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

Report for period 1 October to 31 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 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.

TABLE OF CONTENTS

1 INSPECTIONS

1.1 Dates of inspection

1. The ONR site inspector made inspections on the following dates during the report period:

   - 14 October 2020
   - 27 – 28 October 2020 (Joint inspection on waste with Environment Agency)
   - 19 November 2020 (LC36 – remote)
   - 1 December 2020 (LC11 inspection)
   - 16 December 2020

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

   - 19 November 2020 (LC36 – remote)

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>LC32: Accumulation of Radioactive Waste</u>

6. This inspection was carried out against Licence Condition 32 (Accumulation of Radioactive Waste). The purpose of this licence condition is to ensure that waste accumulations are minimised and any waste is stored in a suitable condition.

7. The site was broadly complaint with the requirements of LC32. Waste accumulations are controlled and the majority of waste has clear disposal routes, which are being utilised, however we concluded that there was a lack of understanding by staff on the site of the assumptions and basis of the safety case. This knowledge resides within EDF, but within a central team. The Living Safety Case should be updated to ensure that the basic assumptions are clear to the user and that any changes to the way the facility operates have been appropriately assessed. This has been raised as a formal level 4 issue. It is also

recommended that the link between the authors and the operators is improved. I am satisfied that an IIS rating of **green** against LC32 is merited.

LC36: Organisational Capability

8. This inspection was carried out remotely with a review of documents and skype interviews with site personnel.

9. Overall we judged that there were effective processes in place to manage and monitor human resources and organisational change. We identified a number of good practices, as well as some opportunities where we believe the station can improve its effectiveness. We have raised one formal level 4 Regulatory Issue to ensure that the Station's nuclear baseline organisation is fully justified where it exceeds that specified in the AGR Model Organisation. I am satisfied that an IIS rating of **green** against LC36 is merited.

LC11: Emergency Arrangements

10. This inspection was started in the previous quarter and completed in this quarter. The inspection was carried out remotely, with one visit to site to inspect emergency response facilities.

11. The aim of this inspection was to demonstrate that the emergency arrangements for the site were supported by availability of adequate numbers of Suitably Qualified and Experienced (SQEP) responders and equipment.

12. The site was able to demonstrate that there were sufficient number of suitably trained staff to respond to an emergency. They were also able to demonstrate that they were looking forward, with the potential for staff to move to HPC or retire, and ensuring there will be a 'pipeline' of staff being trained to maintain sufficient SQEP role holders.

13. I sampled the Access Control Point (ACP) and the First Aid area against the EDF check sheet. I found a number of items that were missing or out of date. Most significant of these was the emergency lighting units in the ACP.

14. With the exception of the above, the site was broadly compliant with the requirements of LC11 sampled. The licensee had implemented adequate arrangements for the availability of suitably trained staff for emergency response purposes. A level 4 issue will be raised to address the shortfall in provision of equipment in the emergency response facilities. I am satisfied that an IIS rating of **green** against LC11 is merited.

System-Based Inspections

15. 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

16. In this period no system-based inspections (SBI) were carried out.

2.2 Other work

17. Because of the ongoing coronavirus pandemic risks during the reporting period, visits to site remain significantly reduced, except where an activity cannot reasonably be completed remotely. The site inspector continued to work remotely to monitor the performance of the site by:

    a. Maintaining increased dialogue with site management and the licensee's independent nuclear safety assurance function to develop a consistent picture of the measures put in place to manage the safety of both the workforce and the plant.
    b. Observing the meetings and working groups the licensee established to assess the coronavirus pandemic and manage the response, including the site pandemic working team meeting (which maintained and overview of 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).
    c. Monitoring the minimum staffing levels required to deliver an adequate response in the event of an accident or emergency on the site.

18. Consequently, 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

19. 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.

Back Up Feed System Tank

20. In November EDF reported that, as part of a planned inspection of the Back Up Feed System (BUFS) tank 2, it was identified that an internal weld had been ground back in places during construction to less than modern design codes allow.

21. The station has sought expert advice on the implications of this, assuming that both the BUFS tanks have a similar issue, and concluded that whilst both reactors were shutdown the impact on safety during a seismic event was acceptable.

22. ONR specialist inspectors have considered the current judgements made by EDF and have concluded that they are reasonable, based on the return to service dates at the time. ONR specialist inspectors continue to be engaged with the licensee to establish the adequacy of their proposals for the work required on the BUFS tanks prior to return to service of either reactor

Control rod

23. In December EDF reported that a control rod failed during routine maintenance. The control rod had been removed from the reactor and was undergoing 'incoming' tests in the Active Maintenance facility when it failed. The failure occurred when an operator used the in cell manipulator to straighten one of the joints. This resulted in the bottom section of the control rod becoming detached and dropping into the storage tube.

24. Initial inspections have concluded that the failure was due to corrosion, with the likely cause to have been a manufacturing error. Video evidence of previous control rod removals have been examined and no other examples of corrosion have been identified. EDF are preparing a case to demonstrate that the reactors will be safe to re-start and ONR specialists are engaging with this process.

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.

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

Date	Type	Ref No	Description

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

5 NEWS FROM ONR

5.1 COVID-19

We are continuing to obtain assurance that nuclear site licensees and other dutyholders 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 dutyholders' 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.
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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.

5.3 Regulatory updates

In October, we 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.

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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 dutyholders 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.
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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.
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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.
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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.
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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.”

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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.

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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.”

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Published 10/20