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

Report for period 01 January 2014 to 31 March 2014

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 Hunterston Site Stakeholder Group [SSG] and are also available on the ONR website (http://www.onr.org.uk/llc/).

Site inspectors from ONR usually attend Hunterston SSG meetings and will respond to any questions raised there. Any person wishing to inquire about matters covered by this report should contact ONR.

ONR is changing

On 1 April 2014, the ONR was established as a Public Corporation under the Energy Act 2013. The Energy Act 2013 sets out the legal framework for regulation of GB nuclear sites by the ONR. In addition, the ONR has the powers to regulate conventional health and safety on GB nuclear sites. ONR now has its own logo, which will be used on all documents and other external communication media. Other notable changes include a new website and publication of an Annual Plan for 2014/15.

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1 INSPECTIONS

1.1 Dates of inspection

1. The ONR nominated site inspector made inspections, supported in each instance by specialist inspectors, on the following dates during the quarter:

   14 – 16 January 2014
   11 – 13 February 2014
   04 – 06 March 2014

2. A joint nuclear safety – radioactive materials transport inspection was undertaken on 16 January 2014.

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 [although the Energy Act acquired Royal Assent in December 2013, inspectors did not commence regulation under that Act until 01 April 2014.
   - 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).

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 (site/station) covered the following:

   - training;
   - operating rules;
   - incidents on the site;
   - operating instructions;
   - organisational capability
   - radiological protection
   - safety mechanisms, devices and circuits;
   - examination, inspection, maintenance and testing;

- leakage and escape of radioactive material and radioactive waste
- duly authorised and other suitably qualified and experienced persons;

6. 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.

7. In April 2013, the Civil Nuclear Reactor Programme (CNRP) started to change the way it inspects nuclear power stations. In addition to our compliance inspections based on the conditions attached to a licence, ONR inspectors are now inspecting the operating reactors based on 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 (six per year). ONR believes that this will provide more robust assurances of the site's safe operation and how the safety case is being implemented.

8. During this quarter ONR undertook a Systems Inspection of the Fuel Maintenance Facility [including the plug unit storage bay]. Inspectors judged that this system met the requirements of the safety case, and compliance with associated Licence Conditions was judged adequate.

9. Reactor 3 has operated at its nominal full load and no significant safety issues have been reported to the ONR. ONR specialists have continued to undertake early engagement with Hunterston B on its forthcoming plans to recover a stuck fuel stringer from Reactor 4 during the statutory outage that will commence on 01 August 2014.

2.2 Other work

10. The nominated site inspector held a periodic meeting on 13 February 2014 with safety representatives to support their function of representing employees and receiving information on matters affecting their health, safety and welfare at work.

11. The nominated inspector attended the joint Hunterston A and Hunterston B Site Stakeholder Group meeting held in Ardrossan on 06 March 2014.

3 NON-ROUTINE MATTERS

12. 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.

13. Hunterston B has two Advanced Gas-Cooled Reactors with a maximum thermal output of approximately 1660MWth. Following the discovery of defects in a number of boiler components in 2006 the thermal output of each reactor was limited by restricting the temperatures to components at the top of the boilers (called the bifurcations) to 480ºC. This temperature restriction has had the effect of reducing defect growth (degradation) within the boilers to minimal levels and permitted continued operation. In addition to

changes to operating conditions, plant modifications have, or are, being introduced to mitigate the effect of boiler tube failure. At each statutory outage, to secure operation for a further three years, extensive inspection and repairs (if necessary) are also undertaken.

14. ONR has monitored the repairs and improvements introduced by EDF NGL confirming that these have been managed in a satisfactory manner. This work has culminated in a recent safety case which revised the boiler operating envelope and which formally limits the thermal output of each reactor to a maximum of approximately 1340MWth (~ 80% of its design output), whilst maintaining the 480ºC bifurcation limit. Introduction of this case has allowed the Licensee to benefit from a small increase in electrical output. Whilst there is a resultant power increase there is no adverse impact on nuclear safety and minimal change to operating limits. Modifications, inspection and repair strategy are unaffected.

15. On 7 March 2014 Reactor 4 underwent a forced outage during which the licensee recovered debris that arose from the failure of Turbine Generator 8 Main Boiler Feed Pump 2nd stage impeller. Given the planned nature of the outage and its limited scope, ONR did not inspect or require formal permissioning for return to service on 22 March 2014.

4 REGULATORY ACTIVITY

16. ONR inspectors, specialist inspectors and HSE inspectors 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.

17. No Licence Instruments or Enforcement Notices were issued during the period.

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

Date	Type	Ref No	Description
	None issued		

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

5 NEWS FROM ONR

18. Insight into ONR's work as an independent regulator of the nuclear industry can be found in ONR's Quarterly News. The online publication (http://www.onr.org.uk/onr-quarterly-report.htm) reports on the key themes and developments in each of ONR's regulatory programmes and provides an update about the ongoing changes at ONR. http://www.onr.org.uk/index.htm. For the latest news and updates from ONR visit the website and sign up for our ebulletin (http://www.onr.org.uk/ebulletin/index.htm).

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