



**Periodic Safety Review**

**ONR Assessment of the Dungeness A Site Decennial Periodic Safety Review  
Submission**

Project Assessment Report ONR-SDFW-PAR-18-049  
Revision 0  
26 March 2019

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## EXECUTIVE SUMMARY

### Title

ONR Assessment of the Dungeness A Site Decennial Periodic Safety Review Submission.

### Permission Requested

This report outlines ONR's assessment of Magnox Limited's (ML) decennial Periodic Safety Review (PSR) for Dungeness A and sets out the regulatory justification for recommending the issue of an ONR Decision Letter to confirm support to a further period of decommissioning operations.

### Background

It is a requirement for licensees to carry out a periodic and systematic review and reassessment of safety cases to comply with Site Licence Condition (LC) 15: Periodic Review. The purpose of the review is to determine:

- The degree to which the safety case conforms to modern standards and relevant good practice.
- The degree to which the safety documentation addresses the remaining life of the facility, taking into account changes in plant status through operations and decommissioning.
- The adequacy of arrangements in place to maintain safety until the next PSR.
- Whether any reasonably practicable safety improvements can be implemented to resolve any identified safety issues.

This is achieved by the licensee reviewing the previous ten years' operations together with considering any changes in activities that may impact on nuclear safety over the next ten years. The review takes into consideration conformance with modern standards and potential impact of ageing and obsolescence. ML submitted its PSR documentation to ONR in May 2018.

### Assessment and inspection work carried out by ONR in consideration of this request

ONR carried out a detailed assessment of the Dungeness A PSR and the licensee's underpinning assessments. The ONR assessment was based on:

- Requirements set out in ONR's Nuclear Safety Technical Assessment Guide for Periodic Safety Review (NS-TAST-GD-50)
- Adherence to relevant good practice as set out in ONR's Safety Assessment Principles for Nuclear Facilities.

Individual specialist assessments were carried out on the following topic areas:

- Civil Engineering and Structures
- Structural Integrity
- Electrical, Control and Instrumentation
- Radiological Waste
- Radiological Protection
- Mechanical Engineering

The scope of ONR's assessment was proportionate to the hazards as for all faults assessed in the PSR, the radiological consequences to the public are shown to be extremely low and the most hazardous worker fault has a maximum consequence of 2.5 mSv, which is well below the legal annual dose limit (20 mSv).

### Matters arising from ONR's work

ONR's assessment of the Dungeness A PSR and the underpinning technical assessments found that the re-assessment of the site's safety case had been undertaken by the licensee in a structured and systematic way however, a review of the degradation of some of the plant

structures and components that support the confinement of radioactive material is absent. ONR considers that as the condition of a decommissioning site progressively deteriorates over time, such a review should be undertaken to address the increasing hazard associated with degradation of structures which may adversely affect safety. The approach taken in this PSR however, is a reflection of the ML approach to undertaking PSRs extant at the time which focussed solely on nuclear risk.

The Periodic Safety Review (PSR) Outcome Report considered the Reference Safety Case which comprises the Re-baselined Facilities Safety Case (RFSC) and the Radioactively Contaminated Land Safety Case (RCLSC) and their implications for the period until the planned start of Care and Maintenance (C&M), with a further period of five years to 2034 to confirm the absence of any cliff-edge effects. The outcome from the PSR is reported in a series of Topic Reports (TR1 to TR8) following the standard ML approach.

No significant nuclear safety issues were identified by either the licensee or ONR in the assessments undertaken of the PSR. However, safety related matters were identified by ONR in relation to civil engineering, structural integrity and the wider radiological consequences of a failure of structures and components important to safety.

ONR considers that there has not been adequate inspection, testing and maintenance of some structures, nor is there a sufficient understanding of the prevailing degradation rates. This has manifested itself at the site with significant degradation of some of the civil structures which now require investment to ensure their safety through any extended period of C&M. Independent assessment has also concluded that remediation of the degraded civil structures is not ALARP and therefore a review of the published deferred decommissioning strategy for the site is needed, together with an implementation plan to address any required actions.

The ONR assessment also concludes that Reference Safety Case does not provide a complete justification for safe management of radioactive waste and the site integrated strategy for waste management is in need of review against any changes in site decommissioning strategy, including continued use of the temporary ILW store.

Given that the ML approach to PSR excludes consideration of conventional health and safety and significant safety related challenges have been raised by ONR (and subsequently recognised by ML), ONR considers that ML should review its approach to PSR generally, such that safety is considered in a wider, more holistic way, not just in relation to nuclear safety.

The licensee's PSR identified no significant safety shortfalls or findings, however 27 observations were made and the licensee has closed all but one of these out by the end of March 2019. The remaining action was committed to be closed by the end of May 2019. During ONR's assessment, the licensee responded to queries raised by ONR, in some cases this required additional dialogue and explanation of the licensee's safety case process. One Finding and eleven Recommendations have been raised by ONR and these have been fed back to the licensee and an agreement has been reached on a way forward, giving rise to seven actions. These include the requirement for the licensee to prepare a discrete document setting out the safety justification for long-term storage of radioactive waste within the safe stores, updating the LC 35 milestone plan to take account of the planned large scale demolition of the annexes, boilers and drum houses, and a firm commitment to implement an asset inspection programme. Closure of these actions will be monitored through raising a regulatory issue and subsequent routine regulatory activities

## Conclusions

ONR considers that the licensee has carried out an adequate programme of work which includes:

- A PSR of Dungeness A Site's Safety Case,
- An additional assessment of the condition of the structural assets,
- Commitment to a programme of work to address the safety hazards associated with the degrading condition of the assets,

that justifies continued safe operation and C&M preparation activities up to 31 March 2029.

This is based on the assessments and findings of both ML and ONR supported by independent assessment by external contractors. No significant nuclear safety issues have been identified; however, ONR has identified seven issues which may have radiological and conventional health and safety consequences, though none of these pose an immediate risk to workers or the public. ML has given a commitment to address these safety shortfalls and those identified by its own assessments, which will be monitored by ONR.

### **Recommendations**

ONR issues a Decision Letter confirming the adequacy of ML's Dungeness A PSR submission and associated improvement programme to support continued operations on the site for the period up to 31 March 2029.

That ONR agrees timescales to address the outstanding ML PSR observations and to give consideration to the PSR recommendations through routine regulatory interactions.

## LIST OF ABBREVIATIONS

ALARP	As Low As is Reasonably Practicable
C&M	Care and Maintenance
DNA	Dungeness A
ILW	Intermediate Level Waste
INSA	Independent Nuclear Safety Assessment
LC	Licence Condition
MAC	Miscellaneous Activated Components
ML	Magnox Limited
NSC	Nuclear Safety Committee
ONR	Office for Nuclear Regulation
RCLSC	Radioactively Contaminated Land Safety Case
RFSC	Rebaselined Facilities Safety Case
RWMC	Radioactive Waste Management Case
PSR	Periodic Safety Review
RSC	Reference Safety Case
SAP	Safety Assessment Principles
SCC	Structures, Systems and Components
SFAIRP	So Far As Is Reasonably Practicable
TAG	Technical Assessment Guide

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Table 1: ONR Issues

## 1 PERMISSION REQUESTED

This report presents the Office for Nuclear Regulation (ONR) assessment of the Periodic Safety Review (PSR) for Dungeness A and sets out the regulatory justification for recommending the issue of an ONR Decision Letter to confirm that the Licensee, Magnox Limited (ML) has carried out an adequate PSR of the Dungeness A Site Safety Case for the period 2019-2029.

The requirement to carry out a PSR is set out under License Condition (LC) 15: Periodic Review. International standards (Ref. 1) recommend that the periodicity between PSRs should be 10 years. The scope of the Dungeness A PSR (Ref. 2) submitted to ONR by ML covers the last decade and considers operations from 2019 to 2029 with consideration given to a further five years to 2034 to confirm the absence of any cliff edge effects. The current strategy for site is similar to the other Magnox reactors in that they enter into a prolonged quiescent stage of Care and Maintenance (C&M) preceding final dismantling and site clearance. The PSR sought to provide assurance that facilities on the site will be capable of fulfilling their operational and safety functions for the next 10 years.

ONR's guidance (Ref. 3) states that the purpose of the PSR is to consider all factors that may affect the safety of the plant over its lifetime and can be summarised as follows:

- The degree to which the safety case conforms to modern standards and relevant good practice.
- The degree to which the safety documentation addresses the remaining life of the facility, taking into account changes in plant status through operations and decommissioning.
- The adequacy of arrangements in place to maintain safety until the next PSR.
- Whether any reasonably practicable safety improvements can be implemented to resolve any identified safety issues.

The regulatory process set out in Ref. 3 requires ONR to issue a statement in writing (a "Decision Letter") confirming its position on the adequacy of the Licensee's PSR submission. The Decision Letter is normally issued one year after the submission of the PSR. The duration of one year between PSR submission and issuing a Decision Letter is considered reasonable time to allow the Licensee to address significant safety findings identified in their review and to allow ONR to assess the submission in sufficient depth. The Decision Letter sets out any regulatory requirements from the assessment of the PSR.

## 2 BACKGROUND

The Dungeness A power station shut down in 2006. Defuelling the two reactors commenced following shutdown and the Site was formally declared fuel free in April 2012; thus removing 99% of the nuclear hazard. Other significant plant on site includes the Magnox Dissolution Plant, the Active Effluent Water Treatment Plant, Pond Water Filtration and Caesium Removal Plant and the Low Level Active Waste building.

The ML Integrated Decommissioning and Waste Management Strategy (Ref. 4) describes the current approach for decommissioning the site, which is one of deferred reactor dismantling. This will put the site into a quiescent period of C&M for many decades prior to final dismantling and site clearance. Within this overall strategy, the site is currently within the decommissioning stage with activities underway to prepare the site to enter C&M. The strategy describes how the Dungeness A reactor safe-store will be left with their boilers, ponds and reactor void Miscellaneous Activated Components (MAC) left in-situ with some risk based de-planting. Contaminated land, non-active drains and tunnels will also remain in-situ. The turbine hall and some redundant contaminated structures will be demolished to slab level and any voids filled in with spoil when available. Intermediate Level Waste (ILW) would be

packaged and sent for storage at the Bradwell Interim Storage Facility or elsewhere for disposal, or management as appropriate.

The PSR submission for Dungeness A was due to be submitted to ONR in March 2018 for assessment with a Decision Letter due by 31 March 2019. The Dungeness A (DNA) PSR was started several years before the submission date, in accordance with the ML arrangements and focussed on the nuclear risks arising from the site. The DNA site is in an advanced state of decommissioning and all the fuel and a significant proportion of the Intermediate level waste (ILW) has been removed from the site. Therefore, the nuclear risks are low and consequently the PSR submission reflected this in a submission with much reduced content over that of an operating nuclear facility.

Over the period since the previous PSR submission an issue has emerged whereby, because of the harsh environmental conditions, the site is experiencing accelerated rates of corrosion resulting in asset degradation. The situation was identified during site inspection in March 2017 by which time major parts of the reactor building structure and associated plant had degraded very significantly. Proposals for the demolition of these structures were in preparation at the time the PSR submission became due to be sent to ONR. However no mention of these matters was made in the PSR submission.

When the submission was sent to the Nuclear Safety Committee (NSC) for advice, the NSC did not approve it and advised that the situation regarding the asset degradation be included. The initial attempt to achieve this was also subsequently rejected as not being detailed enough. In order to prevent excessive delay disrupting ONR's assessment of the DNA PSR, ONR intervened and agreed with the ML NSC that the submission should be sent as is and that the situation regarding the asset degradation would be considered as part of the assessment. As a result, the PSR Topic Reports together with the draft Outcome Report were submitted to ONR in May 2018, with an updated approved Outcome Report, taking account of the Nuclear Safety Committee comments, submitted to ONR in June 2018. The ONR decision date was fixed for 31 March 2019.

The ONR assessment of the PSR involved open and transparent engagement with ML across a number of disciplines with an initial presentation and discipline specific meetings to enable ONR to provide feedback on its assessment and to provide ML an opportunity to present responses to ONR queries. A physical site inspection was also carried out to observe the condition of civil structures, review structural integrity and review maintenance arrangements (Ref.5).

The Dungeness A Re-baselined Facilities Safety Case (RFSC) (Ref. 6) was developed in 2017 to align with the PSR and supports all routine site operations in the period from 1 April 2017 to 2034. It reflects recent decommissioning activities where these have resulted in a change to potential nuclear hazards and replaces the Re-baselined Post Defuelling Safety Case (PDSC - developed following defueling) as the safety case for operations supporting the quiescent storage of radioactive waste accumulations on the site. The RFSC does not replace the Radioactively Contaminated Land Safety Case (RCLSC) (Ref 7) which reflects operational dose uptake and potential fault sequences associated with routine contaminated land activities. The RCLSC states that radiological safety risks are tolerable and ALARP and therefore makes no claim on any safety measure or feature.

Together, the RCLSC and the RFSC form the basis of the Reference Safety Case supporting decommissioning activities at the site.

ML's Nuclear Safety Committee (NSC) reviewed and endorsed the PSR scope (Ref. 8, & 9) before work commenced on the production of the PSR. The PSR was produced in line with the ML arrangements for LC15 (Ref. 10), benefiting from the experience with the Sizewell A and Oldbury PSRs, and comprises the PSR Outcome Report, the eight Topic Reports (see Appendix 1), and their primary references.

The principal purpose of the PSR is to review the safety case against modern standards, plant configuration and continued validity for the PSR period up to 2029, with an additional five years to 2034 to confirm the absence of any cliff-edge effects. However, these requirements were already addressed by ML during development of the RFSC, and ONR is content that these requirements had already been addressed through implementation of the new RFSC. The PSR therefore focused on reviews of Operating Experience, Maintenance, Engineering Stewardship and effectiveness of site management arrangements.

ML systematically reviewed each of these topic areas to verify that there were no issues that might challenge the validity of the RSC or the continued safe operation of the Site. Each was reported in a technical report which was supported by a plant walk-down to:

- consider the plant and building configuration;
- its condition in relation to the demands made by current operations and the RSC; and
- identify any shortfalls and potential hazards.

These technical reports formed the basis underpinning the PSR outcome report.

The ML PSR Outcome Report (Ref. 2) identified no safety shortfalls requiring resolution and formal close out. However, 28 Observations were made resulting in 23 actions, all but one of which had been closed at the time of preparing this report. The remaining action is assigned an 'Owner' and the licensee is aiming to close-out this remaining observation by the end of May 2021.

This remaining observation relates to the use of the pond cranes where the safety case will expire at the end of pond draining when a specific safety case will be written to cover the remaining operations if required.

This report was reviewed by ML's Independent Nuclear Safety Assessment (INSA) function (Ref. 2, Appendix B) who confirmed that the review had been carried out systematically, comprehensively and in accordance with due process, and that the absence of any findings was reflective of the recent site transition and implementation of the PDSC. The INSA review also supported the conclusion of the PSR which is to support continuing operations on site until 2029.

The Outcome Report was originally presented to the Licensee's NSC in April 2018, however it was challenged and further information was required in respect of plant ageing and corrosion issues, particularly around the boilers and primary circuit. An updated Outcome Report (Revision 1 Addendum 1 Revision 2) (Ref 2) was then presented to the Licensee's NSC in June 2018 and included a new section 9 which addressed the comments and challenges raised by the Licensee's NSC on Revision 1 of the report.

The Licensee's NSC endorsed the Outcome Report subject to minor amendments (Ref. 11).

### **3 ASSESSMENT AND INSPECTION WORK CARRIED OUT BY ONR IN CONSIDERATION OF THIS REQUEST**

ONR has carried out a programme of work for the Dungeness A PSR which was proportionate with the remaining hazards present on the site and the risks associated with the on-going decommissioning activities.

At the start of the ONR PSR assessment process, a workshop was arranged between ML and ONR specialist inspectors. During this workshop a presentation on the ML approach to PSR was provided (Ref. 12) followed by a presentation on key PSR outcomes (Ref. 13). A number of Topic Reports were produced by ML in support of its PSR; these are listed in Appendix 1.

Due to the reduced hazards and decommissioning activities on site, ONR targeted the assessment on the following areas:

- Civil Engineering and External Hazards (Ref. 14) - Design life, seismic hazard and lateral loading on the main reactor buildings to meet the requirement for the long term reliability and integrity of the main structures to provide containment and weather-proof covering for the remaining radioactive hazards. This also includes consideration of External Hazards and flooding hazards following on from post Fukushima assessments.
- Structural Integrity (Ref.15) - Integrity of metallic components containing / retaining nuclear materials, the hangers supporting the related ducts / pipework. Any active degradation mechanism, e.g. corrosion that may challenge the integrity.
- Electrical, Control and Instrumentation (Ref. 16) - Emergency Equipment, Ventilation Systems, Maintenance of electrical systems, Provision of back-up electrical power, Management of ageing and obsolescence.
- Radioactive Waste Management (Ref. 17) – Management of existing and future accumulations of low and intermediate level waste and the facilities involved in all stages of the waste lifecycle given that radioactive waste is now the primary hazard remaining on site.
- Radiation Protection (Ref. 18) - Radiological protection arrangements for planned operations, collective dose accrued during the review period, emergency arrangements, proposed future arrangements and ALARP Assessment.
- Mechanical Engineering (Ref. 19) – Integrity and operability of nuclear mechanical structures, systems and components.

During the ONR inspection in March 2017 (Ref.20), the marked progressive degradation of the civil structural assets was clear and as such, the assessment of the condition of the civil structural assets has been targeted in this assessment.

An initial assessment of Leadership and Management for Safety was undertaken and it was judged that it would not be proportionate to conduct detailed specific assessment due to the low hazard and lack of any novel approaches to management and organisational design. This fact coupled with the good safety performance of the Site as confirmed through annual reviews of safety, informed our decision not to assess this area further (Ref. 21).

All internal hazards faults are of low consequence, and as fault studies assessment had been undertaken as part of the RPDSC it was not considered to be proportionate to carry out further fault studies assessment for the PSR.

A site inspection and plant walk-down was conducted to observe the condition of the facilities, the civil structures and structural integrity of some of the key assets, the adequacy of

radioactive waste management facilities and radiation protection measures (Ref. 5). This inspection served to inform the assessors undertaking these assessments.

The site inspection also reviewed the asset care arrangements, which found that the physical condition of parts of the civil structures and assets had, in the areas of the boiler annexes, boiler cells and associated structures, severely degraded and whilst these provided no nuclear safety function, they do however indirectly provide containment to other structures such as the reactor primary circuit and their degradation presents a risk to radiological containment and conventional safety of workers on site.

Following ONR's assessment, a site meeting was held with ML to discuss the ONR's findings from its assessment of the PSR and to receive an update on ML plans for demolition of the boiler annexes and structures associated with the boilers (Ref. 22). During this meeting, ONR assessment views and queries and findings are provided and the ML response was agreed. ML confirmed their response through subsequent correspondence (Ref. 23), which has given rise to seven actions which are presented as Forward Improvement Programme in Table 1.

Regulatory findings, recommendations and observations were identified where ML's assessment findings and further clarification could not reconcile queries raised by ONR and are detailed in Ref 23.

#### **4 MATTERS ARISING FROM ONR'S WORK**

From assessment of the Dungeness A PSR, ONR considers that in the area of structural degradation, the PSR has shortfalls. Although no immediate risks are perceived, failure to adequately address this matter may lead to the radioactive containment function of the primary circuit being compromised, adversely impacting safety on site.

In addition, it is ONR's opinion a complete review of the site strategy for radioactive waste management is required in order to provide justification for the safe management of radioactive waste during the period of C&M.

This view is formed by the following considerations:

- The PSR demonstrates that the decommissioning work at the site has reduced the levels of risk to very low levels and as such the site no longer qualifies for regulation under the REPPiR regulations (Ref. 24).
- ONR's assessment found that lack of maintenance of the boiler annex and boiler cell civil structures has resulted in an accelerated rate of degradation, such that the current condition of the assets has degraded beyond economic refurbishment and repair and require to be demolished and removed.
- ONR's assessment found that there have been no inspections of the condition of the primary circuit since 2010, even though it is known that water is entering the voids through cracks in the concrete of the foundations.
- ONR's assessment also found that that the justification for the safe management of radioactive waste at the site is not complete and will need to be revised to take account of the increased waste that will be generated from the site during the demolition works.

ONR Specialist Inspectors confirmed that a systematic approach has been undertaken in the areas assessed and that the conclusions made in the PSR Outcome Report were justified by evidence presented in the reviews undertaken and Technical Reports compiled in support of the PSR.

ONR assessment took into account ML's review and assessment of issues during its review phase. I consider the absence of any issues identified by ML's assessment is reasonable, given that defuelling was completed in 2012 and the recent implementation of the RFSC.

ML has made a commitment to close out all of ML's own PSR observations before the end of May 2019 (Ref. 22).

One Finding, 11 recommendations and five observations have been raised by ONR specialist inspectors. These have been consolidated into seven issues, detailed in Table 1 attached.

A recommendation was raised in relation to the safety case for long-term storage of radioactive waste within the reactor void spaces. ML could not provide a consolidated safety justification for this situation. It is therefore recommended that ML prepare a discrete document, which brings together all relevant assessments and safety justifications in relation to the storage of Miscellaneous Activated Components in the Safe Store voids. Other recommendations were also made, however these will be addressed by ML through update and review of their Integrated Waste Strategy (IWS).

Recommendations were raised in relation to the temporary ILW Store. The current inventory within the store has identified disposition routes and the intention of ML is to justify further use of the store for future wastes on a case by case basis. This was deemed adequate given that the delays to disposition of the current inventory are external and future decommissioning works may give rise to additional wastes.

All ONR assessors recognised potential issues in relation to the degradation of the boiler annexes and boiler cell structures and the need for prompt removal of these structures. ML has agreed in principle, the strategy for removing these structures with the NDA and is now preparing a business case to obtain funding commensurate with the programme of works provided to ONR (Ref. 25). Timely implementation of this programme will address the various issues and recommendations raised by the assessors, which will be addressed through routine regulatory engagement with the site.

The progressive degradation of the boiler annexes and boiler cell structures is a result of a lack of control of the corrosion rates, in part due to insufficient asset care. As such, assessors also raised recommendations in relation to implementation of improved inspection arrangements.

All of these recommendations should be monitored through routine regulatory activity.

During the inspection of February 2019 (Ref. 22), ML provided a presentation to ONR outlining a proposed programme of work to demolish the boiler annexes, associated boiler cell structures and central control block (Ref. 25). The current plan being to commence characterisation now, and then start physical works in 2020. The aim is to demolish these structures by 2026. Whilst this plan is welcomed by ONR, it is nevertheless recognised as a technically challenging project to execute with many site based constraints and is reliant on adequate funding being made available to ML.

## **5 CONCLUSIONS**

I consider that the Periodic Safety Review of Dungeness A safety case, combined with the responses to ONR's queries and the ML forward improvement plan, forms an adequate justification for safe operations and continuing C& M preparation activities for the period up to 31 March 2029.

This view is based on the following:

- The licensee's arrangements for LC15 have previously been found to be adequate to deliver a systematic re-assessment of the Site's nuclear safety case. The PSR was subject to independent review via ML's INSA assurance process and NSC.

- ML's re-assessment did not identify any significant nuclear safety challenges that would impact on the site's activities for decommissioning up to 2029 and through to 2034. No nuclear safety shortfalls were identified through the PSR process; however ML has acknowledged that poor asset care has led to significant deterioration of civil structures which contribute to the radiological containment function of the primary circuit.
- ONR has raised seven issues and ML have committed to addressing them in the forward improvement plan.
- ML has provided a high-level plan to dismantle a number of these structures (subject to timely and adequate provision of funding) and implementation of improved asset care arrangements will be monitored through routine regulatory interaction. Should adequate funding not be made available for removal of these structures, ONR's view is that significant funding is still likely to be required for temporary short-term repairs to make these structures safe for the next 10 years.

## **6 RECOMMENDATIONS**

That ONR issues a Decision Letter confirming the adequacy of ML's Dungeness A PSR submission and Forward Improvement Programme to justify continued operations on the site for the next period of decommissioning operations up to 31 March 2029.

That ONR agrees to actions and timescales required to address the findings in the PSR.

That ONR agrees timescales to address the outstanding ML PSR observations and to give consideration to the PSR recommendations through routine regulatory interactions.

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## **APPENDIX 1 – PSR TECHNICAL REPORT TOPICS**

The following list identifies the Topic Reports produced by ML in support of the Dungeness A PSR.

- TR1 – Review of the Reference Safety Case (Ref. 26)
- TR2 – Review of Operating Experience (Ref. 27)
- TR3 – Review of Safety Case Record Management System and Configuration Control and Revisions to Company Procedures (Ref. 28)
- TR4 – Review of Maintenance and Engineering Stewardship Arrangements (Ref. 29)
- TR5 – Review of Radiation Protection (Ref. 30)
- TR6 – Review of Safety and Compliance Culture (Ref. 31)
- TR7 - Review of Output from Previous Periodic Safety Reviews (Ref. 32)
- TR8 – Review of Contingency/Emergency Arrangements (Ref. 33)

**Table 1**  
**Forward Improvement Programme**

ONR Ref No	Action for Magnox Ltd at Dungeness A	Target Date
PSR-19-01	Complete the business case for removal of the Blower Halls, Drum Houses, Boiler Annexes, Boilers and Boiler Cells for submission to the NDA to allow funding arrangements to progress.	2019
PSR-19-02	Develop the Life Time Plan for the boilers project together with any required justification and / or underpinning.	2020
PSR-19-03	Carry out a camera inspection via the pile cap to investigate the condition of the RPV supports, and the RPV cladding where practicable, in addition to undertake any necessary environmental condition monitoring.	2019
PSR-19-04	Develop and implement arrangements to periodically review asset maintenance plans to take account of data gathered from inspections and corrosion coupons.	2021
PSR-19-05	Implement adequate EIM&T arrangements for low voltage (LV) assets not included on the Maintenance Schedule.	2020
PSR-19-06	Provide ONR with a programme for the preparation of a safety justification for the current storage of MAC within the reactor voids and update the RCLSC.	2021
PSR-19-07	Develop and implement arrangements to periodically review and update the IWS and RWMC to take account of decommissioning waste arisings.	2021