



Office for
Nuclear Regulation

Office for Nuclear Regulation (ONR) Site Report for Torness Power Station

Report for period July to September 2020

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 the Torness Local Community Liaison Committee meetings and will respond to any questions raised there. Any person wishing to enquire about matters covered by this report should contact ONR.

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1 INSPECTIONS

1.1 Dates of inspection

ONR inspectors undertook interventions relevant to Torness Power Station on the following dates during the report period:

- 15-16 July 2020
- 12-13 August 2020
- 1-17 September 2020

All other interventions in this period were conducted remotely as a result of the coronavirus pandemic.

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 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's (EDF 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, the following compliance inspections were undertaken:

- Licence Condition (LC) 10 "Training" inspection was carried out focusing on the Torness statutory outage organisation.

2.1.1 LC 10 COMPLIANCE INSPECTION (STATUTORY OUTAGE RELATED)

This inspection was conducted remotely due to the COVID-19 restrictions implemented at Torness. The ONR inspection team sampled Torness' systematic approach to training relating to statutory outages, to assess the effectiveness of the implementation of training management arrangements. Additionally, discussions were held with staff in statutory outage control and supervisory positions and those involved in managing the process for nuclear safety. The inspection team concluded they were satisfied that EDF NGL have adequately implemented their arrangements for LC 10 from the sample undertaken.

2.2 System Based Inspection (SBI)

SBIs consist of a series of inspections which are intended to establish that the basic elements of a site/facility safety case, as implemented in Safety Systems and Structures (SSS) are fit for purpose and that they will fulfil their safety functional requirements. In an SBI, the adequacy of

implementation of the licensee's arrangements for six Licence Conditions (LC) (10, 23, 24, 27, 28 & 34) is tested for the SSS chosen.

In this period, no system-based inspections were undertaken.

2.3 Other matters

Torness Emergency Plan

Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPP19) has prompted the requirement for the review and amendment of the on-site and off-site emergency plans. Following the Torness review and subsequent updates to the emergency plan, Torness sought ONR's approval of the Torness station Emergency Plan in April 2020 under LC11 arrangements. ONR requested that Torness ensure the on-site emergency plan is re-submitted containing the new detailed emergency planning zone (DEPZ) information within the final version. ONR have received the re-submission of the Torness emergency plan, which is currently being progressed through final stages of approval. Torness are scheduled to implement their Emergency Plan on 02nd November 2020.

Exercise Demonstrations

ONR and EDF NGL have conducted a review of the practicalities of undertaking emergency exercise demonstrations during the current COVID-19 pandemic restrictions, with the decision being made to cancel several exercise demonstrations in 2020. In September 2020, Torness provided ONR with revised exercise demonstration dates between June and August 2021. ONR responded with no objections to the proposal, highlighting that the COVID-19 restrictions can be monitored for consideration closer to the exercise demonstration dates.

2.4 Other Meetings

Due to travel restrictions being imposed during the previous reporting periods in 2020 due to COVID-19, the site inspector worked remotely to monitor the performance of the site by:

- Initiating increased dialogue with site management, the licensee's independent nuclear safety assurance function, and trade union safety representatives to develop a consistent picture of the measures put in place to manage the safety of both the workforce and the plant.
- Observing the meetings and working groups the licensee established to assess the coronavirus pandemic and manage the response, including the pandemic lead team meeting (which co-ordinated the site's response) and maintenance requirements review group (which managed the impact of potential or actual staff and supply chain shortfalls on safety-significant maintenance activities).
- Monitoring the minimum staffing levels required to deliver an adequate response in the event of an accident or emergency on the site.

However, in this reporting period, the site inspector has taken the opportunity to carry out site visits (August and September) in line with COVID-19 arrangements. The duration of the station visits has been kept to a minimum and focused on plant walkdowns and other activities which ONR are unable to conduct remotely.

The site inspector considers that the site has managed its response to the pandemic during the period in a manner that, so far as is reasonably practicable, protected its own staff and ensured that there was no degradation in nuclear safety.

3 NON-ROUTINE MATTERS

The Torness nominated site inspector reviews incidents that meet the criteria for routine reporting to ONR under the site Licence Condition 7 arrangements. The site inspector samples the station's follow up reports and corrective actions.

Matters and events of particular note during the period were:

3.1 Events

- 2020/664 - Following completion of the refuelling of seven fuel channels on Reactor 2 on 27 September 2020, it was identified that the routine 'pre-flight checks' which are completed prior to the start of the refuel programme, had been carried out incorrectly. The purpose of these checks is to ensure station have two segregated CO₂ cooling supplies to the fuelling machine during the low power refuel.

An error was made in interpreting the "continuous-use" plant item operating instruction (PIOI) for the pre-flight checks and the auxiliary steam ring main was left in an unsegregated configuration. The incorrect configuration was not detected until after the low power refuel activity was completed.

The nuclear safety significance of this error was reported as minor. The low power refuel safety case is tolerant to lack of CO₂ plant segregation in a small proportion of refuelling batches. However, the technical specification surveillance was not completed correctly, and the refuelling activity was not completed compliantly.

The ONR site inspector is content with the immediate action taken for this incident, however, continues to gather further information on the incident and will await completion of the Torness internal investigation, to see what further improvements can be made to prevent a reoccurrence.

- 2020/694 - A work request was raised to investigate a fault on a decay heat tower fan which was tripping on overload and high vibrations. To progress the investigation of the fault, a work package was written for electrical checks and to remove the fan drive belts from 2AX1 decay heat tower fan to check for freedom of movement.

The belts were erroneously removed from 2AX circulator auxiliary diverse cooling system fan, whilst electrical checks at the correct switchgear were being undertaken in a different location. Due to the incorrect fan being worked on there was a potential that the 2AX fan could have started during a reactor trip or testing when the belts were being removed, resulting in a potential to cause entanglement or serious injury.

This incident also led to a period of "unidentified" unavailability of the 2AX circulator auxiliary diverse cooling system fan (due to the drive belts being removed), rendering it unable to perform its post trip design duty.

The immediate action taken by Torness was to isolate the plant, replace the belts and return 2AX fan to normal configuration and safe state. Station are undertaking investigations through corrective action plan to identify the organisational learning and implement effective corrective actions to prevent re-occurrence. ONR continue to gather more information and await Torness' internal investigation report to further understand the details of this incident and see what further improvements can be made to prevent a reoccurrence.

The ONR site inspector is content with the immediate action taken for this incident, however, has raised some concerns over the increase in incidents being reported over the period. Torness conducted a safety stand down at station on the 13th

October to highlight the concerns and re-enforce the standards and expectations on station.

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 issue Enforcement Notices to secure improvements to safety.

On 28th May 2020, ONR agreed to the deferral of the Torness reactor 1 statutory outage from 6th June 2020 to 26th July 2020 and issued LI 560. In June 2020, the station submitted a further justification for an extension to the Torness statutory outage for reactor 1, out to March 2021. ONR carried out an assessment of the justification and issued a further LI in July 2020.

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

Date	Type	Ref No	Description
21/07/2020	Agreement	561	LC 30(2) ONR Agreement for Extension of Operating Period for Torness Reactor 1 (Second Deferral) to no later than 7 th March 2021.

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

5 NEWS FROM ONR

5.1 COVID-19

ONR is continuing to obtain assurance that nuclear site licensees and other dutyholders are adequately resourced to continue to safely and securely carry out their activities.

We remain satisfied with industry's response at this time and there has been no significant change to dutyholders' safety and security resilience.

As COVID-19 restrictions change, our focus is on the preparedness for the weeks and months ahead and maintaining safe and secure operations in the face of any further escalation in COVID-19 transmission.

ONR staff continue to work at home, primarily. We are increasing our on-site regulatory work in accordance with public health advice. We'll also continue to inspect, assess and permission remotely where necessary to protect staff, workers on site, and the public around sites.

5.2 Enforcement Action

In July we publicised the serving of an [Improvement Notice on Rolls-Royce Submarines Ltd \(RRSL\)](#) for procedural safety breaches at its Derby site. The notice was served after shortfalls were identified against the safety case requirements at a nuclear fuel production facility on the site.

In September we announced that an [Improvement Notice had been served on EDF Energy Nuclear Generation Ltd \(EDF NGL\)](#) for shortfalls in safety procedures at its Heysham 2 Power Station in Lancashire. The notice was served after some of the equipment which is used to measure reactor power was incorrectly configured during the reactor's restart process following a planned outage in April 2020.

In September we announced that an [Improvement Notice had also been served on Devonport Royal Dockyard Ltd](#) for shortfalls in maintenance procedures at its Plymouth site. The notice was served after Devonport Royal Dockyard failed to carry out scheduled maintenance tests on an effluent extraction system which is used to support maintenance and repair activities within the licensed site.

In September we publicised our intention [to prosecute AWE plc under Section 3 of the Health and Safety at Work etc. Act \(1974\)](#). The charge relates to an incident on 20 June, 2019, at the AWE Aldermaston site which resulted in a contractor narrowly avoiding injury when a flash over of electricity occurred from a 415V electrical source. The incident was a conventional health and safety matter and took place in a 'non-nuclear' building, so there was no radiological risk to workers or the public.

5.3 Regulatory Updates

In July the Government published its response to the International Atomic Energy Agency's final report on the [Integrated Regulatory Review Service \(IRRS\) mission to the UK](#). The IRRS mission took place between 14 – 25 October 2019 was hosted by ONR, and saw a team of 18 independent experts from across the globe scrutinising the regulation of nuclear and radiological safety.

In August we provided EDF NGL with permission for [Reactor 3 at its Hunterston B site to return to service](#) for a limited period of operation (16.425 Terawatt days, approximately six months' operation). In September we also gave [permission for Reactor 4 at the same site](#) to return to service for a limited period of operation (16.25 terawatt days, which is approximately six months operation). The decision to permission the restart of these reactors was given after extensive and detailed assessments of the respective safety cases by specialist ONR inspectors.

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5.4 Corporate Updates

In July we published our new [2020-25 Strategy](#), which sets out our direction and priorities for the next five years. It builds on our strengths and continues to focus on protecting society, and addressing the changing demands we will face as the UK's nuclear regulator.

In late September we published our [Annual Report and Accounts](#) highlighting our performance and key achievements for 2019/20.

The report notes that we continued to deliver our mission of protecting society by securing safe nuclear operations and that the majority of dutyholders have continued to meet the high standards of safety and security required. Where dutyholders have fallen short of such standards, we are satisfied that their facilities remain safe and that our regulatory focus has had a positive impact on their performance.

During the year, we completed more than 800 compliance inspections across 36 licensed sites during 2019/20, granting permission for 30 nuclear-related activities, serving three improvement notices and instigating one prosecution.

ONR Chair Mark McAllister said: "I am pleased to report that we have again delivered our mission and achieved our 2020 vision. As we look ahead, I have every confidence in our

senior leadership team to see through the strategic improvement projects already underway that will enhance the organisation’s information and knowledge management system, and successfully deliver the aspirations of our new strategy.”

In September we announced that [Jean Llewellyn OBE](#) had been appointed to the ONR Board as the new Security Non-Executive member. Jean will take up her appointment on 1 October 2020 for a three year term and will Chair ONR’s Security Committee.

6 CONTACTS

Office for Nuclear Regulation
Redgrave Court
Merton Road
Bootle
Merseyside
L20 7HS

website: www.onr.org.uk
email: contact@onr.gov.uk

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