



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

Report for period 1 January to 31 March 2019

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.

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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:
 - 29 - 30 January 2019
 - 18 - 19 February 2019
 - 1 March 2019
 - 5 - 7 March 2019
 - 14 March 2019
 - 20 – 21 March 2019
2. ONR's civil nuclear security inspector, supported where appropriate by specialist inspectors, undertook quarterly inspections at Hunterston B on:
 - 14 - 15 March 2019.

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) and the Management of Health and Safety at Work Regulations 1999 (MHSWR99).
 - 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 conditions 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 general, ONR judged the arrangements made and implemented by the site in response to safety requirements to be adequate. 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.
6. In this period, routine inspections of Hunterston B covered the following:
 - Licence condition 11 – Emergency arrangements
 - Security inspection - Perimeter Intrusion Detection System
7. On 20 - 21 March 2019 the Site Inspector inspected the station emergency arrangements capability map, the emergency response handbook and supporting guidance and reviewed progress against the emergency facilities and equipment improvement plan. There continue to be some areas where station can make improvements in the area of integration of safety and security emergency

- arrangements. The scenario of the next level 1 demonstration exercise, scheduled for October 2019, has therefore been specifically chosen to further explore and develop this area. The inspection was rated as Green, no formal action.
8. On 14 - 15 March 2019, a security inspection was carried out against the requirements of NISR and the approved Nuclear Site Security Plan (NSSP). The purpose of the intervention was to inspect arrangements surrounding the integrity of the Perimeter Intrusion Detection System (PIDS). A thorough inspection showed that the site's arrangements for installation, maintenance, checks and routine operation of PIDS were adequate. The intervention was rated Green, with no regulatory issues raised.
 9. Reactor 3 entered its 3-year statutory outage on 23 January 2019. The purpose of the outage is to subject systems, structures and components important to safety to regular and systematic examination, inspection, maintenance and testing (EMIT) and demonstrate that the systems continue to operate safely and reliably. This activity supports the on-going demonstration that the reactor continues to be safe to operate for a further 3-year period. ONR inspectors carried out the following inspections during the outage to confirm that the licensee's arrangements for controlling and completing the outage EMIT activities are satisfactory and that nuclear safety significant plant modifications are implemented as identified within the licensee's outage intentions report. The following inspections were carried out during the period:
 - Conventional Health and Safety Inspection – 18 – 19 February 2019
 - Licence condition 26 - Control and supervision of operations - On 5 – 6 March 2019
 - Licence condition 28 - Examination, inspection, maintenance and testing (EMIT)
 - Mechanical Engineering - On 1 March 2019
 - Control and Instrumentation - On 5 – 6 March 2019
 - Electrical Engineering - On 14 March 2019
 10. The conventional health and safety inspection examined the management of conventional health and safety hazards present during the outage and in particular the risks posed by work at height, as well as the arrangements for managing contractors, dangerous substances and explosive atmospheres on site. The site walk downs revealed some good practice and innovative controls, but revealed several minor work at height issues involving contractors. The licensee was advised to maintain a robust monitoring regime during the outage period to ensure that workers, and especially contract partners, are employing the correct work at height risk control measures. Other aspects identified included breaching health and safety rules for grinding work within a hot works enclosure. Despite the issues raised, the overall impression gained from the inspection was satisfactory and health and safety standards were good in general. The inspection was rated as Green, no formal action.
 11. The Site Inspector subsequently inspected the licensee's procedures for control and supervision of contractors performing work during the Reactor 3 outage. The inspection sampled the station outage organisation and management arrangements for control and supervision of contractor performed works, observation of contractors performing supervisory and working party leader roles and examined the training records of contractors appointed as supervisors. The site inspector was satisfied that the sampled contract partners had a good understanding of control and supervision and felt empowered to ensure that the licensee expectations are met. The licensee was ensuring a good standard of oversight of contractor performed works and the inspection was rated as Green, no formal action for LC 26.
 12. The LC28 EMIT inspections:

- The Mechanical Engineering inspection sampled the written instructions used to undertake EMIT activities for the exchange of a gas circulator, the results of control rod drop tests and the exchange of safety relief and isolating valves. The sampled confirmed that activities were being carried out in accordance with the written instructions and within the specified periodicity. The plant walk down showed that a good level of housekeeping and foreign material exclusion control was being applied. The inspection was rated Green – no formal action.
 - The Control and Instrumentation (C&I) inspection sampled engineering procedures and records for the outage, including maintenance inspections of C&I equipment and systems important to nuclear safety. The inspection found the sampled work to be adequate and an intervention rating of Green – no formal action was assigned.
 - The Electrical inspection sampled the planned electrical work being undertaken on reactor 3 and its generator, implementation of electrical modifications and electrical work emergent from the outage. The inspectors were satisfied that there were no significant shortfalls identified and that electrical plant and equipment was being maintained appropriately. The inspection identified one minor issue; there was an absence of appropriate pass/fail criteria on some maintenance documents. Whilst the results recorded on the maintenance documents were confirmed as being acceptable, it was judged that pass/fail criteria should be present to confirm that results are acceptable or, if unacceptable, to invoke an appropriate review. A regulatory issue has been raised to track close out of this issue. Overall the EMIT of electrical equipment was found to be adequate and rating of Green – no formal action was assigned.
13. The Reactor 3 outage is on-going. On completion of the outage Reactor 3 cannot be started up without consent from ONR under Licence Condition 30(3) and a further permission for the graphite safety case. (See Section 4. Regulatory Activity).
14. 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 thirty 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 (six 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.
- A system based inspection (SBI) on the Irradiated Fuel Dismantling Facility (IFDF) and Vaults was carried out by specialist fuel inspectors on the 29 - 30 January 2019. The aim of the inspection was to establish that the IFDF safety case was being implemented, that the Structures, Systems and Components (SSCs) were fit for purpose and that they met the safety functional requirements. At the time of the inspection the IFDF was under embargo for handling irradiated fuel pending a revised safety case for dropped fuel faults. The inspection sought to gain confidence that safety was being managed during the embargo. The inspection confirmed that the IFDF system was being operated in accordance with its safety case. One issue was identified in relation to operator actions in response to a dropped fuel fault, where it could not be demonstrated the some Fuel Route Engineers and a Fuel Route DAP had completed the dropped fuel fault training. This was subsequently demonstrated and an overall rating of Green – no formal action was assigned.

15. 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. Inspection topics have included Engineering governance, Control and Supervision and Organisational learning.

- During this period no themed inspections were carried out.

3 NON-ROUTINE MATTERS

16. 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.

17. 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 event reported during the period, had been adequately investigated and appropriate event recovery actions identified. Matters and events reported to ONR during the period included:

- During switching of 11kV electrical supplies for Reactor 3, the electrical supply to the gas circulators was lost resulting in loss of forced circulation to the reactor for short period whilst supplies were re-established. Investigations identified that a switch semaphore in the control room had indicated that an interconnector was closed when in fact the interconnector was open resulting in an interruption to electrical supplies when the supplies were switched. Reactor temperatures were monitored throughout the event and all technical specifications continued to be applied. There were no radiological consequences from this event as Reactor 3 has been shut down for a year and the cooling requirements were much reduced. The licensee has commenced an investigation and the site inspector and an electrical inspector continue to monitor the identified findings, which include a failure by the licensee to adequately risk assess the operation.

4 REGULATORY ACTIVITY

18. 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 to secure improvements to safety.

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

20. One enforcement letter was issued during the period under the Work at Height Regulations 2005 (WAH) and the Management of Health and Safety at Work Regulations 1999 (MHSW) in relation to fallen louver panel events that occurred on 19 September 2018 and 21 November 2018 due to high winds. ONR follow up inquiries identified that there was a failure to appropriately respond to these events in accordance with the Licensee's Organisational Learning process.

21. The purpose of the enforcement letter was to identify that the following regulations had been contravened and to secure corrective action:

- Regulation 10(2) of WAH to take suitable and sufficient steps to prevent any person being struck by any falling material or object which is liable to cause personal injury,
 - Regulation 3(1) of MHSW to make suitable and sufficient assessment of the risks to the health and safety of persons, and
 - Regulation 5 of MHSW to effectively plan, organisation, control, monitor and review preventive and protective measures.
22. In response, the Licensee is implementing its corrective action plan and ONR notes that the licensee's response to loose cladding events that occurred during high wind in March 2019 has been much improved.
23. In March 2018, Hunterston B Reactor 3 was shutdown in order to carry out planned inspections of the graphite core. Since then Reactor 3 has remained shut down and the licensee is currently preparing a revised safety case to justify a return to service of the reactor. The safety case for return to service remains in preparation by EDF Energy, once it has been submitted to ONR, it will be fully assessed and permission will only be granted for Reactor 3 to return to service if ONR is satisfied that it is safe to do so.
24. Hunterston B Reactor 4 was shut down in October 2018 for a planned inspection of the graphite core. The safety case for a return to service of Reactor 4 was received by ONR in November 2018 but further information was requested from EDF Energy in respect of multiply cracked bricks. A revised safety case for Reactor 4 was received on 13 March 2019. This safety case continues to be subject to robust assessment by ONR's specialist inspectors and a decision will be made on whether it is safe for Reactor 4 to return to service for the justified period of operation. ONR permission will only be granted for the reactor to return to service if we are satisfied that it is safe to do so. ONR will publish the assessment of the Reactor 4 safety case on the ONR website when available.

5 NEWS FROM ONR

Enforcement Action

25. A summary of enforcement action is provided below. Further detail is available on [our website](#).
- Improvement notice issued to Sellafield Ltd on 4 January 2019 – requires improvements to be made in its principal contractor arrangements for construction, design and management.
 - On 1 February, following ONR's prosecution, EDF Energy Nuclear Generation Ltd and Doosan Babcock Ltd were fined £200,000 and £150,000 respectively following an incident where a worker fell from height at Hinkley Point B power station in 2017.
 - Two improvement notices issued to two transport logistics companies on 4 February following breaches in regulations for the safe transport of radioactive materials.
 - Two improvement notices issued to EDF Energy on 20 February following an incident on 19 November 2018 at Heysham 1, which resulted in injury to three EDF Employees.
26. **Although outside the current reporting period, we can confirm that on 2 April 2019, Sellafield Ltd was fined £380,000 following ONR's prosecution for safety breaches relating to equipment used for the processing of plutonium.*

Regulatory updates

27. Following the introduction of new integrated [Environmental Authorisations Regulations in Scotland](#), the [MOU between ONR and the Scottish Environmental Protection Agency](#) has been updated. The MOU ensures effective cooperation and collaboration in the regulation of nuclear safety, security, radioactive materials transport, nuclear safeguards and environmental protection on nuclear licensed sites and at other sites where both ONR and SEPA have regulatory functions.
28. In February, [a new nuclear site licence was granted to Tradebe Inutec](#) for their Winfrith site in Dorset. A new site licence was required following Tradebe Inutec's acquisition of buildings and land at the Winfrith site from the Nuclear Decommissioning Authority (NDA) in February 2019.
29. We published a report detailing safety “events” that took place in the UK between 2015-2017 in March. The report details the 56 safety significant events that took place between April 2015 and December 2017 – describing each event, the dutyholder's response, and the actions taken by the ONR. The full report is available on our [website](#).

Stakeholder Engagement

30. In February, our Chief Nuclear Inspector, Mark Foy and Technical Director, Anthony Hart hosted a webinar which focused on the first Topical Peer Review of 'Ageing management of nuclear power plants and research reactors.' Further details about the webinar are available on our [website](#).
31. We published our [2018 Stakeholder Survey report](#), in February following the survey in October/November last year. Stakeholders from across the sector were invited to take part in the survey with 329 responses received, providing valuable insight into how we are viewed by our stakeholders. The full report is available on our [website](#).
32. On 28 March, we held our NGO Forum in Manchester and were delighted to welcome 15 NGO representatives from 12 organisations. We'll be making the minutes, agenda, presentations and pre-event briefing papers available on our website over the coming weeks.

Corporate news

33. In February we announced the appointment of Mark McAllister as the new Chair of ONR. Mark will join ONR from 1 April, succeeding Nick Baldwin CBE.
34. We were delighted that our Chief Executive was recognised as Transformational Leader at the Northern Power Women Awards 2019, an event that celebrates the women and men working towards accelerating gender diversity across the Northern Powerhouse. Adrienne won the award in recognition of her work in leading ONR through significant change while, in parallel, driving gender balance.
35. ONR has been recognised for its commitment to equality, diversity and inclusion by gaining accreditation to the National Equality Standards (NES).
36. We are embarking on the final year of our ONR Strategic Plan 2016-2020. So we are now starting to look ahead to what the next five years will bring and beginning to develop our new strategy for 2020-25. We're not doing this alone; we've already started talking to our staff and we are asking our stakeholders for their views to shape our plans. We are really keen to hear from SSG and LLC members and attendees to help us develop our strategic aims and objectives. We'd like to know:
 - What is working well that we should keep doing and/or do more of?
 - What do you think our top regulatory priorities should be in the 2020s?

- What do you think is missing from our current Strategic Plan that needs to feature in the next one?
- We intend to consult on our draft strategy in the autumn, but in the meantime, if you'd like to share your comments and suggestions please email us at: contact@onr.gov.uk. We look forward to hearing from you.

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