



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

Report for period 01 July 2015 – 30 September 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

- 7-9 July 2015
- 18, 25-26 August 2015
- 24 September 2015

#### Heysham 2

- 7-8 July 2015
- 10 –11,17 September 2015

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

#### Heysham 1

- 25 August 2015
- 16-17, 24, 30 September 2015

#### Heysham 2

- 28-30 July 2015
- 23-25 September 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 10: Training

Licence condition 11: Emergency arrangements  
Licence condition 12: Duly authorised and other suitably qualified and experienced persons  
Licence condition 25: Operational records  
Licence condition 28: Examination, inspection, maintenance and testing  
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**

- Control and instrumentation

#### **Heysham 2**

- Short break electrical supplies
- Ponds and flasks

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, both reactors at Heysham 1 have been operating

at reduced power; Reactor 1 on three quadrants with the affected boiler isolated and Reactor 2 operating on all four quadrants.

12. EDF Nuclear Generation Ltd (EDF NGL) has now produced a safety justification to install a boiler spine cooling modification on all reactors at Heysham 1 and Hartlepool. This modification is intended to reduce the temperature on all four reactors in the section of the spine where the crack was discovered in Heysham 1 Reactor 1.
13. The boiler spine cooling modification was fitted to all the boiler spines in Reactor 2 during its statutory outage and ONR granted agreement, under Licence Instrument 589 (LI 589), on the 7 August 2015 for subsequent operation of Reactor 2 at reduced power with these modifications. EDF NGL is now producing a safety justification to return Reactor 2 to full power. ONR has issued a specification (LI 592) requiring EDF NGL to seek ONR's consent before returning Reactor 2 back to full power.
14. EDF NGL is in the process of fitting the boiler spine cooling modifications to all the boilers on Reactor 1, with the exception of the affected boiler, during its current refuelling outage.

### **Reactor 2 statutory outage**

15. Every three years, each reactor undertakes a periodic shutdown, referred to as its statutory outage, to undertake a programme of maintenance in accordance with the requirements of the plant maintenance schedule and Licence Condition (LC) 30 attached to the nuclear site licence. Under LC 30(3), EDF NGL is required to seek ONR's consent to start up a reactor following completion of its statutory outage. On 13 April 2015, Reactor 2 shutdown for its statutory outage.
16. As reported in the last quarterly report, a number of ONR specialist inspectors visited the station to undertake a number of inspections and assessments to inform the regulatory judgement on whether ONR should grant consent to restart Reactor 2 following its statutory outage. Following consideration of the evidence gathered during these inspections and assessments, ONR granted consent (LI 590) to restart Reactor 2 on 10 August 2015.

### **NON ROUTINE MATTERS**

17. 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**

18. As reported in previous reports, EDF NGL has been working to address the requirements of the Improvement Notice served earlier this year following an incident at Heysham 1. Whilst EDF NGL has completed the majority of the work required by the Improvement Notice, they have requested an extension of two months to allow them to complete the improvement of their inspection records. ONR is satisfied that the majority of the improvement work was completed by EDF NGL within the original timescale and has therefore granted this extension. ONR fully expects NGL to complete this outstanding work within the extended timescale.

### **REGULATORY ACTIVITY**

19. 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.

20. 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
7 Aug 15	Agreement	LI 589	Heysham 1 – Agreement for Reactor 2 to return to service at Reduced Power with Spine Cooling Modification Installed
10 Aug 15	Consent	LI 590	Heysham 1 - Consent to restart Reactor 2 following its statutory outage
7 Aug 15	Acknowledgement	LI 591	Heysham 1 – Acknowledgement of Paper of Principle for Installation of Insulation in Boiler spine Annulus and Subsequent Reactor operation
1 Sept 15	Specification	LI 592	Heysham 1 – Specification for EDF NGL to Require ONR Consent before Returning Reactor 2 to Service at Full Power

21. Reports detailing ONR regulatory decisions can be found on the ONR website at [www.onr.org.uk/pars/](http://www.onr.org.uk/pars/).

## NEWS FROM ONR

### Retirement of the Chief Nuclear Inspector

22. Dr Andy Hall, the first Chief Nuclear Inspector to hold this statutory office, announced his decision to retire from ONR in November 2015 and until his retirement he is taking a period of compassionate leave for personal reasons. The ONR Board, with the approval of the Secretary of State, has appointed Dr Richard Savage as Acting Chief Nuclear Inspector, pending a process to fill the role on a permanent basis. Richard was previously Head of the Ministry of Defence Nuclear Safety Regulator before joining ONR in his current role as a Deputy Chief Nuclear Inspector.

### Regulation Matters magazine

23. 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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