



Office for Nuclear Regulation (ONR) Site Report for Dungeness B

Report for period - 1 July to 30 September 2019

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

Site inspectors from ONR usually attend Dungeness Site Stakeholder Group meetings where these reports are presented 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

1. ONR inspectors undertook inspections at Dungeness B Power Station, on the following dates during the quarter:
 - 15-19 July
 - 19 – 21 August
 - 9-10 September

2 ROUTINE MATTERS

2.1 Inspections

2. 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).
3. 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.

Compliance Inspections

4. In this period, routine inspections at Dungeness B covered the following compliance inspections
 - Licence condition 17 - Management Systems
5. The site inspector and Torness nominated site inspector undertook an LC17 compliance inspection with respect to the station's Independent Nuclear Assurance (INA) safety culture surveillance. The aim was both to support and to assess this safety culture surveillance by INA. A number of teams were used to gain an understanding of safety culture on the site. Typically this involved interviews, observing focus groups and evaluation of meetings and selected documents. ONR concluded that this was an effective exercise of EDF NGL's assurance arrangements under LC17 and rated it 'Green no formal action'

System Based Inspections (SBI)

6. In addition to our compliance inspections based on the conditions attached to the nuclear site licence, ONR also inspects operating reactors against safety-related systems. Each site has a safety case that demonstrates how it operates safely. For Advanced Gas-cooled Reactors, each of the key systems will be inspected against the claims made upon them by the safety case. The aim is to systematically inspect all the significant safety related systems within a five-year cycle. ONR considers that this will provide additional assurance that operations on the Dungeness site are safe. Each of these system 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

7. During the reporting period no system-based inspections were completed.

2.2 Other work

8. In addition to the safety culture surveillance that was led by INA at Dungeness B (see above), ONR undertook an information gathering exercise to help form its own independent view on station safety culture by undertaking an evidence based Intervention on DNB which sampled two specific incidents that had occurred on station.

- a. DNB corrosion management issues
- b. Missed surveillance against an Operating Rule

9. This inspection was an information gathering exercise which was undertaken by the nominated site inspector and supported by three ONR inspectors. The inspection split into two teams who undertook interviews with various station staff covering aspects of the above sample areas. A total of 8 sessions were undertaken with approximately 20 station staff interviewed. The information gathered during this exercise will be used to determine any future interventions and monitor the station's performance in its progression out of enhanced regulatory attention.

10. As previously reported in the April – June Dungeness B SSG report, the site inspector supported by two ONR specialist Inspectors undertook follow-up enquires into reported events at the station. ONR has completed its follow-up enquires regarding breaches of the operating rule which covers the "Reactor Pressure Vessel Safety Relief Valves" (SRVs). The SRV's (3 per reactor) are the principal barriers in preventing the reactor pressure vessel from over-pressurisation faults. The two repeat breaches of the same operating rule were a result of two separate reportable events. These two breaches were entered during maintenance schedule work on reactor 22 SRV's only and were are part of the station's periodic shutdown inspection requirements under LC30. Both reactors were shut down at the time of these incidents and therefore did not pose any risk to the public.

11. The site inspector concluded that there had been breaches of the following Licence Conditions (LC)'s

- LC10 (Training),
- LC23 (Operating Rules),
- LC26 (Control and Supervision of Operations)
- LC28 (Examination, Inspection, Maintenance and Testing).

12. In light of the inspectors' conclusions and his application [of ONR's Enforcement Management Model \(EMM\)](#), an enforcement letter was issued to the station on 6 September 2019. The station has since responded, which ONR will consider.

13. Other activities undertaken during this reporting are covered in paras 17- 19.

14. The station undertook its Annual Review of Safety (ARoS). This is a joint meeting between the Licensee and ONR to review the station's safety and operational performance

throughout the past year and look forward to planned improvement activities that will be implemented in the forthcoming year and beyond. The ARoS was conducted over two half days consisting of a plant visit on the first half day followed by a half day meeting consisting of a series of presentations and discussion regarding the station's previous year's performance and its future safety improvement aims. The station provided a good holistic reflective view of its safety performance over the previous 12 months and its future plans in order for the station to return to service.

15. ONR's Deputy Chief Inspector (DCI) for Operating Facilities visited the station. This consisted of a plant visit covering several areas on the station, followed by discussions with the leadership team regarding the station's recovery plans, its return to service proposals and its plans to progress out of enhanced regulatory attention. Feedback from the plant visit and the meeting was provided and it was stressed that ONR expects the station to provide its proposals and plans to progress out of enhanced regulatory attention prior to the station's return to service.

3 NON-ROUTINE MATTERS

16. 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.
17. During this reporting period the station identified that the Auxiliary Cooling Water (ACW) system was judged not to be seismically qualified due to deficiencies in the supporting arrangements of the pipework. The ACW system provides the long term 'at power' safety case for natural circulation with Pressure Vessel Cooling Water (PVCW) cooling. In light of this finding, the station reported this to ONR and rated it as on the International Nuclear and Radiological Event Scale (INES) at 1 (Anomaly). If the reactors were operating at the time of this discovery it would have led to both reactors being shut down. However, both reactors are currently shutdown and therefore the actual consequences were greatly reduced. The nominated site inspector will follow-up this event during his regular engagement meetings at the station.

Return to Service (RTS) Update

18. Both reactors are safely shutdown due to the repair of widespread steel corrosion across the station and cracking found in the main steam lines of the boilers. The reactors will only be permitted to return to service when ONR is satisfied that the issues identified have been resolved.
19. The corrosion event recovery has progressed to the point where inspections required to support RTS are now complete, the necessary defect remediation required for RTS has been established and is in progress. Defect rectification work is also planned for a number of years after the return to service of the reactors.
20. Boiler steam main line inspections are complete and some repairs have been carried out. The safety case for return to service is progressing and will be subject to assessment by ONR.
21. Potential issues related to a previously known in-service degradation mechanism that could affect specific sections of the boilers are being addressed by the station. Any justification for continued operation will be supported by a robust safety justification, which ONR will assess prior to RTS of either reactor.

4 REGULATORY ACTIVITY

22. 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.
23. During the period, ONR issued an enforcement letter as noted above.

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

Date	Type	Ref No	Description
6 September	Enforcement Letter	DNB71324R	Technical Specification breaches in relation to reactor pressure vessel relief valves

5 NEWS FROM ONR

Enforcement Action

A summary of enforcement action is provided below. Further detail is available on [our website](#).

- On 19 July we served [Improvement Notices on the Atomic Weapons Establishment \(AWE\)](#) relating to the way the company undertakes risk assessments for organisational change which may affect safety.
- Following a court hearing on July 23, 2019 at Plymouth Magistrates' Court, [Devonport Royal Dockyard Ltd \(DRDL\) was fined £666,667](#) and ordered to pay costs of £27,611.82. It follows an incident in September 2018 involving a crane at the Devonport 9 Dock facility. During a lifting operation to disassemble a stack of test weights, the weights became detached and fell towards a worker, narrowly missing him. This was a conventional health and safety incident and there was no nuclear or radiological risk to workers or the public
- On 20 August 2019 we provided [EDF Energy Nuclear Generation Ltd with permission for Reactor 4 at Hunterston B to return to service](#) for the next period of operation. Permission is for up to 16.025 terawatt days, which is approximately four months operation.
- Recognising the good progress made so far, on 16 September 2019 we agreed to [extend two Improvement Notices issued to EDF Energy Nuclear Generation Ltd \(EDF\)](#) from the original compliance date of 16 September, 2019, to 16 December, 2019. The notices were served in January 2019 following an incident at Heysham 1 power station. We have been closely monitoring the work to comply with both notices and will continue to do so to ensure full compliance.

Regulatory Updates

- We have revised our [Licensing Nuclear Installations guidance](#). The revised guidance replaces the 4th edition, published in January 2015. The key changes

to the guidance have been made to reflect legal changes as a result of the introduction of new legislation and to include reference to updated processes and procedures.

- Together with the Health and Safety Executive (HSE) we have published a [new Approved Code of Practice \(ACOP\) and guidance](#) to assist dutyholder compliance with the new Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPiR).

Stakeholder Engagement

- On 18 September we held our Finance Industry Seminar which brought together finance colleagues from licence holders to discuss how we plan and forecast our charges, as part of our drive to be open and transparent about how we charge for the regulatory services we provide.
- On the week commencing 23 September, we attended an OECD Nuclear Energy Agency Workshop on Stakeholder Involvement: Risk Communication, as part of a UK contingent which included other regulators, government bodies, supply chain representatives and attendees from nuclear interest and pressure groups. The workshop explored how best to communicate radiation risk and how to ensure stakeholder involvement and participation. Further details about this event can be found here: <https://www.oecd-nea.org/civil/workshops/2019/stakeholder/>
- On the week commencing 16 September we attended the 63rd International Atomic Energy Agency (IAEA) General Conference in Vienna. The annual General Conference is an opportunity for all IAEA Member States to jointly consider matters related to the IAEA's ongoing work, budget and priorities. This year, over 3000 participants attended, including delegates from 152 of the IAEA's 171 Member States.

Corporate News

- The [Department for Work and Pensions](#) is looking to appoint two non-executive directors to [ONR's Board](#). More details on the roles and how to apply can be found on the [HM Government Public Appointments website](#).
- On 10 July we published our [gender pay report for 2018/19](#). We are committed to improving diversity by promoting and maintaining an inclusive working environment and are pleased to report positive shifts in the gender pay gap indicators, where our mean gap of 27% has reduced by 8.2% since [our second report in 2017/18](#).

All our latest news is available on our website www.onr.org.uk.

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