



# Office for Nuclear Regulation (ONR) Quarterly Site Report for Urenco UK Limited Capenhurst

Report for period 1 October – 31 December 2014

## Foreword

This report is issued as part of ONR's commitment to make information about inspection and regulatory activities relating to the above site available to the public. Reports are distributed quarterly to members of the Urenco UK Limited Local Liaison Committee and are available on the ONR website (<http://www.onr.org.uk/lc/>).

Site inspectors from ONR usually attend the Urenco UK Limited Local Liaison Committee meetings and will respond to any questions raised there. Any person wishing to inquire about matters covered by this report should contact ONR.

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## 1 INSPECTIONS

### 1.1 Dates of inspection

The ONR Site Inspector and other ONR Inspectors conducted interventions at Capenhurst on the following dates during the quarter:

October	2, 3, 7, 9, 10, 17, 22, 23, 24, 28 & 30
November	10, 18 & 24
December	4, 9, 10, 22 & 23

The nominated site inspector also participated in the Local Liaison Committee meeting, held on 26 November near to the licensed site, as well as participating in the Emergency Planning Consultative Committee meeting on 11 December, also held near to the site.

A group of ONR inspectors also met with the licensee and others, at a constructive meeting held at the ONR offices in Bootle on 10 November, to provide regulatory advice on matters relating to the nuclear safety case for the Tails Management Facility, currently under construction on the licensed site.

## 2 ROUTINE MATTERS

### 2.1 Inspections

Inspections are undertaken as part of the process for monitoring compliance with:

- the conditions attached by ONR to the nuclear site licence granted under the Nuclear Installations Act 1965 (NIA65) (as amended);
- the Energy Act 2013
- the Health and Safety at Work Act 1974 (HSWA74); and
- regulations made under HSWA74, for example The Ionising Radiations Regulations 1999 (IRR99), The Construction (Design and Management) Regulations 2007 and The Management of Health and Safety at Work Regulations 1999 (MHSWR99).

The inspections entail monitoring licensee's actions on the site in relation to incidents, operations, maintenance, projects, modifications, safety case changes and any other matters that may affect safety. The licensee is required to make and implement adequate arrangements under the conditions attached to the licence in order to ensure legal compliance. Inspections seek to judge both the adequacy of these arrangements and their implementation.

In this period, routine inspections of the Urenco UK Limited licensed site covered the following:

#### **Nuclear Safety Case.**

Nuclear safety cases are in place for the enrichment facilities at Capenhurst. Nuclear safety cases are kept live by short term reviews, with a full periodic review by the licensee, typically every ten years. The licensee has been engaged in consolidating the nuclear safety case for an enrichment facility, which was commissioned in stages over a number of years. Consequently, the extant safety case for one enrichment facility also was also implemented over a number of years. The licensee is consolidating this enrichment facility safety case into

a single, consistent nuclear safety case for the entire facility. Aspects of the licensee's methodology and modern standards for producing nuclear safety cases have been subject to extensive recent discussions between the licensee and ONR specialist inspectors, (primarily relating to the emerging Tails Management Facility safety cases, but with implications for the licensee's review of the enrichment facility safety cases). ONR specialist inspectors have provided extensive regulatory advice to the licensee, which has resulted in the licensee extensively reviewing aspects of the safety case production arrangements. This has resulted in some slippage to the licensee's planned timetable for periodic safety case reviews, discussed with the nominated site inspector. The licensee has proposed a broadly acceptable revised programme for the periodic review of safety cases, which will incorporate recent developments in safety case methodology.

Aspects of the nuclear safety case, justifying the nuclear chemical processes being proposed at the Tails Management Facility, (TMF), currently under construction on the licensed site, were inspected by a number of ONR specialist inspectors, at meetings held at Capenhurst with the licensee on 9 October and 24 November, supplemented by a constructive meeting held at the ONR office in Bootle on 10 November, when ONR specialist inspectors provided the licensee with further regulatory advice.

### **Planned system inspection.**

A planned system inspection was made by an ONR inspector on 9 October, to inspect aspects of the implementation of the nuclear safety case at an enrichment facility. The focus of the inspection was to examine the implementation of the licensee's arrangements for operator claims and actions, to achieve compliance with the requirements arising from the nuclear safety case. The licensee was found to have adequate arrangements for the management of operator claims and actions and the plant inspection at an enrichment facility provided evidence that this facility had appropriately implemented these arrangements, to an adequate standard.

### **Planned licence condition compliance.**

On 23 December, the nominated site inspector conducted a planned compliance inspection. This intervention inspected aspects of the licensee's, (as well as aspects of the Capenhurst Nuclear Services Limited tenant organisation's), written arrangements for complying with both nuclear site licence condition 12 (duly authorised and other suitably qualified and experienced persons) and licence condition 23 (operating rules). The licensee's arrangements were found to be adequate with regulatory advice being provided suggesting some minor enhancements to the licensee's arrangements.

### **Emergency Preparedness.**

The nominated site inspector provided regulatory advice on the licensee's proposed scope for the Level One ('on site') demonstration emergency exercise, as well as a range of other emergency arrangements topics, at meetings held at the site on 3 October and 18 November.

On 9 December, a team of five ONR inspectors observed the Level One emergency exercise "Pine", inspecting the response of both the licensee and the Capenhurst Nuclear Services Limited (CNS) tenant organisation, to an agreed emergency exercise scenario, based on an (albeit very unlikely) nuclear criticality event. Viewed overall, the licensee provided an adequate demonstration to ONR of the capability to respond to the criticality event. The key objectives of the agreed emergency exercise scenario, which also tested aspects of the licensee's other arrangements, were generally achieved, although site mustering took about an hour and a quarter, rather than within the one hour standard. The criticality evacuation

centre is an ageing facility and the licensee is developing a plan for its timely replacement. Some aspects of the demonstration were considered to be of a good standard and the limited number of areas requiring some improvements were all readily acknowledged and actioned by the licensee at the “hot debrief” meeting.

The nominated site inspector provided regulatory advice on a range of ‘off site’ emergency planning matters at the Emergency Planning Consultative Committee meeting, held near to the site on 11 December.

### **Leadership and Management for Safety.**

An ONR ‘Leadership and Management for Safety’ specialist inspector inspected aspects of the licensee’s governance, focused on the licensee’s board of directors and the licensee’s senior leadership team. The inspection aimed to examine how the Board and Lead Team practices and activities met the expectations for effective nuclear safety management. The emphasis was on the management of the significant nuclear safety hazards, providing regulatory advice during meetings with the licensee’s directors and senior management at Capenhurst on 2, 17, 22, 23, 24, 30 October and 10 November. Feedback was provided to the licensee at the conclusion of this intervention. ONR concluded that there was a substantial range of activity aimed at improving safety management and ONR acknowledged the commitment of the licensee to learn from experience, supported by the licensee’s independent inspection and audit capability. However, at this stage of maturity it was not always evident that the new developments would secure an appropriate emphasis on the significant nuclear hazards and risks. Six recommendations were made by the specialist inspector, to advise on the licensee’s enhancement of an effective nuclear safety management system. The recommendations related to the strategy of the board, prioritising improvements to the nuclear safety hazards, process safety management, improving the focus of the licensee’s range of Safety Performance Indicator metrics, enhancing the licensee’s Annual Review of Safety process, to clarify areas of strengths and opportunities for improvement in nuclear safety hazard management and ensuring that the licensee’s independent assurance function was fully focussed on the nuclear safety hazard priorities.

### **Construction of the Tails Management Facility.**

ONR assessment of the TMF Pre-Commencement Safety Reports is progressing, with associated ongoing interaction between the ONR specialist inspector assessment team and the licensee regarding aspects of the evolving nuclear safety case. At this stage, the licensee is still to make an adequate safety case to adequately justify the safety of operation of the proposed Tails Management Facility.

### **Transport Compliance and Transport Permissioning.**

ONR regulates radioactive materials transport through the Transport Compliance and Transport Permissioning sub-programmes, within the Cross-ONR Programme. The ONR Transport inspector wrote to Urenco UK Limited, confirming verification of completion of the licensee’s actions arising from the ONR Transport inspection of February 2014. ONR Transport is reviewing the GB/3516B Package design approval, submitted by Urenco UK Limited. ONR still awaits further information from the licensee in support of this application. Urenco UK Limited reported in November that they received a transport cylinder which had surface contamination exceeding regulatory limits. An investigation by Urenco UK Limited, reported to ONR, concluded that the low levels of contamination that initially were “fixed” had become removable, when subjected to weather conditions during transport and handling.

## **ONR Safeguards Programme.**

There have been three routine safeguards inspections (Joint Euratom/IAEA) at the enrichment facility during this quarter. Further to these, there have been four Limited Frequency Unannounced Access (LFUA) Inspections (two Type 1, triggered during routine inspection, one Type 2 (Joint outside of Inspection) and one Type 3, triggered by IAEA). Any minor issues that have arisen have been satisfactorily addressed.

A meeting between Urenco UK Limited/ONR/IAEA/Euratom, regarding operational Safeguards implementation at Urenco UK Limited took place on the 10 October 2014 at Capenhurst.

## **Conventional Fire Safety.**

A specialist fire safety inspector carried out a fire safety inspection on 30 October. During this inspection, a number of concerns were identified and discussed with the licensee. In particular, the inspector was concerned at the management and implementation of the testing and maintenance of the emergency lighting systems in the enrichment facility inspected and also across the site. During the site inspection, having asked for the emergency lighting to be tested in an enrichment facility, the inspector witnessed a failure of parts of the emergency lighting. This led the inspector to question aspects of the testing and maintenance arrangements. As a result of the inspection, ONR considered the issue of an enforcement notice. The inspector took account of the licensee's timely and effective response and commitment, demonstrated in response to the inspector's findings and the inspector concluded that the issuing of an enforcement notice would not result in a speedier rectification of the emergency lighting shortfalls. Following this inspection, a letter was sent to the licensee on 10 November, to confirm the inspection findings.

A follow up inspection of the licensee's improvements was conducted on 22 December. At this inspection, the inspector was satisfied with the progress demonstrated to overcome the issues around the emergency lighting, and other fire safety issues identified at the previous inspection. The inspector was provided with an acceptable action plan that aimed to close out all remaining emergency lighting issues within an acceptable timescale.

The specialist fire safety inspector also conducted a fire safety inspection of the Tails Management Facility construction site on 28 October. The inspector concluded that the management of fire safety on the construction site had improved considerably over the past 12 months. The inspector was currently satisfied that on the whole construction site that there was an appropriate focus on the fire safety of this site. Regulatory advice was provided that as the construction site continues to grow, and the complexity of the structures increases, the challenges relating to fire safety will increase.

## **Conventional Industrial Safety inspections.**

The ONR investigation into the live 11 kV cable strike event has been progressed during this quarter, with a number of site visits by an ONR specialist inspector. There have also been a number of minor incidents on the TMF construction site relating to conventional health and safety, which have been promptly reported to ONR under RIDDOR requirements. The TMF construction site part of the Urenco UK Limited licensed site is leased to the Urenco ChemPlants Limited tenant organisation.

## **General comment.**

In general, ONR judged the arrangements made and implemented by the site in response to safety requirements to be adequate in the areas inspected. However, where improvements were considered necessary, the licensee made satisfactory commitments to address the issues, and the site inspector will monitor progress during future visits. Where necessary,

ONR will take formal regulatory enforcement action to ensure that appropriate remedial measures are implemented to reasonably practicable timescales.

## 2.2 Other work.

### Meetings with the safety representatives.

Meetings are routinely held with the licensee's team of safety representatives and during plant inspections by ONR inspectors, to support their function of representing employees and receiving information on matters affecting their health, safety and welfare at work.

### Local Liaison Committee.

The nominated site inspector participated in the meeting of the Local Liaison Committee, held near to the site on 26 November, reporting on recent ONR interventions at Capenhurst and addressing some minor queries on the two most recent ONR quarterly reports.

## 3 NON-ROUTINE MATTERS

Licensees are required to have arrangements to respond to non-routine matters and events. ONR inspectors judge the adequacy of the licensee's response, including actions taken to implement any necessary improvements.

ONR responses to two electrical cable strike events and other conventional safety events on the Tails Management Facility construction site area of the licensed site are noted earlier in this report.

ONR was promptly informed of relevant minor events on the licensed site during this period. The licensee promptly notified ONR of a minor leakage from a legacy uranium hexafluoride ("hex Tails") cylinder in November, the licensee's response to which was considered to be adequate. This minor event served to reinforce the importance of the proposed timely construction of the Legacy Cylinder Facility at Capenhurst, which will transfer uranium hexafluoride "Hex Tails" from ageing cylinders into modern transport cylinders, which will be compatible with the Tails Management Facility, for processing from uranium hexafluoride, UF<sub>6</sub>, to a form of uranium oxide, U<sub>3</sub>O<sub>8</sub>, for safer long term storage. There is a commitment to ONR to start this 'deconversion' of the legacy "Hex Tails" by 2020. This commitment is contained within the extant Urenco UK Limited ("Hex Tails policy") and Nuclear Decommissioning Authority (Storage Strategy for NDA Owned Uranium Hexafluoride Tails 2010. <http://www.nda.gov.uk/publication/storage-strategy-for-nda-owned-uranium-hexafluoride-tails-2010/>). This policy is due for periodic review in 2015 and ONR has arranged to participate in this review with NDA and the licensee.

ONR also participated in a constructive periodic regulatory liaison meeting, between the regulators, the licensee and the Capenhurst Nuclear Services Limited tenant organisation, addressing recent minor events, a range of nuclear safety performance metrics and other regulatory topics, held at Capenhurst on 10 December. Similarly, a range of regulatory matters relating to the construction of the Tails Management Facility, including recent minor events, were discussed at a periodic meeting between the regulators, the licensee and the Urenco ChemPlants Limited tenant organisation, held at Capenhurst, on 4 December.

## 4 REGULATORY ACTIVITY

ONR inspectors may issue formal documents to ensure compliance with regulatory requirements. Under nuclear site licence conditions, ONR issues regulatory documents, which either permit an activity or require some form of action to be taken; these are usually collectively termed 'Licence Instruments' (LIs), but can take other forms. In addition, inspectors may issue Enforcement Notices to secure improvements to safety.

One enforcement notice, (an Improvement Notice) was issued by an ONR construction safety specialist inspector on 17 October 2014, to the Jacobs (E&C) Limited 'Principal Contractor' constructing the Tails Management Facility on the licensed site. Details of this Improvement Notice are on the ONR web site at <http://news.onr.org.uk/2014/11/onr-serves-improvement-notice-on-contractor/>. ONR served Jacobs E&C Limited with the Improvement Notice requiring the 'Principal Contractor' to improve its management of 'temporary works' associated with the construction phase of the Tails Management Facility at the Capenhurst licensed site of Urenco UK Limited. The 'temporary works' are required to enable the facility to be built. The Improvement Notice was issued following ONR inspections, on 7 and 10 October, to assess compliance with the Health and Safety at Work Act 1974 and the Construction (Design and Management) Regulations 2007, at the Tails Management Facility. The inspection included a review of Jacobs E&C Limited procedures for the planning, management and monitoring of 'temporary works', in their role as 'Principal Contractor'. ONR was satisfied that the issue did not have an impact on nuclear safety. Jacobs E&C Limited are required to make appropriate improvements to their management of 'temporary works' at the facility. Following a site meeting with the Urenco UK Limited licensee, the Urenco ChemPlants Limited tenant organisation and its 'Principal Contractor', at which ONR provided regulatory advice, a request was made to ONR to extend the period for compliance with the Improvement Notice. ONR issued an extension to the date by which compliance was required. The date was extended from 19 December 2014 until 6 February 2015.

No Licence Instruments were issued during this period.

Reports detailing regulatory decisions can be found on the ONR website at <http://www.onr.org.uk/pars/>.

## 5 NEWS FROM ONR

ONR is changing the way that it communicates enforcement action against licensees. With immediate effect, ONR will issue a press release to key journalists to communicate issue of prohibition notices (on the day the notice is issued), and improvement/other notices (after any applicable appeal period). The press release will be published on the [news centre](#) of the ONR website and via twitter, and will be reiterated in ONR's [Quarterly News](#).

Insight into ONR's work as an independent regulator of the nuclear industry can be found in ONR's Quarterly News. The online publication (<http://www.onr.org.uk/onr-quarterly-report.htm>) reports on the key themes and developments in each of ONR's regulatory programmes and provides an update about the ongoing changes at ONR. <http://www.onr.org.uk/index.htm>. For the latest news and updates from ONR, visit the website and sign up for our ebulletin at (<http://www.onr.org.uk/ebulletin/index.htm>).

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