



Office for Nuclear Regulation (ONR) Quarterly Site Report for Wylfa Power Station

Report for period 1 July – 30 September 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 Wylfa Site Stakeholder Group and are also available on the ONR website (<http://www.onr.org.uk/lrc/>).

Site inspectors from ONR usually attend Wylfa Site 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.

TABLE OF CONTENTS

1	INSPECTIONS	3
2	ROUTINE MATTERS	3
3	NON-ROUTINE MATTERS	6
4	REGULATORY ACTIVITY	7
5	NEWS FROM ONR	8
6	CONTACTS	9

1 INSPECTIONS

1.1 Dates of inspection

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

20, 21, 22, 23, 24 July 2015
10, 11, 12, 13, 14 August 2015
21, 22, 23, 24, 25 September 2015

The ONR transport inspector made inspections on 2 and 3 September 2015.

The ONR radiation protection inspector made inspections on 11 and 12 August 2015.

The emergency exercise review meeting and regulatory liaison meeting were attended by the ONR site inspector, ONR fire safety inspector on 15 and 16 July 2015

The ONR fire safety inspector made an inspection on 21 July 2015.

The ONR's acting Chief Executive visited site on 27 July 2015 and was supported by the ONR site inspector.

The ONR site inspector and a number of ONR specialist inspectors attended a meeting on 28 July 2015 at which Magnox Ltd presented its strategy for transition to defueling operations.

The DWP Minister for Disabled People visited site on 5 August 2005 and was supported by the ONR site inspector and ONR sub-programme lead for the Magnox sites.

The Wylfa/Trawsfydd Emergency Planning Consultative Committee (EPCC) was attended by the ONR site inspector and ONR fire safety inspector on 16 September 2015.

ONR electrical inspector and ONR Control and Instrumentation (C&I) inspector met with Magnox Ltd on 23 September to discuss specific aspects of the changes required for the transition to defueling operations.

2 ROUTINE MATTERS

2.1 Inspections

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 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.

In this period, routine inspections of (site/station) covered the following:

Examination, maintenance, inspection and testing;
Management of operations including control and supervision;
Staff training, qualifications and experience;
Modifications to plant, equipment and safety cases;
Emergency preparedness;
Radiological protection;

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.

Safety System Inspections

ONR includes inspections of the systems that contribute to the safety of operating reactors in addition to compliance inspections based on the conditions attached to the nuclear site licence. The nuclear site licence requires that all licensed sites must have a safety case in respect of any operation which may affect safety. For the Magnox reactor that remains in operation at Wylfa power station, 30 systems have been identified to provide the basis for inspecting safety systems to ensure they meet the claims made on them by the safety case. The intention is to inspect systematically over a five year cycle all of the safety related systems identified for the site. ONR considers that this approach will provide the necessary level of assurance that the requirements of the safety case are met and the site is being operated safely.

This quarter the safety systems inspected were the High Voltage systems and Emergency Boiler Feed system. On the basis of the inspections, the systems were deemed to be operated and maintained in accordance with the requirements of the station safety case. Where areas for improvement were identified, station undertook to take appropriate action to address them. ONR will monitor progress to complete the agreed work.

Further details of ONR's system inspections at Wylfa power station and other nuclear licensed sites can be found at: <http://www.onr.org.uk/intervention-records/index.htm>

Ionising Radiations Regulations Inspection

This inspection was undertaken to sample the licensee's compliance with its requirements under the Ionising Radiations Regulations (IRR) 1999. It was concluded, from the totality of the information received during this intervention, that the licensee is meeting its legal obligations under IRR 1999 and in some cases ample evidence was provided to demonstrate it is exceeding these obligations. Its processes for dose estimation, control and reduction etc are clearly mature and well exercised. It is the licensee's clear intention to maintain all of these processes as it changes from power generation to reactor defuel. Another IRR inspection will be conducted during the early defuel period to ensure this is being achieved in practice.

Transport Inspection

ONR Transport inspected the Magnox Wylfa Site in relation to the safe transport of radioactive material. The ONR Transport Inspector sampled the transport arrangements deployed by Wylfa for the safe transport of radioactive material, including the associated management system documents. Not all areas of Magnox Limited's Management System were sampled during this inspection, but those documents that were inspected indicated a mature system for off-site transportation of radioactive material. It is the opinion of the ONR Inspector that the transport arrangements employed by Wylfa for radioactive material are being implemented as intended. In conclusion, the arrangements employed at Wylfa in relation to the transport of radioactive material are considered acceptable for the purposes of compliance with the requirements of the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (as amended 2011).

Post Generation Defueling Safety Case (PGDSC)

This meeting was arranged to provide ONR specialist inspectors with an overview of the PGDSC and familiarisation with the planned implementation and subsequent transition to defueling operations. The meeting provided a valuable engagement between ONR and Magnox Ltd giving specialists from both organisations the opportunity to identify areas of potential regulatory interest. The information provided will be used to develop an outline approach for undertaking the assessment of relevant safety case documentation and inspection of planned modifications in support of permissioning the change from generation to defueling operations.

Management of Fire Safety

A meeting was held at Wylfa aimed at assessing the progress against a long standing and on-going project designed to replace and upgrade the emergency lighting across the entire site, to assess the controls being proposed to allow the commencement and implementation of the DSC4 project, and to assess the management of fire safety across the site including the preparation of a fire safety strategy for the decommissioning phase of the site's life cycle. Magnox Ltd was advised that the progress of the emergency lighting system upgrade be given serious consideration. In particular the fact that the areas still to be upgraded should be considered to be particularly vulnerable due to the inability to adequately maintain them due to obsolescence issues.

A number of examples of issues that demonstrate the risk that exists due to the lack of ownership of the Fire Risk Assessment (FRA) were identified. Magnox Ltd has been advised that it is necessary that a suitably responsible person relevant to the building/facility is cognisant of the content and expectations of the findings of the FRA for that building.

The requirement for the management and control of fire safety will remain when the site enters into a post generating phase of operations. Adequate resources will be required to ensure that the expectations of the relevant regulations are achieved. ONR has recommended that the site should commence preparation of a decommissioning phase fire safety strategy.

Electrical, Control and Instrumentation Meeting

The purpose of this meeting was to monitor progress against the actions taken by Magnox Ltd to address electrical, control and instrumentation (E,C&I) modifications to support: i) post generation and defueling plant configuration changes, and ii) E,C&I staffing capability to meet the defueling phase requirements. Overall, progress with the electrical aspects was considered to be satisfactory at this stage. Further interventions in this area are planned for later in the year in support of permissioning the transition from generation to defueling.

2.2 Other work

ONR Acting Chief Executive– Site Visit

As part of the Acting CE's programme of licensee engagement, a meeting and site visit was arranged to provide an overview of Magnox Ltd's current and future operations at Wylfa. The visit provided evidence of the demonstrable knowledge, competency and eagerness to continue a high standard of nuclear safety during the short period of generation remaining at the site. ONR's acting CE confirmed that the visit provided a clear demonstration that the site is well managed, safely operated and competently staffed.

DWP Minister for Disabled People – Site Visit

ONR staff accompanied Government Minister Justin Tomlinson MP to Wylfa power station. Mr Tomlinson is the DWP Minister responsible for ONR. The visit provided an opportunity to explain various aspects of generation, preparation for and removal of nuclear fuel from site and transition to decommissioning, the new reactor build and its interaction with the existing site and resourcing of these activities.

Regulatory Liaison Meeting

ONR inspectors attended a meeting to allow representatives of authorities exercising regulatory powers on the Wylfa site to discuss matters of mutual interest with station counterparts. The meeting was attended by representatives from the station, Magnox Limited, Natural Resources Wales, Environment Agency, ONR security and ONR safety inspectors. The meeting provided a useful opportunity for regulatory authorities to meet site representatives and identify any areas where interaction might be improved. ONR will continue to monitor station's safety performance, and liaise with other regulatory organisations as necessary.

Wylfa and Trawsfydd Emergency Planning Consultative Committee

The ONR Site Inspector and ONR Fire Safety Inspector attended a meeting of the station emergency planning consultative committee. The meeting provided an opportunity for ONR to observe the business of the meeting, and answer questions relating to regulation of emergency arrangements at Wylfa power station.

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.

Matters and events of particular note during the period were:

Gas Circulator Trip

During routine checks on one of the Gas Circulator systems some of the supporting plant items did not operate as expected. Of significant concern was the fact that the Gas Circulator main motor did not trip when it should.

This incident was discussed with site Engineering Manager who has confirmed that it had been reported due to uncertainty over details surrounding the trip. Further investigation has confirmed no safety significance related to the incident and that safety function could and would have been delivered on demand. Based on this information the conservative decision of reporting to ONR appears sensible but following investigation by Magnox Ltd, the incident is unlikely to meet regulatory reporting criteria. No further action was proposed.

Low Flying Aircraft

One low flying aircraft flew over the Site. Due to the loud noise and vibrations it was believed that this may have been at or under the flying limit for the site.

This incident was discussed with the Wylfa engineering manager. Magnox Ltd has reported the incident to the MOD at RAF Valley. Past experience suggests no response is expected from MOD. No further action was proposed.

Wylfa Euratom Inspection – Undeclared Items

During a Euratom inspection of radioactive sources with nuclear material it was discovered that there were two items that were not declared to Euratom but should have been as they contained nuclear material. Uranyl Nitrate and Thorium Nitrate were both being held in the redundant bonded source store. The inspector requested these items be reported in the next Inventory Change Report as accidental arisings. Note: These items were known but not previously declared.

This incident relates to another find of nuclear material. About a year ago Wylfa reported the find of some small radioactive sources. These were brought onto the inventory. Euratom wanted to verify these sources during the recent Physical Inventory Verification. During this verification the Euratom inspector found another two items in the source store cupboard. Subsequent investigation of source stores inside and outside the reactor building has not found any other undeclared items.

Euratom Monthly Report

During the preparation of the annual Euratom Material Balance Report (MBR) an error was discovered and traced back to double accounting of 60 elements of Reverse IRX (RIRX) fuel discharged as part of the Reactor 2 defueling trial. These were erroneously included in the declarations for both Reactor 1 and Reactor 2 on the April 2015 Inventory Change Report (ICR).

60 Inter Reactor Exchange (IRX) elements that were discharged from Reactor 2 in April 2015 were found to have been double accounted for, having previously been through Reactor 1. This resulted in the FRS duplicating the burn-up and Pu isotopic content to these elements (the system had not considered that the fuel elements when discharged from Reactor 1 should have been flagged as spent fuel and not Reverse IRX (RIRX) that then later went through Reactor 2). A correction was applied to the formal safeguards reports in July 2015 (deletion of the double accountancy lines). Any similar accountancy error with the remaining IRX/RIRX fuel (of which there are understood to be 57 channels) will not occur in the future as, once generation has ceased, all fuel elements on site will be category changed to irradiated (even those elements that are only contaminated but still destined for shipment to Sellafield).

This incident is an addition to the problems that have been identified previously with the FRS, however, to date there has been no formal response from Euratom.

Fuel Transfer Machine Interlock

The interlock device which prevents operation of the Transfer Machine, whilst the access bridge is removed, was found detached. This could potentially allow the Transfer Machine to be driven over the open void once the bridge is removed.

This incident was reported towards the end of September 2015 and an investigation by Magnox Ltd is ongoing. Wylfa's Engineering Manager has confirmed that this is considered to be a serious matter and will keep ONR informed of the findings. ONR will consider whether further regulatory action is required following receipt of Magnox Ltd's investigation report.

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 LIs or Enforcement Notices were issued during the period.

5 NEWS FROM ONR

Retirement of the Chief Nuclear Inspector

Dr Andy Hall, the first Chief Nuclear Inspector to hold this statutory office, announced his decision to retire from ONR in November 2015 and until his retirement he is taking a period of compassionate leave for personal reasons. The ONR Board, with the approval of the Secretary of State, has appointed Dr Richard Savage as Acting Chief Nuclear Inspector, pending a process to fill the role on a permanent basis. Richard was previously Head of the Defence Nuclear Safety Regulator before joining ONR in his current role as a Deputy Chief Nuclear Inspector.

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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