



Office for Nuclear Regulation (ONR) Quarterly Site Report for Sizewell B

Report for period 1 October - 31 December 2015

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 for the Sizewell sites stakeholder group and are available on the ONR website (<http://www.onr.org.uk/lrc/>).

Site inspectors from ONR usually attend Sizewell sites stakeholder group meetings 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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1 INSPECTIONS

1.1 Dates of inspection

The ONR nominated site inspector made inspections on the following dates during the quarter:

6 October
13 – 15 October
20 – 22 October
17 – 19 November
1 – 3 December

ONR specialist safety and security inspectors carried out inspection visits on the following dates during the quarter:

3 – 4 November
17 – 19 November
8 – 9 December

The ONR acting Chief Nuclear Inspector (CNI), Superintending Inspector and an ONR board member visited the station on the following dates during the quarter:

15 October
22 October
19 November

2 ROUTINE MATTERS

2.1 Inspections at Sizewell B

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 Regulatory Reform (Fire Safety) Order 2005
- the Nuclear Industries Security Regulations 2003

The inspections entail monitoring 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 majority of 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 routine licence condition compliance inspections were undertaken:

Licence condition 14: Safety documentation
Licence condition 22: Modification or experiment on existing plant
Licence condition 23: Operating rules
Licence condition 25: Operational records

The licensee has defined primary implementation and secondary supporting documents for compliance with LC 14 Safety Documentation. The station has some areas of good practice for safety case management which include nuclear safety operational review committee, for high category cases and independent nuclear assurance review. From the evidence seen and the discussion held with station personnel, the arrangements sampled for compliance with LC14 are considered to be of a good standard.

The engineering change (EC) process supports arrangements for LC 22 - Modifications or experiment on existing plant. The station has some areas of good practice for its EC management which includes the training department's quarterly EC review meeting and major project training requirements workshop. From the evidence sampled and discussion with station personnel, the site inspector judged EDF NGL's arrangements for compliance with LC22 to be adequate, with no regulatory issues being raised.

LC 23 - Operating Rules requires that an adequate safety case is produced to demonstrate safety of operation and the limits and conditions necessary in the interests of safety, referred to as Operating Rules. Operating Rules are derived from the Sizewell B safety case, and are reflected in the station procedures, primarily through the company's Technical Specifications (Tech Specs). The station has some areas of good practice for Tech Specs such as explicit review of international operating experience during the periodic and systematic review of safety cases through LC 15 Periodic Review. The arrangements sampled for compliance with LC23 were found to be adequate.

Station operational records cover a wide ranging area, as expected in support of site licence conditions and other statutory requirements. There is also clear identification of record owners with responsibility for each record series and, from the sample of records inspected, these are being stored and controlled adequately. The inspection revealed a number of minor observations, for which the licensee raised appropriate actions to address. Notwithstanding these observations, from the evidence seen and the discussion held with station personnel, the arrangements sampled for compliance with LC 25 Operational Records were judged to be adequate.

System Based Inspections

In addition to ONR's programme of site licence compliance inspections, we also inspect operating reactors based on safety related systems. Each site has a safety case, which identifies the important aspects of operation and management required for maintaining safety.

For Sizewell B, the key systems important to nuclear safety will be inspected against the requirements of the safety case. We plan to inspect all the safety significant systems over a five-year period. ONR considers that this will provide additional assurance that operations on the site are safe. Each of these inspections considers the relevant licence conditions below:

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

Licence condition 34: Leakage and escape of radioactive material and radioactive waste

During the reporting period, the following systems were inspected:

- Circulating water and auxiliary circulating water systems

The primary function of the circulating water system is to supply cooling water from the sea at a sufficient flow rate to condense steam in each turbine condenser set. The system has no direct nuclear safety-related functions and there are no safety case claims made on the operation of the system and its auxiliaries following faults in the safety case. The system also

provides a source of cooling water for the essential service water system, via the screening plant of the system, as well as discharge facilities, via the outfall surge chamber, for a number of other systems. The system comprises inlet/secondary/outlet stop-gates, main pumps, pit pumps, and associated pipework, valves and instrumentation.

A key function of the auxiliary circulating water system is to provide cooling water to the auxiliary plant coolers within the turbine hall in order to dissipate heat. The system is a non-safety classified system and as such has no safety function; however, the system interfaces with other systems that are safety classified and; also, the pump suction supply interfaces with the essential service water system. The system also interfaces with the condenser air extraction system and general services waster system for cooling the main feed water pumps. The system comprises four pumps, four self-cleaning strainers and all the associated pipework, valves, and instrumentation.

These systems were found to meet the requirements of the safety case and are being adequately maintained and operated. No significant regulatory issues were identified by ONR against the systems. One minor documentation anomaly was found during the intervention, which has been captured for corrective action under the licensee's arrangements and will be monitored for progress by ONR on a routine basis.

Dry Fuel Store (DFS) Project

In this period, the following licence condition compliance inspections were undertaken against the Dry Fuel Store (DFS) project:

Licence condition 6: Documents, records, authorities and certificates

Licence condition 25: Operational records

Licence condition 32: Accumulation of radioactive waste

Licence condition 34: Leakage and escape of radioactive material and radioactive waste

Licence condition 35: Decommissioning

EDF Energy Nuclear Generation Ltd (EDF NGL) is in the process of constructing a Dry Fuel Store (DFS) facility on the Sizewell B licensed site. During this period ONR undertook an intervention to gather safety documentation and inspect compliance arrangements to support its regulatory decision-making in relation to the DFS activities at Sizewell B. Future licence instruments will be required to give ONR's consent to commence active commissioning of the facility. The inspection was supported by ONR specialist nuclear liabilities inspector and undertaken jointly with the Environment Agency site inspector.

The inspection findings were positive, with EDF NGL clearly demonstrating a structured and methodical approach to recording and retaining data and information for DFS activities. The radioactive waste and decommissioning arrangements met the expectations set out in ONR guidance and the licence condition arrangements were judged to be adequately implemented for the management of this project.

On Site Emergency Arrangements Exercise

A team of ONR inspectors observed a demonstration exercise of the site's emergency arrangements for dealing with any accident or emergency arising on the site and their effects. The exercise scenario, presented an appropriate challenge to the sites' emergency arrangements and the incident was brought under control in a reasonable timescale. The exercise presented a number of useful learning points and areas for improvement which were identified by ONR and; also, by the licensee's own assessment of the exercise. These have been taken forward through the site's emergency arrangements improvement programme. The ONR assessment team considered the exercise to be an adequate demonstration of Sizewell B's emergency arrangements under Licence Condition (LC) 11.

‘Capability Review’ of Emergency Preparedness and Response

During this period, an ONR emergency preparedness specialist and a security inspector reviewed both the safety and security aspects of the stations on-site emergency preparedness and response arrangements. The overall position provided by the station staff to the review and challenges presented was positive. The station was well prepared for the review and had, in general, acknowledged or already self-identified potential gaps and any areas for improvement in capability. The review also revealed that, in a number of areas, the station also demonstrated best practices were in place. ONR’s intention is to use this review to inform an emergency arrangements capability map that may be used to monitor improvements of the stations on-site emergency preparedness and response arrangements in order to demonstrate the on-going capability of the station to respond to an on-site event.

Counter Terrorism Exercise

During this period a team of ONR security inspectors observed a counter terrorism demonstration exercise (CTX) of the Sizewell B arrangements for dealing with a security incident on the site under the requirements of the Nuclear Industries Security Regulations 2003 (as amended) and against the approved nuclear site security plan.

The CTX scenario was judged to be credible, challenging and well planned. It was considered that the exercise was an adequate demonstration of the arrangements. The exercise generated a number of learning points, in addition the ONR observers also noted several good practices. The exercise was also well supported by external agencies. Areas for further improvement will be monitored by the ONR security inspector for progress during future inspections.

Further details of ONR’s intervention records can be found at <http://www.onr.org.uk/intervention-records>.

2.2 Other work

IAEA Operational Safety Review Team

At the request of the Department for Energy and Climate Change (DECC) an IAEA Operational Safety Review Team (OSART) of international experts visited Sizewell B Power Station from 5 to 22 October 2015. The purpose of the mission was to review operating practices in the areas of leadership and management for safety; training & qualification; operations; maintenance; technical support; operating experience feedback; radiation protection; chemistry; emergency preparedness and response; and accident management. In addition, an exchange of technical experience and knowledge took place between the experts and their station counterparts on how the common goal of excellence in operational safety could be further pursued.

The IAEA OSART mission presented an overview of its findings to EDF NGL, ONR and DECC at the mission exit meeting. The mission identified recommendations, suggestions and areas of good practices which will be summarised in a formal report and published on the ONR website in due course.

ONR is supportive of the OSART mission to compare the plant’s operational practices with best international practices and identify ways in which operational safety can be enhanced.

Visit of Dr Richard Savage Acting Chief Nuclear Inspector

During this period the ONR acting Chief Nuclear Inspector (CNI) visited the station to gain an overview of the site’s key performance measures and current matters of interest to the regulator including plant operation, safety and security arrangements. The acting CNI found the visit informative and supportive of the current ONR strategy to influence improvements in nuclear safety and security.

ONR Board Member Visit

An ONR board member visited the station, hosted by the plant manager and security manager. A general presentation was provided of the site security arrangements and plant operation followed by a site tour and visit to the off-site emergency response centre. The board member found the visit informative and supportive of ONR's mission.

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 to report during this 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 issue Enforcement Notices to secure improvements to safety. No such activity was undertaken during this period.

Reports detailing regulatory decisions can be found on the ONR website at www.onr.org.uk/pars/.

5 NEWS FROM ONR

Chief Executive

Adrienne Kelbie joined ONR as Chief Executive on 18 January 2016. Previously, Adrienne was the Chief Executive of the Disclosure and Barring Service, and prior to this had a varied career including periods as Deputy Chief Executive in a local authority and as Director of Operations responsible for national and international funding at the Big Lottery Fund.

Chief Nuclear Inspector

ONR is currently recruiting for its Chief Nuclear Inspector. The Chief Nuclear Inspector has the key role in providing assurance on the effectiveness of the UK's nuclear regulatory system to the ONR Board, ministers, licensees and the British public and will represent ONR nationally and internationally. The closing date for applications was Sunday 17 January 2016 and the recruitment campaign has now progressed to the next stage. Further updates on the recruitment campaign will be published on our website www.onr.org.uk.

Regulation Matters magazine

Insight into ONR's work as an independent regulator of the nuclear industry can be found in Regulation Matters. This quarterly online publication (<http://www.onr.org.uk/regulation-matters.htm>) reports on the key themes and developments in each of ONR's regulatory programmes and provides an update about the on-going changes at ONR. For the latest news and updates from ONR, you can also visit the website and sign up for our e-bulletin: <http://www.onr.org.uk/index.htm>.

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