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| ONR Site Report  Torness Power Station |



ONR Site Report

Torness Power Station

Report for period: 1 October – 31 December 2023

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Approved by: Superintending Inspector

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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 for the Torness site stakeholder group and are also available on the ONR website (<http://www.onr.org.uk/llc/>).

Site inspectors from ONR usually attend Torness site stakeholder 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 contact ONR.

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# Inspections

## Date(s) of Inspection

The ONR site inspector made inspections on the following dates during the report period 1 October – 31 December 2023:

14-15 November

5-6 December – Rescheduled due to adverse weather preventing travel

# Routine Matters

## 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 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 Torness power station covered the following:

* Safety mechanisms devices and circuits;
* Examination, inspection, maintenance and testing;
* Duty to carry out tests, inspections and examinations.

Overall the findings from the compliance inspections were positive with no significant shortfalls. A number of observations were made during the inspection where advice was provided to station.

There were no findings from the inspections that could significantly undermine nuclear safety.

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](http://www.onr.org.uk./intervention-records) on our website [www.onr.org.uk](http://www.onr.org.uk).

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

## Other Work

In October 2023 ONR continued to track progress of the fire safety improvements being implemented in the Torness admin, stores and workshop areas. This work is being undertaken in response to non-compliances being identified during an ONR inspection in May 2023 and a subsequent enforcement letter being issued to Torness.

A specific project team has been established at Torness to carry out the fire safety improvements, utilising specialist external resources to carry out fire safety surveys and undertake the physical improvement works.

Adequate progress is being made regarding they fire safety improvement work. ONR has a regulatory issue to track progress of the fire safety improvements and will continue to monitor improvement being implemented through routine site interventions.

In November 2023 it was reported that during a routine maintenance test run a main diesel generator tripped, this was following connection to the reactor 2 electrical board. The diesel generator tripped after being synchronised for approximately 40 minutes. Local alarms were evident which initiated the switchgear to trip.

Torness investigated the fault using the technical fault finding process with input from the EDF central engineering teams and specialist contractor to ascertain and identify the cause of the fault. Inspections of the internals of the diesel engine on 29 October 2023 found significant damage to a number of the engine drive train components.

On identifying the damage, Torness entered event recovery to ensure the nuclear safety implications and operational decision making were key focuses, these focuses were to ensure the safe return to service of the diesel generator following investigation, establishing extent of condition for the remaining diesel generators on completion of forensic investigation, and to carry out a review of the management processes for safety case compliance.

ONR has followed up on this incident and have engaged with the event recover and central engineering teams at Torness. ONR will await the output of their internal investigation which includes forensic examination of components and will track any corrective actions to completion to ensure adequate improvements have been implemented.

# 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 note during the period were:

**Reactor 2 gas circulator failures post trip - November 2023** - Torness reactor 2 was being shut down for a planned off-load refuelling outage. Post trip cooling was established and reactor cooldown occurred at normal rate. However, four out of the eight gas circulators initially failed to run on variable speed drive (gas circulator electrically control system) placing the reactor in an immediate action condition for the operations team.

This incident did not breach the safe operating limits and Torness did provide a good initial response to the incident.

Two of the failed gas circulators were started manually following the incident improving the cooling margins with six out of the eight gas circulators in service.

Torness convened an event recovery team to establish the cause of the gas circulator failures and take remedial action, a programme of work had already been planned to improve reliability of the gas circulators during the outage and this work was progressed. Further investigation of the gas circulator identified additional work which was also included in the outage scope.

ONR inspectors followed up on the incident and held a number of progress interventions. A substantial amount of work was completed by Torness prior to the restart of reactor 2.

Due to the number of gas circulator failures and the reliability issues experienced during the shutdown of reactor 2, ONR issued an enforcement letter and raised a regulatory issue seeking improvement in the system reliability, noting the extensive programme of works Torness was already undertaking to achieve this.

# 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:

Torness reactor 2 was being shut down for a planned off-load refuelling outage. Post trip cooling was established and reactor cooldown occurred at normal rate. However, four out of the eight gas circulators initially failed to run on variable speed drive (gas circulator electrically controlled system) placing the reactor in an immediate action condition for the operations team.

Due to the number of gas circulator failures, ONR issued an enforcement letter and raised a regulatory issue seeking improvement in the systems reliability. ONR will track progress to ensure improvements are adequately implemented.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Type | Ref. No. | Description |
| 22 December 2023 | Enforcement Letter | ONR-EL-23-035 | LC28 Deficiencies in maintenance and reliability of VFCs |
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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 ONR, 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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