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| ONR Site Report  EDF Energy Nuclear Generation Ltd – Heysham Power Stations |



ONR Site Report

EDF Energy Nuclear Generation Ltd - Heysham Power Stations

Report for period: 1 January to 31 March 2024

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Foreword

This report is issued as part of our 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 Heysham Local Community Liaison Committee (LCLC) and are also available on our website (<http://www.onr.org.uk/llc/>).

Our site inspectors usually attend LCLC 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 email contact@onr.gov.uk.

Contents

[1. Inspections 4](#_Toc124509190)

[2. Routine Matters 5](#_Toc124509191)

[3. Non-Routine Matters 7](#_Toc124509192)

[4. Regulatory Activity 8](#_Toc124509193)

[5. News from ONR 9](#_Toc124509194)

[6. Contacts 9](#_Toc124509195)

# Inspections

## Date(s) of Inspection

Our site inspector made inspections on the following dates during the report period from 1 January to 31 March 2024:

**Heysham 1**

15-16 January  
6-7, 15, 22-23 February  
4, 6, 12, 25 March

**Heysham 2**

9, 16-18 January

1, 20-22 February

5-6, 13, 20-21 March

In addition, our specialist inspectors were involved in interventions on the following dates during the report period:

**Heysham 1**

6-7, 22-23 February

**Heysham 2**

16-18 January

20-22 February

5-6, 20-21 March

# Routine Matters

## Inspections

Inspections are undertaken as part of the process for monitoring compliance with:

* the licence conditions (LC) 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 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 the Heysham Power Stations covered the following:

**Heysham 1**

* LC 36 (Organisational capability). This inspection was focussed on the management of the organisation capability within the Operations Department, the broader management of organisational capability and change across the station and the management of human resources in support of emergency preparedness. We judged that the station was compliant with the requirements of LC 36 and rated this as ‘GREEN’ (no formal action). Additionally, we judged we had gathered sufficient evidence to rate LC 11 (Emergency preparedness) as ‘GREEN’.
* Level 1 Demonstration Exercise. The station’s annual emergency demonstration exercise – Exercise HARRIER – was held on 7 February. The scenario was a challenging one, with a simulated off-site release and simulated circumstances that meant the emergency control centre at Heysham 1 became unusable and staff had to make use of a contingency to move over to Heysham 2. We judged the exercise to be an ‘ADEQUATE’ demonstration and we rated LC 11 (Emergency preparedness) as ‘GREEN’. Some areas of learning were identified and we are satisfied that these are being taken forward appropriately.

**Heysham 2**

* Fuel Route System Based Inspection (SBI) – this SBI focused on the systems involved in the front end of the fuel route from fuel receipt to loading into the reactor. The inspection outcome was facilitated by the preparedness and openness of the dutyholder’s representatives. We made an overall regulatory judgements of ‘GREEN’against the system(s) as a whole and for a range of licence conditions including LC10 (Training), LC23 (Operating Rules), LC24 (Operating Instructions), LC27 (Safety Mechanisms, Devices and Circuits) and LC28 (Examination, Inspection, Maintenance, and Testing).
* Enhanced Pull Project Inspection - this planned inspection was undertaken to assess the adequacy of the implementation of risk reduction measures and potential recovery operations for fuel snags due to graphite seal ring groove wall (SRGW) debris, to ensure the safety case claims will be appropriately met. we gained confidence in the station’s ability to respond appropriately and safely to fuel snag/ledge faults due to SRGW debris and we were content that the station has implemented the safety case requirements appropriately. As no significant issues were found or raised, a ‘GREEN’ rating was given for this inspection.
* Boiler Feed System Based Inspection - the focus of this SBI was the decay heat system and the make-up water treatment plant, in particular, the chloride ingress protection system. Overall, the licensee demonstrated adequate implementation of the safety case across a number of areas of the boiler feed system, in particular our focus areas, the decay heat boiler system and the chloride ingress protection system (several sets spread across the water treatment plant). As no significant issues were found or raised, ‘GREEN’ ratings were given for this inspection against the system(s) as a whole and for a range of licence conditions including LC10 (Training), LC23 (Operating Rules), LC24 (Operating Instructions), LC27 (Safety Mechanisms, Devices and Circuits) and LC28 (Examination, Inspection, Maintenance, and Testing).
* Workplace Transport Inspection - this inspection targeted how the licensee is managing the risks of workplace transport at Heysham 2 against relevant good practice; in particular how risks to pedestrians from vehicles on the licenced site are managed. There were no significant issues so the inspection was rated ‘GREEN’, but there were several minor shortfalls against our regulatory expectations. The licensee has immediate plans to review their arrangements and has plans to improve roads, signs and road marking which should address these shortfalls in the medium term.
* Emergency Arrangements (LC11) Inspection - this inspection targeted the licensee's corporate and local arrangements for governance and oversight of its emergency arrangements and interviewed a variety of personnel including the emergency preparedness engineer, training lead, maintenance manager and simulator instructor. We found that the local arrangements provided an adequate structure of governance and oversight, with evidence of effective cross-functional engagement at all levels of the organisation and support from the station management. No significant issues were found or raised so a ‘GREEN’ rating was given for this inspection.

In this period, other routine matters at Heysham stations covered the following:

* regulatory issue progress (both sites)
* emergency exercise preparations (both sites)
* routine event follow-ups including any conventional health and safety events (both sites)
* meeting with safety representatives (both sites)
* daily plant status, refuelling preparations and progress (both sites)
* defuelling preparations readiness (Heysham 1)
* oversight of graphite inspection data (both sites)
* plant walkdowns (both sites)
* conventional (non-nuclear) health and safety (Heysham 2)

Members of the public, who would like further information on our inspection activities during the reporting period, can view site Intervention Reports at [www.onr.org.uk/intervention-records](http://www.onr.org.uk./intervention-records).

Should you have any queries regarding our inspection activities, please email [contact@onr.gov.uk](mailto:contact@onr.gov.uk).

## Other Work

The Heysham 1 and 2 Site Inspectors have regular contact with the trades-union appointed safety representatives at both stations to support their function of representing employees and receiving information on matters affecting their health, safety and welfare at work.

# Non-Routine Matters

Licensees are required to have arrangements to respond to non-routine matters and events. Our 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:

**Heysham 1 Steam valve incident**

As reported in the 2023 Q4 LCLC Report, a steam valve failed on 23 December 2023 during the restart of Reactor 1. The nuclear safety significance of the event was minor and there was no harm to workers, the public or the environment. In the days following the event it became clear that the valve failed due to a corroded thread on a component of the valve. As the same type of valve was present on Reactor 2 as well as both of the reactors at Hartlepool Power Station, all four units were shutdown.

We carried out preliminary enquiries into the event in early January and identified non-compliances with Regulation 12 (Maintenance) of the Pressure systems Safety Regulations 2000 (PSSR) and Section 2(1) of the Health and Safety at Work etc. Act 1974 (relating to the control of risks to workers). This resulted in us serving an improvement notice on the licensee on 23 Janaury 2023 requiring action to address the shortfalls.

The licensee implemented a programme of work to replace the affected components on the steam valves at all four reactors at Heysham 1 and Hartlepool. It also conducted inspections on some similar valves present in the feedwater system. Safety cases were produced and shared with us that demonstrated that the reactors were safe to return to service.

Our inspectors undertook a number of engagements in support of the return-to-service of the reactors including assessment of the safety cases and oversight of the remedial work and Improvement Notice requirements. We were satisfied that the improvement notice had been complied with. Both Heysham 1 units (and both units at Hartlepool) have subsequently been returned to service.

**Heysham 2 – Hydrogen Leak**

On 6 March 2024 Heysham 2 declared a site incident due to a hydrogen leak in the turbine hall. Our inspectors were nearby site for a scheduled emergency demonstration exercise which was cancelled. The site inspector went to the ECC to observe the emergency response command and control. The command and control was good, the site acted conservatively in declaring a site incident. Similarly, actions during the incident were conservative and persons were only able to access the site once access to the turbine hall had been prohibited and levels of hydrogen and other gases checked. The demonstration exercise will now take place in June 2024.

# Regulatory Activity

We may issue formal documents to ensure compliance with regulatory requirements. Under nuclear site licence conditions, we issue 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 |
| 23/01/2024 | Improvement notice | ONR-IN-23-004 | Following the Heysham 1 Reactor 1 steam valve failure on 23 December 2023 – see section 3 of this report |
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Reports detailing the above regulatory decisions can be found on the ONR website at <http://www.onr.org.uk/pars/>.

# News from ONR

For the latest news and information from us, please read and subscribe to our regular email newsletter ‘ONR News’ at [www.onr.org.uk/onrnews](http://www.onr.org.uk/onrnews).

# Contacts

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