



Office for Nuclear Regulation (ONR)

Site Report for Hartlepool Power Station

Report for period 1 October – 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 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.

TABLE OF CONTENTS

2	ROUTINE MATTERS.....	3
3	NON-ROUTINE MATTERS.....	5
4	REGULATORY ACTIVITY	5
5	NEWS FROM ONR – OCTOBER-DECEMBER 2018	6
6	CONTACTS.....	7

INSPECTIONS

1.1 Dates of inspection

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

- 15-19 October
- 31 October
- 6-8 November
- 12-16 November
- 28 November
- 10-14 December

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:

- examination, maintenance, inspection and testing;
- management of operations including control and supervision;
- staff training, qualifications and experience;
- emergency preparedness;
- incidents on the site;
- quality assurance and records;
- conventional (non-nuclear) health and safety;

In general, ONR judged the arrangements made and implemented by the site in response to safety requirements to meet the legal requirements in the areas inspected. 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.

2.2 System Based Inspections

In addition to our program of site licence compliance inspections, ONR also undertakes system based inspections (SBI) which involve a “deep slice” sample into the safety case and supporting documentation in order to evaluate compliance with a range of nuclear site licence conditions and form overall judgement on the adequacy of the implementation the system’s safety case claims. During the period, ONR performed SBI 26 – Reactor Post Trip Systems.

The licence conditions (LC) against which compliance is evaluated are:

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

Reactor Post Trip Logic (RPTL) System – SBI26

We undertook a SBI of the RPTL system in order to judge whether it was able to fulfil its safety duties (safety functional requirements) in line with the safety case. The RPTL system automatically starts-up / shuts-down essential plant in a defined sequence following a reactor trip in order to control post-trip temperature transients and ensure adequate decay heat removal.

We examined a number of training records of personnel associated with the operation and maintenance of the RPTL system to ensure they were suitably qualified and experienced; the principal technical specifications associated with the system to ensure the limits and conditions aligned with the safety case; the principal station operating instructions, whose application was discussed with the control room supervisor; the physical system (via a plant walk down) to ensure its correct configuration; and we also examined a number of maintenance work instructions to confirm that all require maintenance had been undertaken correctly.

Whilst a small number of minor issues were identified (e.g. low stock levels of components utilised in the system, minor documentation anomalies), we judged that the system fulfils the requirements of the safety case. We awarded an inspection rating of GREEN against LC10, LC23, LC24, LC27 and LC28. LC34 was not evaluated as it was not considered applicable to this SBI.

2.3 Emergency Arrangements Demonstration

In November 2018, we assessed the adequacy of the station’s level 1 demonstration exercise ‘CURIE’. 10. We considered that the scenario (agreed with ONR in advance) was challenging. It was based upon a significant external event that, as a result of the configuration of the plant and additional preprogrammed failures, resulted in the loss of several key cooling systems and the need for ‘beyond design basis’ equipment to be dispatched to the site.

ONR observed the exercise from several aspects: Emergency Control Centre (ECC), Central Control Room (represented by the site’s simulator), Access Control Point (ACP) / Resource Control Centre, muster points, dispatched teams and the arrival, set-up and connection of the Beyond Design Basis Equipment (BDBE).

Opportunities for improvement were fed back to the station management following the demonstration; regular population of information boards within the ECC to ensure correct status tracking, increased effort to identify contingency measures once a primary solution has

been found, command and control weaknesses (including team briefs and board updating) observed in the ACP, delays to the BDBE following initial arrival at site.

Based on the elements of the demonstration observed by ONR and the final achieved result, we judged that the demonstration was an adequate demonstration of Hartlepool's emergency arrangements and an inspection rating of GREEN for LC11 was awarded.

2.4 Other work

During the period, ONR attended the Emergency Planning Consultation Committee, the Local Community Liaison Committee and also met with station safety representatives. No issues of significant concern were raised.

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.

Matters and events of particular note during the period were:

- 2019/19 – Essential Cooling Water (ECW)
Following a declaration of a key valve being 'unavailable to close' (but the main still being 'available' for service if needed); a later decision was made to remove the valve for maintenance. However, it was not recognised at the time that this made the ECW main 'unavailable' – which carries a 31-day time limit according to the Operating Rules of the station. An investigation has been begun and ONR will be monitoring the station's progress. ONR is content that there is no direct impact on nuclear safety given the number of safety systems remaining.
- 2018/738 – Valve Isolation in Cable Race Fire Protection System
In order to test the fire suppression system of a main cable race, the water to the sprinkler system is isolated. There are two water mains associated with the fire system, but three isolating valves. On return of the system, once the testing was complete, only two of the three isolating valves were opened. This resulted in defence in depth shortfall as one main was still available. ONR is reviewing the investigation that has been completed and will follow up as necessary.
- 2018/737 – Cable Fire Stop Bypassed
During a plant walkdown, an issue was seen with respect to cable routing bypassing an installed fire stop. The cabling bypassing the fire stop in question provides a bridge between segregated sections of essential electricity supplies. Therefore a fire could propagate between them and disrupt segregated sections. During normal operation of the reactors, layers of defence remain to ensure nuclear safety. However during outages, when the reactor is in an unpressurised air environment, no layers of defence remain. A fire of a sufficient size to do this is considered unlikely; therefore, following INES guidance, this incident was categorised as INES level 1. ONR is monitoring the progress made on this issue; it is expected that the matter will be rectified before the planned unit 2 statutory outage in August 2019.

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
2 July 2018	Agreement	566	Updated Steam Release Safety Case

* This Licence Instrument was issued during Quarter 3, but was omitted (in error) from the Q3 report.

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

5 NEWS FROM ONR – OCTOBER-DECEMBER 2018

October:

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.

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.

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:

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.

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.

[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.

In conjunction with the Environment Agency, we announced the completion of our [initial high level scrutiny](#) of the UK HPR1000 reactor design.

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

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”.

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:

[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).

Reactor 3 at Hunterston B remains offline after being shut down following a routine inspection into cracks in its graphite core, in March 2018. [Cracking of the graphite bricks in Advanced Gas-cooled Reactors](#) such as Hunterston B is expected as the reactors age. However, the number of cracks found during the inspection of Reactor 3 has led to the licensee, EDF Nuclear Generation Limited, carrying out further inspections of the core. Reactor 4 at Hunterston B was taken offline in October for an inspection of its graphite core. EDF Energy has submitted a safety case for Reactor 4 and is preparing one for Reactor 3. We will assess both safety cases to determine whether the reactors are safe to return to service. Neither reactor may restart without our consent, which we will give only if it is safe to do so.

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.

All our latest news is available on our website www.onr.org.uk

6 CONTACTS

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