Office for Nuclear Regulation (ONR)

Site Report for Hunterston B

Report for period 1 January to 31 March 2022

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 to members for the Hunterston B and are also available on the ONR website (http://www.onr.org.uk/llc/).

Site inspectors from ONR usually attend Hunterston B meetings where these reports are presented 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, supported by specialist inspectors, made inspections on the following dates during the report period 1 January to 31 March 2022:

- 2 - 3 February 2022
- 16 - 17 March 2022
- 30 March 2022

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

- The site security inspector carried out an inspection on the 8 – 9 March 2022.

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 2017 (IRR17), the Management of Health and Safety at Work Regulations 1999 (MHSWR99), the Radiation Emergency Preparedness and Public Information Regulations 2019 (REPPIR) and The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG);
- The Fire (Scotland) Act 2005;
- The Nuclear Industries Security Regulations (NISR) 2003;
- The Nuclear Safeguards (EU Exit) Regulations 2019 (NSR19).

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.

In this period, routine inspections of station covered the following:

- Conventional health and safety.
- NISR2003 – Nuclear Security.
- LC22 – Modification or experiment on existing plant.

Members of the public, who would like further information on ONR's inspection activities during the reporting period, can view site Intervention Reports at www.onr.org.uk/intervention-records on our website www.onr.org.uk. Should you have any queries regarding our inspection activities, please email contact@onr.gov.uk.

Conventional health and safety – On the 2 - 3 February the specialist conventional health and safety inspector carried out an inspection against the management of asbestos containing materials (ACMs) and the health and safety management of construction work. The inspector was satisfied that the station had formally appointed a suitably qualified asbestos coordinator, and that station is reviewing where end of generation (EOG) may impact on ACM locations and is planning appropriately. An industrial safety advisor is embedded within the construction project delivery team. The inspector judged that the ACM management arrangements and management arrangements for construction work were adequate and a rating of Green (no formal action) was allocated.

NISR2003 – On the 8 – 9 March the site security inspector carried out an inspection against the site security plan. Whilst the inspector was satisfied with the site security plan for defuelling operations, some areas for improvement were identified. The security inspector is currently following up on these areas.

LC 22 – On the 30 March specialist electrical safety inspectors carried out an inspection of the programme of work to isolate the controls rods within Reactor 3. During the pre-defuelling outage, the control rods are physically and electrically isolated in order to permanently shut down the reactor. The inspectors observed the isolation and disconnection of a sample of the bulk group rods by isolation from the electrical supplies within the control cabinets and the removal of fuses. The disconnection of the control rod clutch mechanisms were verified and the procedures and quality plans, used by staff to carry out the work were sampled. Based upon the observed isolations, the information provided and from discussions with operations staff, the electrical inspectors were satisfied with the arrangements and with the isolations of the control rods that had been completed. A further inspection is planned to verify the isolations of the remaining control rods.

Annual review of safety (AROS) – On the 16 – 17 March the superintending and nominated site inspectors attended the AROS meeting. ONR recognised the excellent generating performance of the station over its final 12 months of operation and welcomed the investment that station has made in the fuel route facilities, which will permit efficient defuelling. A key area of focus, on configuration control of retired plant and identification of plant remaining in service, was noted along with the developing programme of work to prepare the station for deconstruction activities post transfer to the NDA.

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.

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, across the EDF fleet and, in some cases across other licensees.

- There were no themed inspections during the reporting period.

2.2. Other Work

The site inspector held periodic meetings with safety representatives and the EDF internal regulation team, to support their functions of representing employees and

receiving information on matters affecting their health, safety and welfare at work and to provide internal challenge on nuclear safety matters.

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.

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 of particular note during the period were:

- On 20 December 2021, station reported a discrepancy with Nuclear Material Accountancy records applied to Flux Detectors, which contain a small quantity of non-fuel fissile material (NFFM). Whilst it was determined that no quantity of nuclear material had been lost, the ONR Safeguards criteria for reporting unexpected losses or gains of NFFM are precise and were not met by the station. In response the ONR Safeguards inspector wrote to the station to ensure that further potential unexpected losses or gains of fissile material are reported in a timely manner.

- On 12 January, smoke was reported coming from a paper shredder van belonging to a contractor, whilst it was on site. The site fire team deployed and Scottish Fire and Rescue service attended site. Water was applied to the van and it was confirmed there was no further potential for a fire to occur. The event was not due to waste materials from the station.

- On 17 February, during recommissioning of the flask handling crane within the Flask Corridor, it was revealed that the crane switches did not operate within the limits specified by the safety case. Commissioning was halted and the crane was made safe. No worker or member of the public was at risk as nuclear material was not being handled. It was determined that the event arose due to a failure of the original pond and flask handling safety case to adequately specify limits and conditions for the crane interlocks. The ONR site inspector was satisfied with the test and commissioning arrangements that had identified the event and with the appropriate actions to update the safety case and interlock testing requirements.

- On 29 March, it was reported that a battery forming part of the 50V Direct Current (DC) essential supply system had been incorrectly isolated in order to perform a maintenance activity. The 50V DC supply

system supports alarms and indications to the Central Control Room (CCR) and supports the remote control of plant from within the CCR. It's availability and operation is therefore controlled by operating rules and the isolation of the 50V battery resulted in an unplanned entry to an action condition. There was adequate redundancy in the essential supply system and thus there was no risk to nuclear safety. The event is currently being investigated and the learning from this event will be applied to the station configuration control programme.

End of generation at Hunterston B.

- On 26 November 2021 Reactor 3 ceased operating after its final period of safe and compliant operation. Reactor 3 is currently undergoing its pre defuelling outage. Reactor 4 ceased operating on the 7 January 2022 and was safety shutdown with all required post trip cooling established. Reactor 4 will commence defuelling once Reactor 3 has been defuelled.

4. Regulatory Activity

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 take a range of enforcement actions, to include issuing an Enforcement Notice.

- The following LIs, Enforcement Notices and Enforcement letters have been issued during the period:

Table 1: Licence Instruments and Enforcement Notices Issued by ONR during this period

Date	Type	Ref. No.	Description
21/03/22	Licence Instruments	LI 571	ONR agreed to the implementation of the Defuelling Essential Shutdown Reactor Safety Case.
		LI 572	ONR agreed to the implementation of the Defuelling Fuel Handling Safety Case. These licence instruments permit Hunterston B to complete its pre-duelling outage and to then commence defuelling. The basis for ONR's decision is provided at ONR-OFD-PAR-21-009.

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

5. News from ONR

For the latest news and information from the Office for Nuclear Regulation, please read and subscribe to our regular email newsletter 'ONR News' at www.onr.org.uk/onrnews

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