this document to describe the operational limits and conditions (OLC) that are applicable for the operation of the Interim Waste Store (IWS) which is built at Lucas Heights Science and Technology Centre (LHSTC). This document forms a part of the Operating Licence Application prepared in accordance with the ARPANS legislation [1,2] and the ANSTO business arrangements.

This Plan should be read in conjunction with the other plans and supporting documents comprising the Operating Licence Application, specifically, IWS-O-LA-SAR *Safety Analysis Report*.

2 OPERATIONAL LIMITS AND CONDITIONS

Operational limits and conditions (OLC) are instructions, procedures or managerial limits that if breached could result in the facility presenting unsafe conditions. The limits are derived such that they give suitable flexibility in terms of operational parameters whilst maintaining an adequate safety margin beneath the acceptability criteria. The safety-related items and its categorisation discussed in Section below.

3 SAFETY RELATED ITEMS

An assessment of the radiological safety significance of the systems, structures and components (SSCs) has been made in ANSTO/T/TN/2012-03 *Safety Assessment* [3] which is included with this licence application. The SSCs are given in the table below together with their safety category and worst credible dose on failure. These safety systems are categorised based on the methodology presented in the Guidance on Categorisation of Structures, Systems and Components ANSTO/T/TN/2008-11 Rev 1 [4].

Table 1: Safety Categorisation

Systems	Worst credible case (Radiological Consequence) protected against	Safety Category	Remarks
TN 81 Transport/Storage Container shielding	1-20 mSv	3	While these are not credible, the risk of vitrified waste shielding becoming compromised and causing elevated dose to operators, the risk assessment considered this scenario for completeness of categorisation in order to maintain the necessary quality levels and possible Operating Limits and Conditions (OLCs).
Technological waste drums (cemented waste)	0.1-1 mSv	3	Due to an external event, the technological waste could become unshielded. See the risk assessment in Section 7.1 of the safety assessment.
Inter-lid gas pressure monitoring system	Less than 0.1 mSv	3	Due to an electrical system fault, the inter-lid gas pressure monitoring system could fail. The dose consequence is assessed as minor less than 0.1mSv. See Section 7.1 of the safety assessment.
Ventilation alarms	<0.1 mSv	3	Ventilation alarms alert operators to the failure of ventilation and to enable them to take appropriate action (evacuate). However, there is no credible scenario by which there could a release due to ventilation failure. The ventilation system in the IWS store is for comfort cooling and the booster fan(s) operation is controlled by thermostat.
Radiation monitor	1-20 mSv	3	In the unlikely event of high radiation dose levels in the IWS, it also require concurrent failure of the area radiation monitors for the operators to receive an elevated doses in the range of 1-20 mSv. See the risk assessment in Section 7.1 of the safety assessment.

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Australian Nuclear Science & Technology Organisation Interim Waste Store Operating Licence - Operational Limits & Conditions

Systems	Worst credible case (Radiological Consequence) protected against	Safety Category	Remarks
Building crane	1-20 mSv	3	Drop load onto the TN 81 Transport/Storage Container could cause radiological consequence in the range of 1-20 mSv.
Fire detection system	0.1-1 mSv	3	No credible fire scenario identified for the store. However, worst case radiological consequence is assessed as minor 0.1-1 mSv.
Fire hose reels and portable fire extinguishers	0.1-1 mSv	3	No credible fire scenario identified for the store. However, worst case radiological consequence is assessed as minor 0.1-1mSv.

According to the safety categorisation of the safety-related items in the IWS [3], there are no structures, systems and components (SSC) within the IWS which have items with Safety Category 1 or 2 and therefore, no OLCs are required for the store.

4 ISSUES RELATED TO OLCs

The IWS will be licensed for the following waste items:

- one TN81 Transport/Storage Container loaded with maximum of 28 sealed stainless steel canisters (CSD-U) of vitrified waste; and
- Six drums of cemented technological waste drums (CBF-C2) in an ISO container (IP-2 package).

The waste returning from the UK would also be stored in the IWS on an interim basis, but approval for the UK waste will be dealt separately if required.

The Operating Licence (subject to granting by ARPANSA) is expected to limit the store inventory to the above mentioned items, since these are the only items being requested for inclusion. Compliance with the operating licence will then necessarily achieve the following as stipulated in the regulatory guide [5]:

Table 2: Requirements for OLCs [5]

Requirement	How met
1. Specifications for waste packages	Specifications for the only relevant waste packages Included in the application. See IWS Safety Analysis Report [7].
2. Concentration limits for the liquid wastes	Not applicable. No liquid wastes to be stored.
3. Requirements for safety systems	Due to the safety category of such items, no OLCs warranted (see Table 1) although surveillance requirements (visual inspection) recommended for TN 81 and IP-2.
4. Periodic testing of equipment	Surveillance of the pressure test equipment and radiation monitors (calibration) will be undertaken but not required as OLCs.
5. Maximum radiation dose rates	As for transport regulations [6].
6. Maximum levels of surface contamination for containers	As for transport regulations [6].
7. Requirements for training and qualification	Training to undertake the leak-tightness testing of the TN 81 package in collaboration with TNI and AREVA but this is not required as OLCs..

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Australian Nuclear Science & Technology Organisation Interim Waste Store Operating Licence - Operational Limits & Conditions

Requirement	How met
	There is no need for specific training for the storage of CBF-C2 wastes. See more in the Safety Analysis Report. [7]
8. Limits on the cumulative radionuclide inventory.	Limited by those items mentioned in the licence application.

The documents submitted with the operating licence application, including the IWS safety analysis report [7], safety assessment [3] and arrangements for operation [8] address the above noted requirements.

5 REFERENCES

- 1 Australian Radiation Protection and Nuclear Safety (ARPANS) Act 1998
- 2 Australian Radiation Protection and Nuclear Safety (ARPANS) Regulations 1999
- 3 ANSTO, Safety Assessment for the Interim Waste Store, ANSTO/T/TN/2012-03 Rev 3 July 2014.
- 4 ANSTO/T/TN/2008-11 Rev 1 Guidance on Categorisation of Structures, Systems and Components, July 2008.
- 5 ARPANSA, Regulatory Guide: Licensing of Radioactive Waste Storage and Disposal Facilities v2, OS-LA-SUP-240L, March 2013.
- 6 International Atomic Energy Agency (IAEA), Regulations for Safe Transport of Radioactive Material, 2009 Edition, IAEA Safety Requirement No. TS-R-1, Vienna 2009.
- 7 ANSTO, Interim Waste Store Safety Analysis Report, Document No. IWS-O-LA-SAR, July 2014.
- 8 ANSTO, Interim Waste Store – Arrangements for Operating the IWS, Document No. IWS-O-LAR-DOP, July 2014.