



Office for Nuclear Regulation (ONR) Site Report for Sizewell B Power Station

Report for period 1 January 2018 – 31 March 2018

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 of the Sizewell Site Stakeholder Group and are also available on the ONR website (<http://www.onr.org.uk/lrc/>).

Site inspectors from ONR usually attend Sizewell Site Stakeholder Group 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.

TABLE OF CONTENTS

1	INSPECTIONS	3
2	ROUTINE MATTERS	3
3	NON-ROUTINE MATTERS	5
4	REGULATORY ACTIVITY	5
5	NEWS FROM ONR	6
6	CONTACTS	7

1 INSPECTIONS

1.1 Dates of inspection

ONR inspectors undertook interventions at Sizewell B Power Station on the following dates during the reporting period:

- 16 – 17 January 2018
- 12 – 16 February 2018
- 15 – 16 March 2018
- 19 – 22 March 2018

2 ROUTINE MATTERS

2.1 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 1999 (IRR99) and the Management of Health and Safety at Work Regulations 1999 (MHSWR99).

The inspections entail monitoring licensee (EDF Energy Nuclear Generation Ltd (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, routine inspections of Sizewell B covered the following:

- Control and Supervision
- Marking of the site boundary
- Provision of warning notices for persons on site
- Site plans, designs and specifications

In general, ONR judged the arrangements made and implemented by the site in response to safety requirements to be adequate in the areas inspected. 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.

2.1.1 System Based Inspections

In addition to our program of site licence compliance inspections, ONR also undertakes system based inspections (SBI) which are focused on the station's critical safety systems and structures and are derived from the licensees' safety cases. During the period, ONR performed system based inspections of the following systems:

- SBI15 Reactor building cooling and combustible gas control
- SBI16 Gaseous and liquid radioactive waste treatment
- SBI29 Control rod drive and position monitoring

A number of systems are installed within the Sizewell B containment building to manage atmospheric conditions within the containment in the event of an accident. These systems include the reactor building fan coolers which, in combination with the reactor building spray system and safety injection systems, are designed to remove heat from the containment atmosphere. Equipment is also provided to control the concentration of hydrogen in the Reactor Building atmosphere following a loss of coolant accident. The objective of SBI15 was to evaluate the implementation of safety case claims on this equipment via inspections performed under the following site licence conditions:

- 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

After considering the totality of evidence examined during the inspection we judged that the reactor building cooling and combustible gas control met the requirements of the associated safety case. We awarded Green inspection ratings against the above licence conditions: LC10, LC24, LC27 and LC28.

SBI 16 examined the implementation of safety case claims with Sizewell B's gaseous and liquid radioactive waste treatment systems. The principal function of the gaseous radioactive waste system is to treat (via decay storage) fission product gases removed from the reactor coolant system prior to discharge. The liquid radioactive waste system is provided to collect, store and treat liquid wastes from the reactor coolant system and other active systems prior to discharge. We found that NGL has effective arrangements for maintenance of this equipment and adequate training is provided to operations staff in the use of this equipment. We noted that some delays have occurred to NGL's project to prepare an updated safety case for the liquid radioactive waste system. Inspectors requested a programme for completion of this work which will be monitored via an entry on ONR's issues database. After considering the totality of evidence examined during the inspection we judged that the system met the requirements of the associated safety case. We awarded inspection rating of Green against LC10, LC23, LC24, LC27, LC28 and LC34.

The control rod drive and position monitoring system provides a means of immediately shutting down the reactor by inserting all control rods if a safety limit is exceeded. Equipment is provided to measure the position of the control rods for display and protection purposes. SBI29, which evaluated implementation of safety case claims on this equipment, found that NGL had established adequate arrangements to maintain and support the systems. We were also satisfied that the risk of equipment obsolescence was being appropriately managed. During the inspection, ONR identified a modification to the safety case revising an interlock test interval from 2 to 7.5 years. Inspectors requested that NGL supply documentation underpinning this modification for subsequent review by a specialist inspector. This additional work will be tracked via an entry on ONR's issues database. Overall, we judged that the system met the requirements of the associated safety case. We awarded inspection rating of Green against LC10, LC23, LC24, LC27, LC28 and LC34.

2.2 Other work

Together with a specialist inspector, the site inspector undertook a reactive inspection to examine the maintenance regime in place for the station's four off-steam generator channel heads. This follows the discovery of a leak within the steam generator D's channel head drain line during the refuelling outage 15 and subsequent repair. ONR's regulatory oversight of this repair was covered in ONR's previous Site Report, covering the period 1 October 2017 – 31 December 2017.

We found that steam generator drain line welds were (and are) subject to routine and systematic examination to detect leakage and prompt corrective action degradation in accordance with international practice and the requirements of site licence condition 28. A minor compliance shortfall was identified in relation to NGL’s inspection regime for a weld associated with the steam generator man-way drain lines. This weld is unrelated to the component which leaked but has some general similarities in design. NGL has accepted an action to resolve this finding which will be tracked to resolution via an entry on the ONR issues database.

We also found that NGL had conducted a thorough and systematic investigation to identify causes of the drain line leak and had prepared a comprehensive action plan to implement identified lessons learned. Implementation of this action plan will be monitored by ONR’s Site Inspector.

3 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.

There were no such matters or events of significance during the period.

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 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:

- ONR issued Consent to start-up the reactor at Sizewell B following refuelling outage 15 on 26th January 2018. A summary of our oversight of refuelling outage 15 was provided in ONR’s previous Site Report, covering the period 1 October 2017 – 31 December 2017.

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

Date	Type	Ref No	Description
26 January 2018	Consent	LI 553	Consent under Licence Condition 30(3) to start-up the reactor following periodic shutdown

A report detailing the above regulatory decision can be found on the ONR website at <http://www.onr.org.uk/pars/>.

5 NEWS FROM ONR

In January, ONR received the results of its first external stakeholder survey which was undertaken by YouGov on behalf of ONR. A broad range of stakeholders were invited to participate in an online survey, with 351 responses received. In addition to the online survey, a number of in depth interviews were also completed with stakeholders. While overall the results demonstrate ONR is seen as a high performing organisation with good levels of stakeholder confidence, there are areas where improvements can be made and we will be working with our divisions on those in the coming months. Further details about the survey results can be found in our March 2018 newsletter which is available on [ONR's website](#).

In February, ONR held its first webinar following the publication of the 'Guide to enabling regulation in practice.' Chief Nuclear Inspector, Mark Foy and Deputy Chief Inspector, Mike Finnerty, were on hand to answer questions about the guide which has been designed to illustrate working examples of enabling regulation in practice. This is a new channel of communication for ONR and we'll be holding further webinars on different topics over the coming months. If you would like to join future webinars then please get in touch with the ONR Communications team via contact@onr.gov.uk

In March, ONR held the first of two meetings this year with representatives from across the NGO community. Held in Birmingham, the meeting was attended by 15 NGO representatives from 11 different organisations. Topics discussed included: Domestic Safeguards pending the withdrawal of the UK from Euratom; Emergency Planning Arrangements; and the ONR Stakeholder Survey results. The next meeting is scheduled to take place in October 2018. We are keen to increase the number of people engaging with ONR on nuclear safety and security issues and would like to invite members of SSGs to join our engagement programme. For more details please get in touch via contact@onr.gov.uk

6 CONTACTS

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