

Calder Hall

Environmental Management Plan

Issue 11 – July 2018



Introduction

Calder Hall ceased generating electricity in March 2003 after 46 years of operation. In accordance with Government Policy, work has now begun to systematically remove (or decommission) the plant and buildings associated with electricity generation at the site. Prior to commencing this work Sellafield Ltd, the Licensee of the site, were legally required to seek consent from the Health and Safety Executive (HSE) to carry out the decommissioning project.

Application was made to the HSE for consent to carry out the decommissioning project at Calder Hall in August 2004. In support of this application an Environmental Statement was provided, which assessed the impacts of the project on the environment. Following extensive public consultation the HSE granted consent to carry out the decommissioning project at Calder Hall in June 2005, subject to certain conditions.

Under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (EIADR), the HSE requires the Licensee to prepare an Environmental Management Plan (EMP) which shall:

- List the mitigation measures that are already identified in the Environmental Statement and evidence submitted [to the HSE] to verify information in the Environmental Statement;
- List the options to implement work activities where mitigation measures may be required but where selection of an option will only be possible in the future; and
- List the work activities where mitigation may be required but where assessments to identify mitigation measures will only be possible in the future.

It is a requirement of the conditions attached to the consent to describe the effectiveness of the mitigation measures over time and review annually or at a suitable frequency agreed with the Office for Nuclear Regulation (ONR). Up until June 2015 the EMP was reissued annually; however due to very little changing operationally at the facility in 2016 it was agreed that it was not necessary to reissue the EMP that year. This review considers any changes at Calder Hall since 2016 and also considers the planned work for financial year 2018/19.

Decommissioning Objectives at Calder Hall

- i) Manage the existing hazard on the Calder Hall site.
- ii) Manage the progressive reduction in hazard potential on the Calder Hall site.
- iii) Continue defueling of the reactors in line with Magnox Operating Plan requirements.
- iv) Progress items on the critical path to Care and Maintenance.
- v) Minimise ongoing maintenance costs by “backing out” of plant and buildings by discontinuing usage and removing services.
- vi) Remove other plant and buildings as resources permit.

Works Completed and in progress up to Financial year 2017/18

Current Status

The Calder Hall site currently comprises four reactors and associated facilities, including two Turbine Halls, sixteen Heat Exchangers, the Control Rod Mortuary and a series of other ancillary buildings. The majority of the facilities are redundant.

Turbine Hall A and a number of adjacent buildings are in an area of land that has been identified for redevelopment. As such demolition and ground remediation is required in this area by 2023 to support this significant site priority.

There is general deterioration of the ageing facilities on the Calder Hall Site with some buildings such as the Turbine Halls being in a poor condition. Substantial asset care interventions will be required on buildings if they are not demolished promptly due to increased asset care and maintenance costs.

Demolition

No demolition works have been carried out during this review period.

Asbestos Removal and other Minor Decommissioning Activities

Over the last few years work has been ongoing to improve the conventional safety in the area through commencement of minor decommissioning activities such as asbestos removal, removal of high voltage electricity cables, service strip out, waste removal and building cladding enhancement. Following Asbestos strip, Operatives are washed down in an Asbestos Decontamination Unit at the end of each shift. The wash water is discharged via a 5 micron filter into the Sellafield Site foul sewer with appropriate environmental controls and permissions in place.

Defueling

Defueling has been completed in Reactors 1 and 4, and they have been formally declared fuel free. Defueling is ongoing in Reactors 2 and 3, with the expectation that they will be declared fuel free by June 2019, which is before the end of the MAGNOX Operating Plan (MOP). Post the MOP there is no route for Calder fuel.

South Cooling Tower Basin

This part of the site has been handed over to Retrievals Project Management for the development of the Silo Maintenance Facility. It is no longer considered to be part of Calder Hall site.

Impact on EIADR

The progress described above is not considered to be a change or extension to the decommissioning project, therefore Regulation 13 of EIADR does not apply and a Finding Of No Significant Effect (FONSE) form is not required.

Works Planned for Financial Year 2018/19

Decommissioning of Turbine Halls

Decommissioning of the Turbine Halls requires installation of a new crane; this crane will be used for decommissioning of one Turbine Hall then transferred to the second Turbine Hall to limit capital spend. Turbine Hall B is significantly degraded with water ingress in the building and a corroding structure. On balance of risk the Remediation priority area for decommissioning in Calder would be Turbine Hall B. However, it is recognised that the short term land requirements for Turbine Hall A underpin a wider As Low As Reasonably Practicable (ALARP) case to prioritise this area, but Turbine Hall B should be progressed at the earliest opportunity once the decommissioning crane becomes available.

Land Clearance and Heat Exchanger Decommissioning

In the short term the focus of the Calder teams alongside defueling should be primarily commencing early decommissioning to support Calder Hall Land Clearance, i.e. asbestos removal, service diversion, and kit removal. Over 2018/19 Sellafield Ltd will develop the Calder Hall Land Clearance Project. Upon completion of Calder Hall Land Clearance, it is expected that a construction project will commence on that area of land.

Plans are being drawn up for a pilot to remove one heat exchanger. If the pilot is a success then the remaining heat exchangers will be decommissioned in the same way.

Accommodation

During the decommissioning of Calder Hall accommodation for both Sellafield Ltd and Contract organisations is important. Optioneering is undertaken to review siting for teams undertaking direct Calder delivery including welfare and active area change facilities. Support organisations shall be moved away from the Calder site to limit occupation in the area during the decommissioning period.

Impact on EIADR

From the scope of work described above it is not expected that any of the work will have a significant adverse effect on the environment and therefore does not require further assessment under EIADR. The pilot to remove one of the heat exchangers is under consideration and any potential impact on EIADR will be captured as part of this scope.



Fig 1: Steam pipes, before and after removal of asbestos insulation.

Environmental Performance and Mitigation Measures

It is a requirement of the conditions attached to the Consent that this EMP reports on the effectiveness of the mitigation measures over time.

There are no significant changes to the mitigation measures that were submitted in the original Environmental Statement. However, Transport Management has improved in 2018, due to a change in Transport Policy by Sellafield Ltd.

Employees and contractors are encouraged to share transport (or use public transport) when travelling to and from the Sellafield site. Shuttle buses at Sellafield now travel more frequently, and new park and ride schemes have been developed in 2018.

Assessment of mitigation measures has concluded there is no potential for decommissioning work at Calder Hall planned for 2018/19 to cause any significant environmental effects, based on the following criteria (used in Calder Hall's Environmental Statement submitted under EIADR1999):

- Air quality and dust;
- Archaeology and cultural heritage;
- Ecology;
- Geology, hydrogeology and soils;
- Landscape and visual;
- Noise and vibration;
- Surface waters, and;
- Traffic and transport.

Conclusion

There have been no significant changes to Environmental Performance since Issue 10 of the EMP was written in June 2015.

There have been no significant changes or extensions to the Decommissioning Project since the Environmental Statement was written in 2004, up to 2017/18.

Decommissioning work that is planned for the Financial Year 2018/19 is not expected to have a significant adverse effect on the environment and therefore does not require further assessment under EIADR. The proposed pilot to remove one of the heat exchangers is under consideration. Any potential impact on EIADR will be captured as part of the pilot scope. However, it is not expected to have any significant environmental impact and challenge any of the controls identified in the original Environmental Statement.