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

Report for period October to December 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/llc/).

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.

TABLE OF CONTENTS

1 INSPECTIONS 3
2 ROUTINE MATTERS 3
3 NON-ROUTINE MATTERS 4
4 REGULATORY ACTIVITY 5
5 NEWS FROM ONR 6
6 CONTACTS 9

1 INSPECTIONS

1.1 Dates of inspection

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

- 06-07 October 2020
- 09-13 November 2020
- 01-03December 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:

- A combined Licence Condition (LC) 19 "Construction or Installation of new plant", 21 "Commissioning" and 22 "Modification or Experiment on existing plant" inspection was carried out focusing on Torness's nitrogen secondary shut down system enhancements project.

2.1.1 LC 19, 21 AND 22 COMPLIANCE INSPECTION (NITROGEN SECONDARY SHUT DOWN ENHANCEMENT PROJECT)

This inspection was conducted by 2 inspectors at station, and 2 inspectors supporting remotely due to the COVID-19 restrictions implemented at Torness in March 2020. The ONR inspection team sampled Torness' arrangements for the construction, installation, modification and commissioning of the nitrogen secondary shut down system enhancement project. Inspectors also sampled the effectiveness of the physical implementation of those arrangements. Additionally, discussions were held with staff, those in project 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 19, 21 and 22 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 (REPPIR19) 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, ONR approved the Torness emergency plan which station implemented 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 postpone 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 in October, November and December 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 such as the January 2021 statutory outage preparations 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

- 2020/711 - On the nightshift of the 22/10/2020 four Operations Technicians had to be sent offsite as a precautionary measure under the COVID-19 track and trace measures. This resulted in Emergency plan resource shortfalls; the minimum number is 12 positions, in this case, Torness had 9 positions covered.

  Shift teams not adequately resourced could potentially have an impact on the ability to deal with an operational alert, site incident or offsite incident. It should be noted that had any of these been called during this period there are standby arrangements, such as the SERT teams that are trained to support the shift teams and all the positions would be covered via alternative arrangements.

  The standards and expectations with regards to COVID-19 testing and self-isolation policy have been re-enforced across the station to ensure that if personnel are symptomatic they must follow this advice and associated mitigations. There has been one such repeat event where these arrangements have been tested and station maintained their minimum manning requirements.

- 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 it 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 13 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 26 June 2020 a dropped load incident occurred in the new fuel cell at Torness, the incident was reported to ONR via the INF1 process on 6 July 2020. ONR conducted follow up interventions to gather more information on the incident whilst awaiting Torness to complete their internal investigation. ONR's follow up, and the Torness investigation report, identified a number of compliance gaps relating to UK legislation which resulted in an enforcement letter being issued by ONR relating to the requirement to conduct suitable and sufficient risk assessments for the activities being undertaken to ensure so far as is reasonably practicable, the health safety and welfare at work of employees as required by HASAWA section 2.

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

Date	Type	Ref No	Description
23/10/2020	Enforcement	ONR-EL-20-018	New Fuel Cell dropped load incident 26/06/2020 resulting in compliance gaps relating to HASAWA 1974, section 2(1).

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 are continuing to obtain assurance that nuclear site licensees and other duty holders 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 duty holders' 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.

All licensed sites are required to determine minimum staffing levels necessary to ensure safe and secure operations and contingency arrangements in the event that these levels are not met. This condition is specifically designed to ensure that industry can adequately manage and control activities that could impact on nuclear safety and security under all foreseeable circumstances, including pandemics.

ONR staff continue to work at home, primarily. We have considered our priorities, deferred non-critical activities, and are carrying out as much of our work as possible via videoconference, phone and email.

We 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 December, we announced that The Atomic Weapons Establishment (AWE) had been fined £660,000 after pleading guilty to an offence under Section 3 of the Health and Safety at Work etc. Act (1974).

AWE was also ordered to pay costs of £9,945.71 during a virtual hearing at High Wycombe Magistrates Court.

It followed an electrical 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.

In October, we notified Sellafield Ltd that it would be prosecuted under Section 2 (1) of the Health and Safety at Work etc. Act (1974).

The charge related to an incident on Friday, 24 April 2020 at the Sellafield site where an employee sustained injuries while working on high voltage electrical equipment. This incident was also a conventional health and safety matter and there was no radiological risk to workers or the public.

The hearing took place at Carlisle Magistrates Court on 18 December 2020, where Sellafield Ltd was fined £320,000 and ordered to pay costs of £12,079.07 after pleading guilty to the offence.

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.

5.3 Regulatory Updates

In October, ONR announced an Information Exchange Arrangement (IEA) with the Canadian Nuclear Safety Commission (CNSC).

The IEA is a bilateral agreement between our two organisations which provides a framework for the sharing of information, experience, and good practice to enable both parties to learn from and train each other on technical regulatory issues. It also allows for more effective communication between the two regulators.

The agreement had already been used to develop a Memorandum of Cooperation (MoC) between ONR and the CNSC which allows the sharing of best practices and experience around reviewing advanced reactor and small modular reactor (SMR) technologies.

In November, our Chief Nuclear Inspector (CNI), Mark Foy, published his annual report detailing the performance of Great Britain's nuclear industry during 2019/20.

The CNI reports he is satisfied that overall, the nuclear industry has continued to meet the high standards of safety and security required to protect workers and the public.

In areas where duty holders have fallen short of these standards, the CNI is satisfied that these facilities remain safe and that ONR has intervened in a proportionate manner to ensure plans are in place to improve performance.

In November, we also announced the appointment of a new member to the Chief Nuclear Inspector's Independent Advisory Panel (IAP).

Chris McDonald has joined the panel, which was set up in in 2016 to provide independent advice on technically complex nuclear matters by engaging with industry experts to inform our regulatory strategies and approaches.

Chris has a wealth of experience in industrial strategy and manufacturing research. He has a degree in Chemical Engineering and has been the CEO of the Materials Processing Institute since it was founded in 2014. Chris also has a proven record in the areas of innovation and low-carbon energy which will be of great benefit to ONR.

In December, we became an Affiliated Organisation member of the Society for Radiological Protection (SRP).

We have actively participated and supported SRP for many decades. This affiliation formally recognises our involvement and contributions towards radiological protection and enhances the links between the two organisations.

In November, we played a leading role in the first ever virtual IRRS Mission.

The virtual mission to Lithuania was conducted via the IAEA's International Regulatory Review Service and explored the feasibility of using modern communications tools for future missions.

The mission was led by ONR's Technical Director Dr Anthony Hart and supported by Superintending Inspector Colin Tait. Other countries taking part in the mission included Canada, Pakistan, Finland and the Netherlands.

In December, we became the UK's nuclear safeguards regulator, in charge of the domestic safeguards regime and operating the UK State System of Accountancy for, and Control of, Nuclear Materials (SSAC).

Following the end of the transition period as laid out in the Withdrawal Agreement, ONR assumed its responsibilities at 23.00 on Thursday 31 December 2020.

This has been a major project for ONR, setting up a new team, new systems, and new processes, led by Dr Mina Golshan.

Since being tasked by Government to establish a domestic safeguards regime after Brexit, we have developed a team of safeguards specialists, including inspectors and nuclear material accountants, and implemented a bespoke IT system, SIMRS (Safeguards Information Reporting and Management System).

Nuclear safeguards are measures to verify that countries comply with their international obligations not to use nuclear materials from their civil nuclear programmes to manufacture nuclear weapons.

The safeguards work remains a key priority for the organisation and sits in our Civil Nuclear Security and Safeguards Division.

5.4 Corporate Updates

In October, we announced that Chief Executive Adriènne Kelbie had been appointed a Commander of the Order of the British Empire (CBE) in the Queen's Birthday Honours List 2020 for services to the nuclear industry and to diversity and inclusion.

Adriènne said: “This honour is a tribute to the ONR team and all others who work tirelessly to create a more inclusive world and safe nuclear sector, as well as those on the long and sometimes arduous journey of leadership and self-development.
“Inclusion goes hand in hand with safety, because diverse teams are essential to improve decision making – therefore it’s a non-negotiable in nuclear. That’s why, as Chief Executive of ONR, I’ve been personally committed to visibly drive the inclusion agenda and encourage others to do so too.”

In December, we announced plans to align our leadership structure to other nuclear regulators around the world with a new combined post of Chief Nuclear Inspector/Chief Executive. Chief Nuclear Inspector Mark Foy will take up the new combined post, subject to detailed government approvals, supported by current Deputy Chief Executive, Sarah High. A new senior regulatory role, Executive Director of Operations/Deputy Chief Inspector, will also be established. The exact timescales have yet to be confirmed, but the changes will come into effect later in 2021.
Under existing contractual arrangements, current Chief Executive Adriènne Kelbie CBE was always expected to step down as her extended term of office comes to an end in January 2022.

The change reflects ONR’s successful transition into a mature and high performing organisation since becoming an independent Public Corporation in 2014.

In December, we were delighted to announce that our Deputy Chief Inspector and Director of ONR’s Sellafield, Decommissioning, Fuel and Waste Division, Dr Mina Golshan, had been awarded a Commander of the Order of the British Empire (CBE) in the New Year’s Honours 2021, for ‘services to nuclear regulation’.

Mina said: “I am very grateful to have been awarded this honour. It reflects the work of many talented and dedicated professionals that I am lucky to work with. It also shows the significance of ONR’s role in securing safe nuclear operations for the protection and benefit of the society.”

6 CONTACTS

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

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

This document is issued by the Office for Nuclear Regulation (ONR). For further information about ONR, or to report inconsistencies or inaccuracies in this publication, please visit http://www.onr.org.uk/feedback.htm.

Published 10/20