



Office for Nuclear Regulation (ONR)

Site Report for

Hartlepool Power Station

Report for period 1 January – 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 to members of the Hartlepool Local Community Liaison Committee and are also available on the ONR website (<http://www.onr.org.uk/lc/>).

Site inspectors from ONR usually attend Hartlepool Local Community Liaison Committee meetings where these reports are presented 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

ONR inspectors undertook interventions at Hartlepool Power Station on the following dates during the report period:

- 13-17 January
- 4-6, 10-14 February
- 5-6 March

2 ROUTINE MATTERS

2.1 Compliance 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 etc. Act 1974 (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 inspections entail monitoring the licensee's (EDF Energy Nuclear Generation Ltd, NGL) 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 Hartlepool Power Station covered the following:

- emergency preparedness;
- modifications to plant, equipment and safety cases.

During the reporting period, ONR judged the arrangements made and implemented by the site in response to safety requirements to be satisfactory in the areas inspected. Where improvements have been identified, the licensee has made a commitment to address those issues and ONR inspectors will closely monitor progress during future site inspections. Where necessary, ONR will take formal regulatory enforcement action to ensure that appropriate remedial measures are implemented to reasonably practicable timescales.

2.2 System Based Inspections (SBI)

SBIs consist of a series of inspections which are intended to establish that the basic elements of a site/facility safety case as implemented in Safety Systems and Structures (SSS) are fit for purpose and that they will fulfil their safety functional requirements. In an SBI, the adequacy of implementation of the licensee's arrangements for six Licence Conditions (LC) is tested for the SSS chosen. Each of these system inspections considers the relevant licence conditions below:

- Licence condition 10: Training
- Licence condition 23: Operating rules
- Licence condition 24: Operating instructions
- Licence condition 27: Safety mechanisms
- Licence condition 28: Examination, inspection, maintenance and testing
- Licence condition 34: Leakage and escape of radioactive material and radioactive waste

2.2.1 Boiler Feed

The boiler feed system is the source of the secondary coolant (water) which provides a heat sink to the primary coolant (in an Advanced Gas-cooled Reactor, this is carbon dioxide). The inspection sampled the Emergency Boiler Feed (EBF) system and High Pressure Back-Up Cooling System (HPBUCS). The EBF pumps are utilised most commonly following a reactor trip and the HPBUCS is only utilised when all other pumps/cooling systems are unavailable. Both systems have high nuclear safety significance.

For LC10, we determined that adequate records for training existed for the plant owner and relevant system engineers. All training records for sampled maintenance personnel involved in work on the system were in good order. Succession planning within the relevant group was well controlled, with the necessary risks identified and controlled. A GREEN rating (no formal action) was awarded.

For LC23, we sampled a number of Technical Specifications and found that the operating limits and conditions specified within them were appropriately implemented and monitored on plant. One concern was raised regarding the type of checking undertaken on plant items that are not under administrative or engineered control. The site inspector was already aware of this and is following this up through a separate regulatory issue. A GREEN rating was awarded.

For LC24, we reviewed a number of operating instructions and found that the operations described within them supported the safe operation of the plant systems. A GREEN rating was awarded.

For LC27, we undertook a plant walkdown to confirm that the plant configuration of the safety systems sampled was correct. No issues were found and an issue from a previous SBI was confirmed to have been corrected. A GREEN rating was awarded.

For LC28, we sampled system health reports, maintenance records and equipment reliability reports, as well as undertaking a plant walkdown. Minor issues were found on the walkdown relating to the control and usage of defect tags. Maintenance tasks sampled were all completed within the required tolerance bands and check sheets associated with the tasks had been completed appropriately. In service requirements had been appropriately considered for new welds however we found that minor improvements to the auditable trail for these decisions could have been made. A GREEN rating was awarded.

For LC34, we sampled a potential low-frequency fault scenario where radioactivity may migrate into the boiler feed system. Actions to be taken in the fault scenario were appropriately covered in operating instructions. We sampled a fault finding document that demonstrated the licensee's ability to detect, mitigate and correct such a failure. A GREEN rating was awarded.

Based on the areas sampled during this system based inspection, we considered that Hartlepool has met its legal requirements, ensuring that the boiler feed system is maintained and operated in accordance with the safety case and the station's arrangements.

2.2.2 Sea Defences, Flood Protection and Drainage

The inspection focused on the response of the station's sea defences, fuel route, radioactive waste and pond areas to coastal flooding and flooding due to extreme rainfall and seismic hazards. A sample was chosen based on the nuclear significance of the station defences against external flooding and seismic hazards.

For LC10, we sampled EDF's hazards awareness training and Pond Package Cooling System training for Operatives and found it to be adequate. A GREEN rating was awarded.

For LC23, we determined that written limits and conditions had been identified and works were being controlled and carried out in compliance with such operating rules. A GREEN rating was awarded.

For LC27, we focused on seismic monitoring equipment, the pond anti-syphon valves and related safety case claims. Pond cooling is a safety function with the potential for failure in a seismic event. We found that the station operating instructions for the pond following a seismic event include monitoring of the cooling water supply to the pond to ensure that the

required safety mechanisms to maintain pond cooling after a seismic event are checked and continue to function adequately. A GREEN rating was awarded.

For LC28, through examination of a number of areas, we judged that, for the sample inspected, the licensee had made and implemented adequate arrangements including the provision of a plant maintenance schedule. Examination, Inspection, Maintenance and testing was being carried out regularly and systematically by suitably qualified and experienced personnel at the intervals specified within the plant maintenance schedule. A GREEN rating was awarded.

For LC34, we focused on the ponds leakage detection systems, active waste tanks and active waste drainage. We judged from the sample taken that radioactive materials and radioactive waste were being adequately controlled. We further concluded that a leakage or escape of such material would be detectable and from historic records satisfied ourselves that leaks would be notified, recorded, investigated and reported. A GREEN rating was awarded.

Overall, we judged that the sea defences, flood protection and drainage system met the requirements of the safety case.

2.3 Theme Inspection – Conventional Plant Asset Care

This inspection formed one of three planned site-based inspections that aim to enable ONR to have confidence that:

- EDF Energy Nuclear Generation Limited's (NGL) hazard & risk identification, assessment and control processes for conventional plant are adequate,
- The inspection & maintenance (including defect categorisation and prioritisation) processes for conventional plant are adequate,
- The operational methods in place for conventional plant are adequate,

And as a result,

- The asset condition and operation of conventional plant is adequate and risks (to people and nuclear & non-nuclear plant) are therefore reduced as low as reasonably practicable.

The main findings from the inspection were:

- The identification of two significant shortfalls with respect to relevant good practice (a lack of flexible hose whipping restraints and inappropriate lashing of compressed gas cylinders); however both of these were promptly rectified by NGL before the end of the intervention.
- The tolerance of defects on non-nuclear elements of the systems in scope appears to be too high and the overarching prioritisation process means that the relatively simple (but low priority) jobs are not corrected in a timely manner. Also, some defects require uncommonly entered plant states and therefore we questioned the likelihood of these defects ever being corrected.
- Observation of the execution of plant manoeuvres from memory, rather than through reference to an instruction (as is required), which had not been updated since 2015. However, we must be clear that we had no concerns with the safety of operations.

We believe that these are examples of a potential cultural issue concerning the recognition and tolerance of risk; encompassing defect identification, general housekeeping and procedural use and adherence. The site inspector will work with the site-based Independent Nuclear Assurance team (who have drawn similar conclusions from their own work) to evaluate the extent of this type of behaviour, consider if it is a broader cultural issue and secure improvements where necessary.

Four level 4 regulatory issues have been raised to track progress made against the minor shortfalls identified during the inspection.

2.4 Other Work

During the period, the site inspector:

- Reviewed the open regulatory issues associated with Hartlepool with the Technical and Safety Support Manager. Generally, good progress is being made on the majority of issues; some delays are evident with lower priority issues, but at present, we have no significant concerns.
- Met on a monthly basis with the site-based Independent Nuclear Assurance team to ensure the internal regulator function remains effective and to align our activities (where possible) to secure optimal oversight.

2.5 COVID-19 (Coronavirus) Pandemic Impacts

ONR began to restrict non-essential visits to the site w/c 9 March. In w/c 16 March, in line with the Government's recommendation, ONR implemented homeworking and restricted visits to site (a limited number of ONR inspectors can, as key workers, continue to travel to sites as necessary to conduct urgent and essential regulatory inspections). As a result, two routine inspections were postponed; an LC7 (Incidents on the site) and a System Based Inspection examining the Distributed Plant Control System. Both of these inspections have since been rescheduled.

The site inspector holds twice weekly meetings with the station (including the independent nuclear assurance function) to determine the adequacy of the station's response to the pandemic. Despite an early number of individuals self-isolating in line with the government's medical advice, work at the station has largely been uninterrupted. The station has introduced a number of measures to ensure the virus does not spread including introducing a mandatory handwashing station, installing a thermal camera at the site entrance to check the temperature of those coming onto site, implementing homeworking where possible to reduce staff numbers, segregating on-site teams, introducing risk assessments when social distancing is not possible and putting in place takeaway-only foodservices. The implementation of social distancing measures is enforced at all levels across the site. We are content the site is doing everything reasonably practicable to monitor and enforce social distancing measures. ONR will continue to keep this under close review.

3 NON-ROUTINE MATTERS

3.1 Events

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.

There were no such matters or events of significance during the period.

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 were issued during the period:

4.1 Licence Instrument 570 – Specification to submit HASS returns to ONR

ONR previously issued Specifications requiring the submission of high-activity sealed source (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 new HASS Specifications to reflect changes in the Directive and corresponding UK legislation and these superseded the previous Specifications.

For sites in England and Wales, the new Specifications require that movements of high-activity sources (as defined in Schedule 23, Part 5, section 1, paragraph 1 of the

Environmental Permitting (England and Wales) Regulations 2016 and which are exempted under Schedule 23, Part 2, paragraph 13 of those Regulations) 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.

Furthermore, since the activity levels defining HASS have changed for some radionuclides and that under the new definition of HASS, a source is now no longer considered HASS once its radioactivity decays below the relevant HASS activity level. The Specification requires licensees to notify ONR of any changes to HASS holdings as a result of these legislative changes within 40 calendar days. When a source decays below the relevant HASS activity level in the future, licensees must also notify ONR of this within 40 calendar days, in accordance with the new Specification.

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

Date	Type	Ref No	Description
9 Jan 2020	Specification	LI 570	Specification to submit HASS returns to ONR

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

5 NEWS FROM ONR

Below are summaries of key activities over the last three months. Further detail is available on [our website](#).

5.1 Covid-19 (Coronavirus) (ONR position)

- 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](#).

5.2 Enforcement Action

- 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.
- 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.

5.3 Regulatory Updates

- 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.
- 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.

- 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.

5.4 Stakeholder Engagement

- 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, Adrienne 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.
- 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.
- 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.
- 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.

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. Should you have any queries regarding our inspection activities, please email contact@onr.gov.uk.

6 CONTACTS

Office for Nuclear Regulation
Redgrave Court
Merton Road
Bootle
Merseyside
L20 7HS

website: www.onr.org.uk
email: Contact@onr.gov.uk

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