



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

Report for period 1 October to 31 December 2018

## 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:
  - 10 - 11 October 2018
  - 16 - 18 October 2018
  - 20 – 21 November 2018
  - 27 - 28 November 2018
  - 5 - 6 December 2018
2. ONR's civil nuclear security inspectors, supported where appropriate by specialist inspectors, undertook inspections at Hunterston B on:
  - 9 - 11 October 2018.
  - 12 -13 November 2018.

## 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 this period, routine inspections of Hunterston B covered the following:
  - Licence condition 7 – Incidents on the site
  - Licence condition 11 – Emergency arrangements
  - Radsafe Training exercise
6. 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.
7. Licence condition 7 – On 5 - 6 December 2018, the Site Inspector inspected the station implementation of the EDF organisational learning process through its application to a fallen louvre event that occurred during high winds in September 2018. The inspection

identified that, whilst a majority of the EDF organisational learning process was being followed correctly, there was an instance where the louvre event was initially under-categorised, resulting in a missed opportunity to recognise the significance of the event and give due priority to corrective action. As a result, the Work at Height Regulations were contravened. This event was a conventional health and safety matter and did not affect nuclear safety. The LC 7 inspection was rated Amber (seek improvement) and as a result ONR will apply its Enforcement Management Model processes to determine the optimum means of securing the appropriate corrective action.

8. Licence condition 11 - On 11 October 2018 the station held its annual demonstration exercise that sought to demonstrate the adequacy of emergency plans prepared under LC 11. The exercise scenario involved a release of nuclear material resulting in declaration of an off-site nuclear emergency coupled with a demonstration of the relocation of the command and control centre to an alternative location due to a seismic event. The exercise was judged to be an adequate demonstration of the station's emergency arrangements. A rating of Green (no formal action) for LC11 was therefore assigned. The principal learning opportunity identified during the exercise was on the need to improve clarity of the command and control focuses leading to SMARTer actions, which may have improved the performance in some areas.
9. Radioactive material transport – On 28 November 2018 specialist ONR Transport Inspectors inspected the station offsite transport emergency arrangements by witnessing exercise 'Kilmarnock'. The exercise tested a scenario where the station consigns radioactive material and tested the initial response and package recovery actions. The exercise successfully demonstrated compliance with the requirement of the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations. Some areas for improvement were identified and these will be addressed by the station through routine interactions with ONR. A rating of Green (no formal action) was therefore assigned.
10. A security inspection was carried out on 10 October 2018 against the requirements of NISR and the approved Nuclear Site Security Plan (NSSP). The inspection evaluated the adequacy of the security search procedures and was judged to be adequate. Some opportunities for improvement were identified and these are being taken forward by the Site Head of Security. A rating of Green (no formal action) was therefore assigned.
11. In addition to our routine compliance inspections based on the conditions attached to the nuclear site licence, 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 carbon dioxide (CO<sub>2</sub>) storage and distribution system (reactor primary coolant system) was carried out on 16 and 17 October 2018 by a specialist structural integrity inspector. The inspection confirmed that the safety case limits and conditions for safe operation were being applied and maintenance of the CO<sub>2</sub> system was appropriate. The inspection identified a single finding which was a failure of the station to properly update the plant operating instructions. This arose because the site has installed and commissioned a new CO<sub>2</sub> plant and had not yet updated the appropriate documentation with respect to parts of the old CO<sub>2</sub> plant still in use. A rating of Amber (seek improvement) was therefore assigned for the LC24 Operating Instructions aspect of this inspection. This shortfall is expected to be

resolved promptly and therefore the site inspector will monitor progress through normal interactions with the site.

- A system based inspection (SBI) on the station's measures to protect against the effects of high winds and accidental aircraft impacts was carried out on 27 and 28 October 2018 by a specialist external hazards inspector. The inspection established that the guidance found in the station operating instructions and symptom based emergency response guidelines were adequate. In addition the maintenance and testing of structures and systems related to high winds or accidental aircraft impacts were found to be appropriate. A rating of Green (no formal action) was therefore assigned.

12. 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

13. 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.

14. 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, (see LC7 inspection reported above). 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 reported incidents had been adequately investigated and appropriate event recovery actions identified. Matters and events reported to ONR during the period included:

- A recently commissioned fire fighting system, located in the Reactor 3 Gas Circulator Hall, was found to be unavailable to perform its safety function due to a valve being closed off. The system was designed to tackle a potential spray fire from the Gas Circulator Lubricating Oil (GCLO) system. In response the fire fighting system was immediately returned to service by opening the valve and an extent of condition survey confirmed that no other valves were affected on the Reactor 3 and Reactor 4 GCLO fire fighting systems. The ONR INES officer has confirmed that this event is rated INES 0 (Anomaly), on the international nuclear event scale, as other means of fighting fires were available in the Gas Circulator hall and Reactor 3 was not operating at power. The station has commenced an investigation and the site inspector will follow up once this is complete.
- A significant leak from the new CO<sub>2</sub> plant occurred. The station established a breathing apparatus control point to investigate and isolate the leak. A valve at ankle height was found to be partially open. The leak arose when a CO<sub>2</sub> pump was being maintained and returned to service but the valve was not locked off. Prior to application of the valve lock off procedure, coincident cleaning of the area resulted in the inadvertent operation of the valve. The plant return to service and locking off arrangements are being reviewed by the station and ONR intends to carry out an inspection of configuration control arrangements. There was no risk to members of the public from this event and ONR was satisfied with the station response to the event.

## 4 REGULATORY ACTIVITY

15. 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.
16. No Enforcement Notices (Improvement or Prohibition notices) were issued during the period.
17. Hunterston B Reactor 3 - LI number 559 was issued on 27 November 2018 that agreed to extend the Reactor 3 operating period from 30 November 2018 to 30 November 2019.
  - 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 Reactor 3. This is a standard regulatory requirement and the timescales for producing this safety case are a matter for EDF NGL. Once the return to service safety case 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.
  - LI number 559 therefore, did not address the return to service of Reactor 3. Instead it considered the extension of the Reactor 3 operating period, which is the time period between statutory outages, when those maintenance and inspection activities, which can only be carried out when a reactor is shutdown, are performed. The project assessment report which outlines ONR's reasoning for granting its agreement to the extension of the Reactor 3 operating period can be found on the ONR website at <http://www.onr.org.uk/pars/2018/index.htm>.
18. Reactor 4 at Hunterston B was shut down on 2 October 2018 for a planned inspection of the graphite core. A tenth of the core has been inspected and on 2 November 2018 ONR received a safety case from EDF Energy for a return to service of Reactor 4. This safety case is being fully assessed by a team of inspectors and 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 in due course.

## 5 NEWS FROM ONR

### October

19. We welcomed the [publication](#) of the key review of operational safety performance at Torness nuclear power station, published by the International Atomic Energy Agency and the UK government. The report highlights eight areas of good practice at Torness and offers proposals for further improvements, which we fully support.
20. Following our decision to prosecute, EDF Energy Nuclear Generation Ltd and Doosan Babcock Ltd pleaded guilty to offences at Hinkley Point B under the Health & Safety at Work etc. Act 1974, section 3(1) and the Work at Height Regulations 2005, Regulation 4(1) respectively. The incident was a conventional health and safety matter, with no radiological risk to workers or the public. [A sentencing date](#) has been set for 1 February 2019 at Taunton Crown Court.

21. On 1 February 2019 EDF Energy were fined £200,000 and Doosan Babcock £150,000. The companies were also ordered to each pay half of the prosecution costs of £36,353.84.

The sentencing marks the conclusion of a prosecution brought by ONR for offences under the Health & Safety at Work etc. Act 1974, section 3(1), (in relation to EDF Energy), and the Work at Height Regulations 2005, Regulation 4(1), (for Doosan Babcock).

*The full [press statement](#) is available on our website.*

#### November

22. Following a rigorous procurement process, we appointed six nuclear supply chain organisations to our new [Technical Support Framework \(TSF\)](#). The new TSF, which came in to effect on 1 November 2018, has been established to provide a renewed and modernised framework for procuring technical support. We use this technical support to obtain, for example, expert technical assessments, access to specialist software or modelling, or access to niche skill sets that we do not retain in-house.
23. The revised Nuclear Safety Directive introduced a European system of Topical Peer Review in 2017 and every six years thereafter. We played a leading role in the preparations for the first European ‘Topical Peer Review’ on Ageing Management of Nuclear Power Plants and welcome the publication of the [first peer review report](#) by the European Nuclear Safety Regulator Group. We are pleased that a number of our experts made a valuable contribution to the exercise alongside 16 European countries as well as Norway, Switzerland and Ukraine. The UK report was authored jointly between ourselves, EDF Nuclear Generation Ltd and EDF-NNB GenCo.
24. [The Atomic Weapons Establishment \(AWE\) was fined £1 million](#) after admitting offences under Section 2 (1) of the Health and Safety at Work etc. Act (1974). The incident, which occurred on 27 June 2017 was a conventional health and safety matter and there was no radiological risk to workers or the public. The prosecution was the result of our investigation into the incident.
25. In conjunction with the Environment Agency, we announced the completion of our [initial high level scrutiny](#) of the UK HPR1000 reactor design.
26. We provided NNB Genco (HPC) Ltd (NNB GenCo) with [consent](#) to commence the unit 1 Nuclear Island concrete pour at Hinkley Point C (HPC). We also hosted our third webinar to explain our permissioning role for the Nuclear Island concrete pour at HPC and to provide information on our work to ensure that the new nuclear power station is built to the standards expected in the UK. Amongst others, a number of Site Stakeholder Group members joined the webinar and we received excellent feedback. We are planning further webinars on various topics in 2019. If you would like to find out more, please contact the ONR Communications team at [contact@onr.gov.uk](mailto:contact@onr.gov.uk)
27. After 16 years of decommissioning work, Bradwell became the first of the Magnox nuclear power stations to receive our permission to enter into a period of “care and maintenance”.
28. The nuclear safeguards regulations which will enable ONR to set up the domestic safeguards regime following Euratom withdrawal, were laid in Parliament. The Government published the details, [alongside its response and the feedback to consultation on the draft regulations on its website](#).

#### December

29. [Court proceedings continued](#) in our [prosecution of Sellafield Ltd](#) for offences under Section 2 (1) of the Health and Safety at Work etc Act (1974).
30. The Government published a [Written Ministerial Statement](#) on implementing Geological Disposal, announcing the publication of its [Working With Communities](#) policy and the launch of a consent-based process to find a site to host a Geological Disposal Facility (GDF). While we have no formal role in identifying the site for a GDF, any future facility will need to meet the high standards of safety and security required of a licensed nuclear site.
31. All our latest news is available on our website [www.onr.org.uk](http://www.onr.org.uk).

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