Office for Nuclear Regulation (ONR)
Quarterly Site Report for
Hunterston B

Report for period 1 January to 31 March 2020

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 Hunterston B Site Stakeholder Group (SSG) and are also available on the ONR website (http://www.onr.org.uk/llc/).

Site inspectors from ONR usually attend Hunterston SSG meetings and will respond to any questions raised there. Any person wishing to enquire about matters covered by this report should contact ONR.

TABLE OF CONTENTS

1 INSPECTIONS

1.1 Dates of inspection

1. The ONR nominated site inspector made inspections, supported where appropriate by specialist inspectors, on the following dates during the quarter:

- 22-23 January 2020
- 10, 19-20 February 2020
- 5, 16-18 March 2020

2. ONR's civil nuclear security inspector usually undertakes quarterly inspections at Hunterston B:

- There were no security inspections during the period. The scheduled inspection in March was postponed due to the Covid-19 restrictions.

2 ROUTINE MATTERS

2.1 Inspections

3. 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 etc. (HSWA74); and
- Regulations made under HSWA74, for example the Ionising Radiations Regulations 2017 (IRR17), the Management of Health and Safety at Work Regulations 1999 (MHSWR99) and the Radiation Emergency Preparedness and Public Information Regulations 2019 (REPPIR).
- The Fire (Scotland) Act 2005
- The Nuclear Industries Security Regulations (NISR) 2003

4. The inspections entail monitoring the 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 licence conditions (LCs) attached to the licence in order to ensure legal compliance. Inspections seek to judge both the adequacy of these arrangements and their implementation.

5. In this period, routine inspections and meetings at Hunterston B covered the following inspections of:

- LC 23 – Operating Rules, focused on working practices of the Nuclear Safety Group (NSG);
- LC 17 – Management systems;
- LC 30 – Periodic Shutdown, focused on the outage plant preservation programme.

6. LC23 - On 22-23 January ONR inspected the working practices of the NSG. The focus of the inspection was on the role of the NSG with regards to the requirements specified in the graphite safety case, the procedures and operation of the Monitoring Assessment Panel (MAP), the arrangements for coolant activity monitoring and to observe the Graphite Assessment Panel, which is the body which assesses and sentences the results of the graphite inspections. The inspection found that the

requirements of the graphite safety case were being adequately implemented by the station. One minor shortfall was identified with the MAP. There was no criterion for providing an amber rating of potential anomalies in the Fuel Grab Load Trace (FGLT) measurements and hence the opportunity to highlight degraded core conditions was not optimised. This was not considered a significant matter and overall the inspection was rated Green (no formal action). A regulatory issue was raised to track close out of the FGLT matter.

7. LC 17 - On the 19-20 February ONR inspected compliance with the management system with a focus on the Quality Assurance (QA), supply chain (including goods receipt) and lifetime records arrangements. The inspection judged that the licensee adequately demonstrated compliance with the requirements of LC17 and therefore rated this inspection as Green (no formal action). A number of low-level QA shortfalls were identified; these will be aggregated with similar findings at other EDF sites such that the matter can be addressed by the corporate centre.

8. LC 30 – On the 16-17 March, ONR inspected the management arrangements for control of plant placed into long term preservation states. Hunterston B, Reactor 3 has been shut down since March 2018 and station is currently producing a graphite safety case which will be assessed by ONR. The inspection confirmed that a majority of plant safety systems have continued in service and been subject to the required maintenance and therefore are in good health. For plant placed into preservation states, the recommended storage strategies for shutdown periods in excess of 1 year have been rigorously applied and detailed monitoring and re-commissioning plans are available. The likelihood of plant deterioration during the period of shutdown is low and therefore the inspection was rated as Green (no formal action).

9. In addition to our routine compliance inspections, ONR inspectors also inspect operating reactors against safety related systems. Each site has a safety case that demonstrates how it operates safely. For advanced gas cooled reactors, each of approximately fifteen key systems are inspected against the claims made upon them by the safety case. The aim is to systematically inspect all the significant safety related systems within a five-year cycle (three per year). ONR believes that this will provide more robust assurance of the site's safe operation and how the safety case is being implemented.

   - There were no system based inspections during the reporting period.

10. ONR also carries out themed inspections which seek to evaluate the effectiveness and consistency of implementation of the licensee's processes and procedures. These inspections are carried out at the site and across the EDF fleet and usually require a team of four specialist ONR inspectors.

   - There were no themed inspections during the reporting period.

3 NON-ROUTINE MATTERS

11. 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.

12. Licence Condition (LC) 7 requires licensees to make and implement adequate arrangements for the notification, recording, investigation and reporting of incidents occurring on the site. During this period, the site inspector reviewed incidents that met the criteria for routine reporting to ONR. The site and specialist inspectors also sampled the station's follow up reports and corrective actions. From the evidence sampled, the inspector was satisfied that the events reported during the period, had been adequately investigated and appropriate event recovery actions identified.

Matters and events that met the ONR formal reporting criteria during the period included:

- Fire in portacabin in contractors compound. In the early hours of 12th January 2020 a fire was discovered in a portacabin located in the contractor's compound. Scottish Fire and Rescue Service (SFRS) attended site and, along with the station Duty Emergency Team, extinguished the fire promptly. SFRS confirmed that the fire was extinguished. The fire caused significant damage to a compartment of the portacabin but it did not affect any other buildings. There was no impact on nuclear safety, given the location of the contractor's compound, and there was no risk to workers on-site or members of the public. Whilst the event did not meet ONR's formal reporting criteria, it was reported to ONR due to potential media interest due to SFRS attendance at site. A report from SFRS identified that the fire resulted from an electrical fault, most likely an electrical convection heater. Station has conducted its own investigation and is taking steps to enhance its management and inspection of electrical convection heaters.

- On-load discharge power limit. The safety case for defuelling partially irradiated fuel assemblies (PIFAs) was being reviewed as part of a proactive work programme to prepare the station for its defuelling phase of operations. It was discovered that the safety case limit had a small error in the calculated prompt power limit; the stated safety case limit was 1.88MW compared to the revised calculated limit of 1.80MW. The event was notified to ONR under the criteria for reporting safety case anomalies. ONR was satisfied with the station response to this event. Station has applied its safety case anomalies process and has confirmed that no PIFA discharges exceeding the revised limit have occurred. There was no risk to workers or the public from the reported event. The station is continuing with its programme to review the defuelling safety cases and an increased prompt power safety case limit of 2.35MW is expected to be justified for future PIFA discharges.

4 REGULATORY ACTIVITY

13. ONR 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 and letters to secure improvements to safety.

14. No Enforcement Notices (Improvement or Prohibition notices) were issued during the period.

15. No Enforcement Letters were issued during the period.

16. One Licence Instrument was issued during the reporting period, LI No. 563 – Specification to submit high-activity sealed source (HASS) returns to ONR. ONR previously issued a Specification requiring the submission of HASS records to ONR for movements of HASS on an annual basis. As part of implementation of the Basic Safety Standards Directive (Council Directive 2013/59/Euratom of 5 December 2013) in the UK, ONR issued a new HASS Specification to reflect changes in the Directive and corresponding UK legislation and these supersede the previous Specification. LI No. 563 requires that movements of HASS onto and off the site are notified to ONR without undue delay and in any event within 40 calendar days of the movement. Additionally, confirmation of all HASS holdings on site should be provided every five years beginning in January 2024. Currently there are no sources classified as HASS on the Hunterston B site.

17. In March 2018, Hunterston B Reactor 3 was shutdown in order to carry out planned inspections of the graphite core. EDF submitted a safety case to return the reactor to power in June 2019. ONR identified a number of areas which had not been addressed to our satisfaction relating to: debris; the seismic buildings modelling; implications of uncertainties in end-face key strength; and the potential for in-event failure of graphite bricks. This case is being subject to further revision by EDF and is due to be re-submitted to ONR. On receipt, ONR will subject the safety case to assessment by our expert inspectors and permission to return Reactor 3 to service will only be provided if ONR is satisfied that the reactor is safe to operate. (**Post reporting period note** – ONR received the Hunterston B Reactor 3 safety case on the 15 April 2020.)

18. ONR permitted Reactor 4 to operate from 25 August 2019 up to core irradiation level of 16.025 TWd, http://news.onr.org.uk/2019/08/hunterston-b-reactor-4/. The reactor was operated safely and compliantly until shut down on the 10 December 2019. The reactor was then subject to a graphite core inspection. A total of 35 fuel channels were inspected and the results were within EDF's predictions and bounded by the Reactor 3 core state. A further safety case will be required before ONR may permit a further period of operation. EDF has not submitted a safety case for further operation of Reactor 4.

5 NEWS FROM ONR

Covid-19 (Coronavirus) (ONR position)

19. ONR is continuing to protect society by securing safe nuclear operations during the Coronavirus pandemic. ONR staff continue to work from home, in line with government advice. We have considered our priorities, have deferred non-critical activities, and are carrying out as much of our work as possible via videoconference, phone and email. Our regulatory focus includes assurance, where appropriate, from site licensees that they are applying the public health measures introduced to reduce the spread of coronavirus. A limited number of our inspectors can, as key workers, continue to travel to site as necessary to conduct urgent and essential regulatory inspections. Nuclear sites have been reducing non-essential activities so as to protect staff, infrastructure, and the public. As always, we are regulating those activities to ensure they are carried out safely and securely. ONR's latest position can be found on our website.

Enforcement Action

20. ONR served an Enforcement Notice on Urenco UK Ltd following a fire safety inspection at its Capenhurst Works in Cheshire during December 2019. The notice was issued in response to shortfalls identified in the fire alarm and detection systems at one of the site's facilities.

21. In February ONR announced that Sellafield Limited had complied with an Improvement Notice relating to staff training, operating procedures and procedural adherence that they were served with in May 2019.

Regulatory Updates

22. In January ONR published an update to its Safety Assessment Principles, to incorporate some relatively minor revisions including typographical corrections and updates to reflect changes to the UK's nuclear regulatory framework since 2014.

23. In February ONR completed Step 3 of the Generic Design Assessment (GDA) of the UK HPR1000 design, and took the decision to progress to Step 4 of the GDA. During Step 3, ONR increased its regulatory scrutiny and undertook a more detailed assessment of the design, focusing on the methods and approaches used by the GDA Requesting Party to underpin their safety and security claims.

24. In March we published the Quarterly Statement of Civil Incidents for the period 1 October to 31 December 2019. During this reporting period there were two civil incidents at nuclear licensed sites within Great Britain that met the Ministerial Reporting Criteria as defined within the Nuclear Installations (Dangerous Occurrences) Regulations 1965 and ONR guidance in relation to notifying and reporting incidents and events.

Stakeholder Engagement

25. On 15 January ONR launched a four-week public consultation on its draft 2025 Strategy. Once agreed, the strategy will set our direction and priorities for the next five years. To support the public consultation we held a webinar for NGOs and other stakeholders in which our Chief Executive, Adriènne Kelbie, and Technical Director, Anthony Hart, gave an overview of the strategy and welcomed questions and comments. The strategy is due to be published in May 2020.

26. In January, ONR achieved Level 3 Disability Confident (Leader) status, recognising our desire to put people first and create an environment in which everyone can thrive. The government-backed scheme encourages employers to think differently about disability and take action to improve how they recruit, retain and develop disabled people.

27. In February, we announced the appointment of two new members to the ONR Board. Dr Janet Wilson took up the appointment on 1 April 2020 and Tracey Matthews will take up her appointment on 1 June 2020 – both appointments are for five year terms.

28. In February more than 70 stakeholders involved in the transport of radioactive material attended a conference organised by ONR's Transport Competent Authority (TCA) team. The event provided a good opportunity for the TCA team to share their expectations on compliance with regulations governing the transport of radioactive material.

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Published 05/20