



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

Report for period 1 January – 31 March 2015

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:

| | |
|----------|-----------------------|
| January | 8, 13, 21 & 27 |
| February | 4, 5, 9 & 24 |
| March | 5, 6, 18, 19, 20 & 26 |

On 16 January, the ONR site inspector and a specialist inspector met with the Nuclear Decommissioning Authority, at their office in Risley, to discuss the future funding of decommissioning operations at Capenhurst.

The ONR Deputy Chief Inspector responsible for the ONR Cross Operational Programme, including conventional safety and transport, accompanied by an ONR Superintending Inspector, visited site on 13 January to meet with the licensee's Head of Safety and other staff.

The ONR Deputy Chief Inspector responsible for the regulation of nuclear safety at Capenhurst visited the site on 21 January, accompanied by a Superintending Inspector and the Nominated Site Inspector. Visits were paid to a number of site facilities, accompanied by the licensee's Managing Director and Head of Safety, together with a meeting with the Safety Representatives. The visit was useful, both in terms of familiarisation with the enrichment facilities and also in terms of the scope of the uranic storage facilities, in particular the challenge of the ageing legacy Hex Tails 0236 type cylinders and their emerging containment issues. This visit served to reinforce the importance of the extant licensee/NDA commitment to ONR, relating to timely hazard reduction and starting the deconversion of these legacy Hex Tails by 2020. <http://www.nda.gov.uk/publication/storage-strategy-for-nda-owned-uranium-hexafluoride-tails-2010/>. The visit also enabled ONR to emphasise the importance of timely construction and operation of the precursor Legacy Cylinder Facility, to filter and decant the legacy Hex Tails into modern transport packages, to enable the timely deconversion of the legacy uranium hexafluoride "Hex Tails" at the Tails Management Facility, (TMF).

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 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 current 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 developing nuclear safety case, justifying the nuclear chemical processes being proposed at the Tails Management Facility, currently under construction on the licensed site, were inspected by a number of ONR specialist inspectors, at several meetings held at Capenhurst with the licensee during this quarter, at which specialist inspectors provided the licensee with regulatory advice on a number of nuclear safety topics.

An important aspect of many of the Capenhurst nuclear safety cases relates to criticality safety. As part of a programme of ONR inspections of criticality safety arrangements across a number of licensees, two ONR specialist inspectors conducted an intervention on criticality safety on 24 February, speaking with the licensee's criticality safety specialists and a contractor which supported the licensee on this topic. The purpose of this intervention was twofold. This first objective was to inspect the implementation of the licensee's arrangements for the qualification and appointment of Duly Appointed Persons (DAPs) and Suitably Qualified and Experienced Persons (SQEPs), undertaking specialist criticality safety assessment (licence condition 12). This intervention was undertaken in recognition of the increasing reliance on contractors across the nuclear industry and in the absence of a formal UK cross-industry qualification route for criticality specialists. The second objective was to gain a better understanding of the methodology employed by the licensee, in support of the production of criticality safety aspects of a nuclear safety case (as required by licence condition 23). This review across licensees would enable ONR to assess whether modifications to the ONR guidance on criticality safety case methodology was required. For the licence condition 12 inspection of the licensee's arrangements for criticality assessment SQEP, some minor weaknesses were identified, which the licensee agreed to address. Overall, the licensee demonstrated adequate control. For the licence condition 23 aspects, the licensee's approach showed how closely the criticality assessors worked with both plant personnel and engineering substantiation personnel and indicated clear benefits from this close working relationship (which ONR commended). Overall, the licensee's approach was considered to be acceptable. The licensee also demonstrated some areas of good practice.

Joint site inspection with the Environment Agency.

On 4 February, ONR and Environment Agency inspectors conducted a joint inspection of the Capenhurst Nuclear Services Limited tenant organisation's land characterisation project at the East Side Curtilage area of the licensed site. An inspection was made of the East Side Curtilage area, to review the progress of the characterisation work and the extent of materials remaining accumulated in the area. Findings were considered against the requirements of Licence Condition 32 and 34, in addition to the relevant ONR Safety Assessment Principles and the Joint Regulatory Expectations Paper for Successful Land Quality Management at Nuclear Licensed Sites. It was evident that Capenhurst Nuclear Services Limited had made progress in decommissioning the East Side Curtilage area, compared with an inspection in 2012, with much of the material stored there at that time now having been removed and appropriately disposed of. From the evidence presented and that observed during this intervention, ONR judged that compliance with Licence Condition 32 and 34 was adequate, in relation to the licensee's arrangements to minimise accumulation of radioactive contaminated waste in the East Side Curtilage area and to control the leak and escape out of the area. Capenhurst Nuclear Services Limited and the site licensee agreed to include the East Side Curtilage area characterisation and remediation project on the agenda for the site quarterly meetings, to enable progress with the project to be reported to regulators. Capenhurst Nuclear Services Limited also agreed to provide the remediation strategy to both regulators, for review, prior to submission to the Nuclear Decommissioning Authority, to ensure that both regulators were satisfied that all credible options for remediation had been considered and risks to people and the environment were reduced to as low as is reasonably practicable.

Regulatory liaison meeting with the licensee and the Capenhurst Nuclear Services Limited tenant organisation.

On 18 March, a constructive regulatory liaison meeting was held between the regulators, the licensee and the Capenhurst Nuclear Services Limited tenant organisation. A meeting was also held to discuss organisational changes proceeding within the Urenco ChemPlants Limited tenant organisation. An enrichment facility familiarisation visit was also made by the ONR conventional health and safety sub programme delivery lead Superintending Inspector.

A broad range of regulatory topics were constructively discussed at the quarterly regulatory review meeting. ONR was able to clarify a misunderstanding of the licensee in that there was no ONR constraint impeding the licensee's progress on a site improvement project. ONR effectively demonstrated to the licensee 'joined up' ONR conventional safety, nuclear safety and security regulation, refuting a challenge from the licensee. The licensee reported an acceptable position on a range of topics of regulatory interest. Acceptable progress was encouragingly reported with some recent solid radioactive waste disposals and on a number of decommissioning projects, which were reducing the hazard on the site. Regulatory advice was provided on a number of matters, addressing some queries raised by the licensee. At this meeting, the licensee was considered to be adequately implementing arrangements for the recent solid radioactive waste disposals. Similarly, the licensee reported acceptable implementation of licence condition 35 decommissioning arrangements, (through recently accelerated legacy uranium hexafluoride bottle emptying and washing operations).

Planned system inspection.

A planned system inspection was made by two ONR inspectors, accompanied by an ONR graduate trainee, on 19 March, to inspect aspects of the implementation of the nuclear safety case at the largest enrichment facility. The focus of the inspection was to inspect aspects of the implementation of low and very low level solid radioactive waste management, including disposals from the site. The overall conclusion drawn from this inspection was that the licensee had arrangements in place that met the regulatory requirements to at least an

adequate standard, whilst concluding that the licensee's arrangements for the management of local training were good. A number of relatively minor issues were identified during the inspection, ONR concluding that the licensee would resolve these by means of an active improvement programme. ONR will monitor these improvements during routine regulatory interventions.

Leadership and Management for Safety.

An ONR 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 activities 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 that 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 provide regulatory advice 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. The nominated site inspector and a specialist inspector met with the licensee's recently appointed Head of Safety on 11 March, to discuss the licensee's initial response to these ONR findings. The licensee's ongoing response to these six ONR recommendations will be followed up at an ONR intervention later in 2015.

Organisational Capability.

On 18 March, an ONR specialist inspector reviewed aspects of two organisational changes relating to the Tails Management Facility project and regulatory advice was provided on a number of aspects of the organisational changes. One change had recently been implemented, albeit with a late application of the associated risk assessment. The second organisational change would be implemented after current contractual arrangement discussions had been completed. Changes to the Urenco ChemPlants Limited tenant organisation, (who are building and will operate the Tails Management Facility on the Urenco UK Limited licensed site) were considered to be generally being duly controlled in compliance with the licensee's arrangements. Regulatory advice was provided to the licensee on a range of organisational capability topics. The licensee was implementing the organisational capability arrangements, generally in compliance with the licensee's arrangements, albeit with some late application of the arrangements to some aspects of one of the organisational changes discussed.

Construction of the Tails Management Facility.

ONR assessment of the TMF Pre-Commencement Safety Reports is progressing, with associated ongoing high levels of interaction between the ONR specialist inspector assessment team and the licensee, regarding several aspects of the evolving nuclear safety case. At this stage, the licensee has yet to make an adequate complete nuclear safety case.

ONR Safeguards Programme.

There have been two routine safeguards inspections (Joint Euratom / IAEA) and the annual Physical Inventory Verification (PIV) at the UUK enrichment facility during this quarter. Further to these, there have been two Limited Frequency Unannounced Access (LFUA) Inspections (one Type 1, triggered during routine inspection and one Type 2, joint outside of Inspection). Any issues that have arisen have been addressed.

Conventional Fire Safety.

A specialist fire safety inspector carried out a fire safety inspection on 9 February, focused on aspects of the fire fighting training provided to the guard force. During this inspection, a number of matters were inspected, including the ability to maintain a robust hand over / information exchange between the outgoing and oncoming shift teams, the ability to ensure that adequate cover arrangements existed in the event that a shortfall occurred in crewing levels, together with the expectations that will be placed on the Guard Force personnel to act in the role of a Fire-fighter and the adequacy of their training.

The specialist fire safety inspector also conducted a fire safety inspection of the Tails Management Facility construction site on 5 February. 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 construction site that there was an appropriate focus on fire safety. 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 also increase.

Conventional Industrial Safety inspections.

The ONR investigation into the live 11 kV cable strike event has been progressed during this quarter.

There have been a number of minor incidents on the Tails Management Facility construction site, relating to conventional health and safety, which have been promptly reported to ONR, including under RIDDOR requirements where appropriate. The TMF construction site part of the Urenco UK Limited licensed site is leased to the Urenco ChemPlants Limited tenant organisation.

An Improvement Notice had been served on Jacobs E&C Limited, (the principal contractor on the Tails Management Facility construction project), on 17 October 2014, requiring improvements to the procedure for managing temporary works. Following an agreed extension to the period for compliance, in the light of regulatory advice provided by ONR, revisions to the procedure were submitted to an ONR construction specialist inspector and judged to be compliant with the relevant British Standard (BS 5975). The Improvement Notice was assessed as having been complied with and Jacobs were duly informed of the 'close out' of the Improvement Notice. Compliance with this Improvement Notice was reported on the ONR web site at <http://news.onr.org.uk/2015/02/contractor-complies-with-improvement-notice/>.

An inspection was also made at the construction site by an ONR specialist inspector on 27 January, primarily to assess Jacobs' management of sub-contractors on the construction site. Various activities and sub-contractors were inspected, including scaffold erection, ground excavation work and steel erection. Regulatory advice was provided on the management of health risks, including hand arm vibration.

General comment on the interventions in this quarter.

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. On 26 March, a constructive meeting was held at the site with a number of the licensee's safety representatives. ONR reported recent intervention activities at Capenhurst and gained support from the safety representatives to work with an ONR specialist inspector to assess safety culture across various parts of the site, including the licensee, tenant and contractor organisations working at Capenhurst.

The effective work of the safety representatives continues to make a valuable contribution to the site safety culture.

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 was promptly informed of relevant minor events on the licensed site during this period. Copies of two of the licensee's investigation reports are currently awaited. The first was into a cable fire in an enrichment facility in January, where no one was injured and there was no release of radioactivity. The second related to a minor legacy uranium hexafluoride "Hex Tails" leak, where again there had been no release of activity to the environment.

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.

No enforcement notices were issued in this period.

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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