



Licensing of Tradebe Inutec

**Assessment of submission for future requirement for Tradebe Inutec Nuclear Licenced
Site**

Project Assessment Report ONR-DFW-PAR-15-006
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EXECUTIVE SUMMARY

Assessment of submission for future requirement for Tradebe Inutec Nuclear Site Licence

Permission Requested

A decision from Office for Nuclear Regulation (ONR) on whether Tradebe Inutec requires a nuclear site licence in relation to the storage and processing of bulk quantities of radioactive matter for the purposes of section 1 of the Nuclear Installations Act 1965 (as amended) and regulation 3 paragraph 6(c) of The Nuclear Installations Regulations 1971.

Background

Tradebe Inutec is a tenant on the Magnox Winfrith Nuclear Licensed Site. The current preferred strategy for the Magnox Winfrith Nuclear Licensed Site is to complete site clearance, achieving an interim end state by 2021 and returning the site to heathland. The site would remain as a licensed site until the nuclear site licensee can satisfactorily demonstrate to ONR that there has ceased to be any danger from ionising radiations, in accordance with ONR's guidance at the time of application. At that point the licensee's period of responsibility would end.

It will not be possible for the Magnox Winfrith nuclear site licensee to progressively complete decommissioning and site clearance with Tradebe Inutec continuing to be a tenant on the Magnox Winfrith Licensed Site beyond 2021. However, Tradebe Inutec intends to continue its operations beyond 2021 at its current location and wishes to do this with its own nuclear site licence.

A consideration for licensing of an installation includes those that are prescribed in section 1 of the NIA, in particular section 1, paragraph (b)(iii), those designed or adapted for storing, processing or disposing of bulk quantities of radioactive matter. Guidance on the interpretation of the term "bulk quantities" is provided in the Office for Nuclear Regulation Interim Position Statement: Interpretation of "bulk quantities" in relation to the storage of radioactive matter.

Tradebe Inutec is of the opinion that the radioactive matter that is and will be located at its facility exceed the bulk quantity limits defined in the ONR guidance and have concluded that it will require a nuclear site licence under section 1 of the Nuclear Installations Act 1965 (as amended) and regulation 3 paragraph 6(c) of The Nuclear Installations Regulations 1971. It has submitted an assessment to demonstrate this.

Assessment and inspection work carried out by ONR in consideration of this request

The assessment work carried out by ONR was aimed at establishing whether Tradebe Inutec will need a Nuclear Site Licence for the existing and proposed activities under Section 1 of the Nuclear Installations Act 1965 (as amended) and regulation 3, paragraph 6(c) of The Nuclear Installations Regulations 1971 to operate the installation in relation to the storage of 'bulk quantities' of radioactive matter.

Conclusion

The operations undertaken by Tradebe Inutec are within the scope defined under section 1 of the Nuclear Installations Act 1965. The quantities of radioactive material routinely present in the facility do exceed the ONR interim interpretation of bulk quantities. I therefore conclude that a licence will be required under section 1 of the Nuclear Installations Act 1965 (as amended) and regulation 3, paragraph 6(c) of The Nuclear Installations Regulations 1971 for the operation of the Tradebe Inutec facility.

Recommendation

Recommendation 1: It is appropriate for Tradebe Inutec to continue to operate on a nuclear licensed site and the process to assess the suitability of Tradebe Inutec to become a licensee should continue.

Recommendation 2: Following approval of this report, the output from this report should be shared with the Tradebe Inutec.

LIST OF ABBREVIATIONS

ALARP	As low as reasonably practicable
BSL	Basic Safety level (in SAPs)
BSO	Basic Safety Objective (in SAPs)
CNS	Civil Nuclear Security (ONR)
HOW2	(Office for Nuclear Regulation) Business Management System
HSE	The Health and Safety Executive
IAEA	The International Atomic Energy Agency
NDA	Nuclear Decommissioning Authority
NIA	Nuclear Installation Act (as amended) 1965
NIR	Nuclear Installations Regulations 1971
ONR	Office for Nuclear Regulation
PCER	Pre-construction Environment Report
PCSR	Pre-construction Safety Report
PSA	Probabilistic Safety Assessment
PSR	Preliminary Safety Report
RGP	Relevant Good Practice
SAP	Safety Assessment Principle(s)
SFAIRP	So far as is reasonably practicable
SSC	Structure, System and Component
TAG	Technical Assessment Guide (ONR)

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1 PERMISSION REQUESTED

1. A decision from ONR on whether Tradebe Inutec requires a nuclear site licence in relation to the storage and processing of bulk quantities of radioactive matter for the purposes of section 1 of the Nuclear Installations Act 1965 as amended (NIA)^[1] and regulation 3, paragraph 6(c) of the Nuclear Installations Regulations 1971 (NIR)^[2].

2 BACKGROUND

2. Tradebe Inutec uses the B4 complex on the Winfrith Nuclear Licensed Site for receipt, storage, processing, packaging and dispatch off-site of a range of LLW and occasional ILW sourced from customers across the UK nuclear industry. In addition, Tradebe Inutec also operates analytical chemistry laboratories and facilities to enable the characterisation of waste and the development of waste treatment processes, including waste immobilisation techniques.
3. Tradebe Inutec is currently a tenant on the Magnox Winfrith Nuclear Licensed Site. The NDA is the current site owner. Tradebe Inutec currently has a lease in place for the B4 complex until 31 March 2018.
4. The current preferred strategy for the Magnox Winfrith Nuclear Licensed Site is to complete site clearance, achieving an interim end state by 2021 and returning the site to heathland. The site would remain as a licensed site until the nuclear site licensee can satisfactorily demonstrate to ONR that there has ceased to be any danger from ionising radiations, in accordance with ONR's criterion at the time of application. At that point the licensee's period of responsibility would end^[7]. This strategy would not support Tradebe Inutec continuing to be a tenant on the Magnox Winfrith Licensed Site beyond 2021.
5. Taking into account the existing licensee's (Magnox Ltd) current preferred decommissioning strategy, Tradebe Inutec has expressed intent to continue operations beyond 2021 at this location under its own nuclear site licence^[6]. To support this, Tradebe Inutec has submitted an assessment^[4] to demonstrate that:
 - Operations carried out are within the scope of prescribed activities which require a nuclear site licence, as defined within section 1 of the NIA^[1] and regulation 3, paragraph 6(c) of the NIR71^[2]; and
 - The quantity of radioactive matter that is stored and processed at its facility exceeds the bulk quantity limits defined in the ONR guidance^[3].
6. If Tradebe Inutec is successful in its application to be a Nuclear Site Licensee, it is anticipated that Winfrith Nuclear Site Licensee would then apply to ONR for a Licence variation to exclude the Tradebe Inutec part of the site from the current nuclear site licence, and then progress to complete decommissioning activities and site clearance work towards delicensing for the remainder of its licensed site in line with its current strategy.
7. This assessment is aimed at demonstrating whether Tradebe Inutec will need a Nuclear Site Licence for the existing and proposed activities under Section 1 of the NIA and regulation 3(6)(c) of the NIR to operate the installation in relation to the storage and processing of 'bulk quantities' of radioactive matter.

3 ASSESSMENT AND INSPECTION WORK CARRIED OUT BY ONR IN CONSIDERATION OF THIS REQUEST

8. I have considered whether the operations currently undertaken meet the requirement for licensable activities defined in NIA Section 1 and NIR regulation 6, paragraph 3(c).

9. To support this, an ONR Radiation Protection Specialist Inspector undertook a technical assessment^[5] of the licensee's submission against ONR's Interim Position Statement: interpretation of 'bulk quantities' in relation to the storage of radioactive matter^[3].
10. The ONR Radiological Protection Specialist Inspector also considered whether the requirements for delicensing and ending the period of responsibility could be achieved for the land currently leased by Tradebe Inutec if current operations continue.
11. ONR has also had on-going regulatory engagement with Tradebe Inutec providing guidance on the licensing process for new licensees.

4 MATTERS ARISING FROM ONR'S WORK

12. A consideration for licensing of an installation includes those that are prescribed in section 1 of the NIA, in particular s1(1)(b)(iii), those designed or adapted for storing, processing or disposing of bulk quantities of radioactive matter. Guidance on the interpretation of the term "bulk quantities" is provided in the ONR Interim Position Statement: Interpretation of "bulk quantities" in relation to the storage of radioactive matter^[3].
13. The activities carried out by Tradebe Inutec include the storage, processing and disposal of radioactive matter on the existing licensed site, therefore it is considered that these activities meet the prescribed activities in NIA if the bulk quantities criteria are met.
14. Tradebe Inutec has produced an assessment^[4] of the inventories against the ONR interim position statement of bulk quantities. This considers both the actual inventory of radioactive material routinely held on the site and the maximum radioactive inventory which can be held on the site based on the safety case. The assessment excludes:
 - Any material which is not "radioactive matter".
NIA section 1 describes radioactive matter as matter which is produced or irradiated in the course of production or use of nuclear fuel. Tradebe Inutec does receive significant quantities of naturally occurring radioactive material (NORM). Whilst this is included in managing the total inventory on site, it has been excluded from the inventory for the purposes of comparison against bulk quantities.
 - Any radioactive material which is stored incidental to carriage as specified in NIR regulation 3, paragraph 6(c).
Tradebe Inutec occasionally receives ISO freight containers of radioactive metals and holds them for a few days pending onward consignment for recycling to the smelter in Germany operated by Siempelkamp Nuclear Technology. Such metals are included in managing the total radioactive inventory on site, but none were present in the inventory assessed for the purposes of comparison against bulk quantities.
 - Sealed sources as defined in the Ionising Radiation Regulations 1999 (regulation 2(1)).
15. ONR's Radiation Protection Specialist has reviewed the assessment made by Tradebe Inutec to demonstrate that radioactive material holdings exceed the bulk quantities of material which would require a site licence^[5]. This concluded that Tradebe Inutec does exceed the 'bulk quantity' of radioactive waste, based on current operations and under its existing safety case.

Comment [JJ1]: Worth stating to be consistent with first bullet?

16. An alternative approach would be for Tradebe Inutec to modify its existing safety case and operating envelope to achieve a radiological inventory below the bulk quantity criteria and therefore not require a site licence. Tradebe Inutec currently operates as a tenant on the Winfrith Licensed Site. Therefore, the existing site would need to be delicensed and end the period of responsibility. To achieve this, current licensee would need to demonstrate that
- the licensee no longer needs the land for any use requiring such a licence, and
 - ONR to be satisfied that there is no danger from ionising radiation on that part of the site.
17. To meet the 'no danger' criteria, it is considered that the current operations at Tradebe Inutec would need to be suspended and the nuclear material currently on the site relocated. This would enable sampling and remediation of the land to be completed. This is likely to take years and would require Tradebe Inutec to either relocate or suspend operations. This option would have a significant impact both on Tradebe Inutec's established business and the wider UK nuclear industry in terms of provision of low level waste management services.

5 CONCLUSIONS

18. The operations undertaken by Tradebe Inutec are within the scope defined under section 1 of the Nuclear Installations Act 1965. The quantities of radioactive material routinely present in the facility do exceed the ONR interim interpretation of bulk quantities. I therefore conclude that a licence will be required under section 1 of the Nuclear Installations Act 1965 (as amended) and regulation 3, paragraph 6(c) of The Nuclear Installations Regulations 1971 for the operation of the Tradebe Inutec facility.

RECOMMENDATIONS

19. Recommendation 1: It is appropriate for Tradebe Inutec to continue to operate on a nuclear licensed site and the process to assess the suitability of Tradebe Inutec to become a licensee should continue.
20. Recommendation 2: Following approval of this report, the output from this report should be shared with Tradebe Inutec.

6 REFERENCES

- 1) Nuclear Installations Act 1965 as amended
<http://www.legislation.gov.uk/ukpga/1965/57>
- 2) The Nuclear Installations Regulations 1971
<http://www.legislation.gov.uk/uksi/1971/381/contents/made>
- 3) ONR Interim Position Statement: Interpretation of “bulk quantities” in relation to the storage of radioactive matter
<http://www.hse.gov.uk/consult/condocs/cd-onr-bulk-interim.pdf>
- 4) B4 ATO Holder Technical Safety Note (14)06; ‘Assessment for Future Requirements for Tradebe Inutec Nuclear Site Licence’, Issue 1, December 2014 (TRIM 2014/458382)
- 5) ONR-DFW-AR-15-003 Radiological Protection Assessment of the future requirement for Tradebe Inutec facilities at Winfrith to become a Licenced Site (TRIM 2015/253549)
- 6) Letter to ONR from Tradebe Inutec: notification of intent to apply for a nuclear site licence, 2 January 2014 (TRIM 2014/8997)
- 7) ONR Licensing Nuclear Installations 4th Edition, January 2015