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

Report for period 1 January to 31 March 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 to members for the Site Stakeholder Group and are also available on the ONR website (http://www.onr.org.uk/llc/).

Site inspectors from ONR usually attend 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. The ONR site inspector made inspections on the following dates during the reporting period:

   - 13-16 January 2020
   - 24-27 February 2020
   - 9-11 March 2020

2. In addition, ONR specialist inspectors undertook inspections on the following dates during the quarter:

   - 14-15 January 2020 (Fuel Route import)
   - 24-27 February 2020 (Conventional Asset Care)
   - 9-10 March 2020 (LC35)

2 ROUTINE MATTERS

2.1 Inspections

3. 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).

4. 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 conditions attached to the licence in order to ensure legal compliance. Inspections seek to judge both the adequacy of these arrangements and their implementation.

5. In this period, routine inspections of Hinkley Point B covered the following:

<u>LC4: Restrictions on Nuclear Matter on the Site</u>

6. This Inspection was carried out against Licence Condition 4 (Restrictions on Nuclear Matter on the Site). The purpose of this licence condition is to ensure that when nuclear matter is brought onto the site it is done so in accordance with adequate arrangements.

7. The inspection focussed on how new fuel and fuel components are managed on receipt onto site, fuel build and loading into the reactor. We concluded that the licensee had implemented adequate arrangements for LC4 for the areas inspected and therefore an IIS rating of **green** was appropriate.

LC35: Decommissioning

8. This Inspection was carried out against Licence Condition 35 (Decommissioning). The purpose of this licence condition is to ensure that the licensee has adequate arrangements and programmes for decommissioning of nuclear plant on the licensed site.

9. The inspection involved the site inspector and a specialist inspector and provided ONR with a greater understanding of the development of and progress against EDF Energy Nuclear Generation Ltd (EDF) transition plans for Hinkley Point B towards defuelling and decommissioning, the appointment of staff to transition roles and the immediate work priorities being implemented at the station and EDF's corporate centres.

10. The station demonstrated a good understanding of what work is required to prepare for end of generation (EoG), defuelling and decommissioning. From this inspection there were no findings that could significantly undermine nuclear safety. Therefore a rating of **green** against LC35 is merited

Conventional Asset Care

11. This inspection was one of three planned at different EDF sites. The aim of the inspection was to ensure the duty holder has adequate arrangements for managing its higher hazard conventional risks. The inspection involved two site inspectors and two specialist inspectors and covered areas such as hydrogen and methane storage as well as bulk chemical storage.

12. The inspection found that in general conventional hazards are well managed, but we did identify two shortfalls that required regulatory issues to be raised. The first related to compliance with the Dangerous Substances and Explosive Atmosphere Regulations 2002 (DSEAR), where the duty holder had revised the zones where an explosive atmosphere risk existed, but had not taken action to reduce the risk within these areas by diverting walkways and removing ignition risks. Action had been taken to divert walkways before we left the site, however it is important that work is taken to reduce the risk further. The second relates to a surface defect on a bulk ammonia storage tank, which could not be assessed from the ground level. Since the inspection the duty holder has provided evidence that the damage only relates to the surface of the tank, which is due for statutory maintenance in July 2020, where this issue will be addressed.

13. Based on the sample inspected, I rated the inspection as **green** – no formal action. We considered an amber rating due to the DSEAR issue, however we took account of the short timescale since the change in zone size and the current work that was in progress to address the risks. Progress will be monitored through the regulatory issue that was raised to ensure that the relevant changes are made to ensure the requirements of DSEAR are complied with.

System Based Inspections (SBI)

14. In addition to our compliance inspections based on the conditions attached to the nuclear site licence, ONR inspectors also inspect 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 approximately thirty 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 believes that this will provide more robust assurances of the site's safe operation and how the safety case is being implemented. Each of these system based 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 (if applicable): Leakage and escape of radioactive material and radioactive waste

15. In this period one system based inspection (SBI) was carried out:

Fuel Assemblies (SBI 12-16)

16. The aim of this inspection was to confirm that fuel receipt, storage, handling, in-core condition monitoring and refuelling requirements of the safety case, with their associated operating instructions and maintenance schedule, are met. This inspection is part of a new approach which uses a larger multi-disciplinary inspection team to look at a broader selection of related systems. The inspection scope covers the scope of five previous systems based inspections. The expected benefit is that interfaces between systems will receive greater scrutiny.

17. We identified a number of minor shortfalls relating to procedure use and adherence. Individually, and considered in isolation, there is no evidence that these minor shortfalls have resulted in any effect on nuclear safety. However, given the number of instances and the range of systems affected, we consider these shortfalls may be indicative of a broader and systemic issue with procedure use and adherence. An ONR level 4 regulatory issue has been raised to monitor NGL's activities in addressing these issues and any underlying causes.

18. A separate Regulatory Issue has been raised in relation to the application of foreign material exclusion within the new fuel inspection facility. Foreign material exclusions controls are required in certain areas to prevent proscribed materials entering the fuel route.

19. Overall we judged that the arrangements for the receipt, inspection, assembly, and refuelling of reactor fuel assemblies met relevant good practice and we consider that HPB has adequately implemented those safety case claims that relate to the areas of the fuel route front inspected. Therefore we have given this intervention a rating of green no formal action in relation to compliance with LCs 10, 23, 24, 27 and 28. LC34 was not applicable to this inspection.

2.2 Other work

20. No other relevant planned work was carried out this quarter.

3 NON-ROUTINE MATTERS

21. 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.

22. During this period EDF shut down reactor 3 due to a leak on their fire fighting system. The requirement is to safely shut down the reactor within 4 hours of the fire fighting system becoming unavailable and EDF achieved this within 3.5 hours. It should be noted that whilst a reactor can be shut down more quickly, this introduces other hazards, which is why a more controlled shutdown is required by this fault condition. An operational Alert was declared which resulted in the Emergency Control Centre (ECC) being manned to support the local response. The ONR Site Inspector was on-site when this occurred and observed the ECC and concluded that the duty holder had responded appropriately to the

event. Work has continued to identify the location of the leak, determine the extent of condition and to make the necessary repairs. ONR is continuing to monitor the progress being made to repair the leak in the fire fighting system and the reactor will remain safely shutdown until the location of the leak has been identified and any necessary repairs have been completed.

23. During the period the duty holder informed ONR of two issues with the safety case for the reactors:
    a. The first was where the risk from the decay heat system could impact on the safety of other systems. Although the frequency and likelihood of this occurring is low, as required the site entered their Safety Case Anomalies Process and produced an Interim Justification for Continued Operation, which resulted in the isolation of the decay heat system to remove the risk. The unavailability of the decay heat system is allowed under the safety case for operations and shut down, but is required to be in operation for start-up of a reactor. Work is on-going to design and fit protection against the potential fault identified. ONR is continuing to monitor progress to ensure this is issue is resolved before the start-up of the reactor.
    b. The second was where the risk from operation of the Irradiated Fuel Dismantling Cell may be higher than currently assessed. The duty holder embargoed use of the facility until a modification has been put in place to reduce the risk so far as is reasonably practicable. Although the risk increase is small it has the potential to take the overall risk into a region where action is required to reduce the risk. I consider the duty holder decision to embargo the use of the cell as an appropriately conservative decision.

24. Following on from the injury to a contractor reported in the last Site Report, ONR carried out further follow up enquiries with EDF in relation to the Construction (Design and Management) Regulations 2015 (CDM 2015). We found shortfalls with the way in which EDF carried out its duties as both Client and Principal Contractor under the regulations, including the absence of a construction phase plan. We determined, after consideration of the ONR Enforcement Management Model, that formal enforcement action was appropriate against the EDF corporate centre and this is outlined below.

4 REGULATORY ACTIVITY

25. 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. One licence instruments was issued during the period.

26. During the period an enforcement letter was sent to EDF Energy Nuclear Generation Ltd following further enquiries into the construction accident at Hinkley Point B (HPB) where a contractor was injured. The letter required EDF to take a number of actions to bring themselves into compliance with the roles they held as both Client and Principal Contractor under the Construction (Design and Management) (CDM) Regulations 2015. In particular, they were required to strengthen their health and safety management, monitoring and oversight arrangements of the construction work at HPB and also to conduct a review into their CDM 2015 health and safety arrangements for future similar construction work. As with all enforcement letters ONR will monitor progress on addressing the shortfalls to bring them back into compliance with the CDM regulations.

4.1 Licence Instrument 562 – Specification to submit HASS returns to ONR

ONR previously issued Specifications requiring the submission of high-activity sealed source (HASS) records to ONR for movements of HASS on an annual basis. As part of implementation of the Basic Safety Standards Directive (Council Directive 2013/59/Euratom of 5 December 2013) in the UK, ONR issued new HASS Specifications to reflect changes in the Directive and corresponding UK legislation and these superseded the previous Specifications.

For sites in England and Wales, the new Specifications require that movements of high-activity sources (as defined in Schedule 23, Part 5, section 1, paragraph 1 of the Environmental Permitting (England and Wales) Regulations 2016 and which are exempted under Schedule 23, Part 2, paragraph 13 of those Regulations) onto and off the site are notified to ONR without undue delay and in any event within 40 calendar days of the movement. Additionally, confirmation of all HASS holdings on site should be provided every five years beginning in January 2024.

Furthermore, since the activity levels defining HASS have changed for some radionuclides and that under the new definition of HASS, a source is now no longer considered HASS once its radioactivity decays below the relevant HASS activity level. The Specification requires licensees to notify ONR of any changes to HASS holdings as a result of these legislative changes within 40 calendar days. When a source decays below the relevant HASS activity level in the future, licensees must also notify ONR of this within 40 calendar days, in accordance with the new Specification.

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

27. Date	Type	Ref No	Description
9 Jan 2020	Specification	LI 562	Specification to submit HASS returns to ONR

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

5 NEWS FROM ONR

Below are summaries of key activities over the last three months. Further detail is available on our website.

5.1 Covid-19 (Coronavirus) (ONR position)

28. ONR is continuing to protect society by securing safe nuclear operations during the Coronavirus pandemic. ONR staff continue to work from home, in line with government advice. We have considered our priorities, have deferred non-critical activities, and are carrying out as much of our work as possible via videoconference, phone and email. Our regulatory focus includes assurance, where appropriate, from site licensees that they are applying the public health measures introduced to reduce the spread of coronavirus. A limited number of our inspectors can, as key workers, continue to travel to site as necessary to conduct urgent and essential regulatory inspections. Nuclear sites have been reducing non-essential activities so as to protect staff, infrastructure, and the public. As always, we are regulating those activities to ensure they are carried out safely and securely. ONR's latest position can be found on our website.

5.2 Enforcement Action

29. ONR served an Enforcement Notice on Urenco UK Ltd following a fire safety inspection at its Capenhurst Works in Cheshire during December 2019. The notice was issued in response to shortfalls identified in the fire alarm and detection systems at one of the site's facilities.

30. In February ONR announced that Sellafield Limited had complied with an Improvement Notice[1] relating to staff training, operating procedures and procedural adherence that they were served with in May 2019.

5.3 Regulatory Updates

31. In January ONR published an update to its Safety Assessment Principles , to incorporate some relatively minor revisions including typographical corrections and updates to reflect changes to the UK's nuclear regulatory framework since 2014.

32. In February ONR completed Step 3 of the Generic Design Assessment (GDA) of the UK HPR1000 design, and took the decision to progress to Step 4 of the GDA. During Step 3, ONR increased its regulatory scrutiny and undertook a more detailed assessment of the design, focusing on the methods and approaches used by the GDA Requesting Party to underpin their safety and security claims.

33. In March we published the Quarterly Statement of Civil Incidents for the period 1 October to 31 December 2019. During this reporting period there were two civil incidents at nuclear licensed sites within Great Britain that met the Ministerial Reporting Criteria as defined within the Nuclear Installations (Dangerous Occurrences) Regulations 1965 and ONR guidance in relation to notifying and reporting incidents and events.

5.4 Stakeholder Engagement

34. On 15 January ONR launched a four-week public consultation on its draft 2025 Strategy. Once agreed, the strategy will set our direction and priorities for the next five years. To support the public consultation we held a webinar for NGOs and other stakeholders in which our Chief Executive, Adriènne Kelbie, and Technical Director, Anthony Hart, gave an overview of the strategy and welcomed questions and comments. The strategy is due to be published in May 2020.

35. In January, ONR achieved Level 3 Disability Confident (Leader) status, recognising our desire to put people first and create an environment in which everyone can thrive. The government-backed scheme encourages employers to think differently about disability and take action to improve how they recruit, retain and develop disabled people.

36. In February, we announced the appointment of two new members to the ONR Board. Dr Janet Wilson took up the appointment on 1 April 2020 and Tracey Matthews will take up her appointment on 1 June 2020 – both appointments are for five year terms.

37. In February more than 70 stakeholders involved in the transport of radioactive material attended a conference organised by ONR's Transport Competent Authority (TCA) team. The event provided a good opportunity for the TCA team to share their expectations on compliance with regulations governing the transport of radioactive material.

6 CONTACTS

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