



Office for Nuclear Regulation (ONR) Quarterly Site Report for Heysham Power Stations

Report for period 01 October 2015 – 31 December 2015

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 Local Community Liaison Committee and are also available on the ONR website (<http://www.onr.org.uk/lc/>).

Site inspectors from ONR usually attend Heysham 1 and 2 Local Community Liaison Committee meetings 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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INSPECTIONS

Dates of inspection

1. The ONR site inspectors made inspections on the following dates during the quarter:

Heysham 1

- 29 October 2015
- 10-12, 18-20 November 2015
- 9 December 2015

Heysham 2

- 22, 24 October 2015
- 3, 16-18, 19-20 November 2015
- 16-18 December 2015

2. In addition technical specialists were involved in inspections on the following dates during the quarter:

Heysham 1

- 13-14 October 2015
- 4-5, 10-12, 18-20 November 2015

Heysham 2

- 16-18 November 2015
- 16-18 December 2015

ROUTINE MATTERS

Inspections

3. Inspections are undertaken as part of the process for monitoring compliance with the following:
 - conditions attached by ONR to the nuclear site licence granted under the Nuclear Installations Act 1965 (NIA65) (as amended);
 - Energy Act 2013;
 - Health and Safety at Work Act 1974 (HSWA74); and
 - Regulations made under HSWA74, for example the Ionising Radiations Regulations 1999 (IRR99) and the Management of Health and Safety at Work Regulations 1999 (MHSWR99).
4. The inspections entail monitoring 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, the following routine licence condition compliance inspections were undertaken:

Licence condition 7: Incidents on site
Licence condition 22: Modification or experiment on existing plant

Licence condition 23: Operating rules
Licence condition 24: Operating instructions
Licence condition 26: Control and supervision of operations
Licence condition 32: Accumulation of radioactive waste
Licence condition 34: Leakage and escape of radioactive material and radioactive waste
Licence condition 36: Organisational capability

6. In addition to the program of site licence compliance inspections, ONR also inspects operating reactors based on safety related systems. Each site has a safety case, which identifies the important aspects of operation and management required for maintaining safety.
7. For both sites at Heysham, the key systems important to nuclear safety will be inspected against the requirements of the safety case. We plan to inspect all the safety significant systems over a five-year period. ONR considers that this will provide additional assurance that operations on the Heysham site are safe. 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

8. During the reporting period, the following safety related systems were inspected:

Heysham 1

- Heating & ventilation
- Electrical (No break)

Heysham 2

- Gas circulators
- Reactor safety systems (Trip parameters)

9. In general, ONR judged the arrangements made and implemented by the site in response to safety requirements to be adequate in the areas inspected. In addition the safety related systems inspected were considered to meet the requirements of the safety case.
10. 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.

Heysham 1

Boiler spine cooling modifications

11. As discussed in previous ONR quarterly reports, following the discovery of a cracked region on a boiler spine of Reactor 1 in 2014, both reactors at Heysham 1 [and the similar reactors at Hartlepool] have been operating at reduced power; with Reactor 1

also limited to operation on only three of its quadrants with the affected boiler isolated; and Reactor 2 operating on all four quadrants.

12. During this quarter, EDF Nuclear Generation Ltd (EDF NGL) reviewed and updated the operational safety case to justify extended operations of Reactor 1 on only three quadrants. ONR assessed this safety case and issued its formal agreement under licence condition 22 (Modifications to Plant) for an extension of this mode of operation for Reactor 1 at Heysham 1 to the next statutory outage.
13. In addition, EDF NGL produced a safety justification to install a cooling modification on all reactors at Heysham 1 and Hartlepool to reduce the temperature on all four reactors in the section of the spine where the crack was discovered in Heysham 1 Reactor 1. Installation of these modifications has now been completed on both reactors at Heysham 1. Permission was also sought to return Reactor 1 back to full power but still operating on three quadrants.
14. In response to an ONR specification (LI 592), EDF NGL sought ONR's consent before returning Reactor 2 back to full power. Following a review of these safety cases, ONR granted its consent (Licence Instrument No. 594) for Reactor 2 to allow this. Separately, ONR issued an acknowledgement (LI 596) to allow the return to service at full power of Reactor 1 whilst still limiting the operation at this level to only three quadrants. Both of these permissioning activities were subject to the reactors being operated with a controlled 10°C temperature reduction on the relevant boiler spine weld.

NON ROUTINE MATTERS

15. 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.

Heysham 1 Improvement Notice

16. ONR has carried out a review of the improvement work undertaken on the East Carbon Dioxide plant and was satisfied that EDF NGL had addressed the requirements of the Improvement Notice issued on 25 March 2015.

REGULATORY ACTIVITY

17. ONR inspectors 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.

18. The following LIs and Enforcement Notices have been issued during the period:

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

Date	Type	Ref No	Description
4 Nov 15	Agreement	LI 593	Heysham 1 Reactor 1 - Extended Three Quadrant Operation Safety Case Considering Defect in 1D1 Boiler
27 Nov 15	Consent	LI 594	NP/SC 7728 Heysham 1 Reactor 2 - Return to Full Power following Cooling Modifications
30 Oct 15	Acknowledgement	LI 595	EC350440 – Heysham 2 - Paper of Principle - Neutron Flux Detector Programme
2 Dec 15	Acknowledgement	LI 596	NP/SC 7741 Heysham 1 Reactor 1 - Boiler Spine Structural Integrity Safety Case & Justification For Increasing Reactor Power Following Implementation Of The Spine Cooling Modification

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

NEWS FROM ONR

Chief Executive

20. Adrienne Kelbie joined ONR as Chief Executive on 18 January 2016. Previously, Adrienne was the Chief Executive of the Disclosure and Barring Service, and prior to this had a varied career including periods as Deputy Chief Executive in a local authority and as Director of Operations responsible for national and international funding at the Big Lottery Fund.

Chief Nuclear Inspector

21. ONR is currently recruiting for its Chief Nuclear Inspector. The Chief Nuclear Inspector has the key role in providing assurance on the effectiveness of the UK's nuclear regulatory system to the ONR Board, ministers, licensees and the British public and will represent ONR nationally and internationally. The closing date for applications was Sunday 17 January 2016 and the recruitment campaign has now progressed to the next stage. Further updates on the recruitment campaign will be published on our website www.onr.org.uk.

Regulation Matters magazine

22. Insight into ONR's work as an independent regulator of the nuclear industry can be found in Regulation Matters. This quarterly online publication (<http://www.onr.org.uk/regulation-matters.htm>) reports on the key themes and developments in each of ONR's regulatory programmes and provides an update about the on-going changes at ONR. For the latest news and updates from ONR, you can also visit the website and sign up for our e-bulletin: <http://www.onr.org.uk/index.htm>.

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