nuleaf
nuclear legacy
advisory forum

PROPOSALS FOR THE DECOMMISSIONING OF THE AGR STATIONS

Draft Briefing Paper 1
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1. Introduction

It was announced on the 7th of June 2021[1] that an agreement had been reached for the defueling and decommissioning of the UK's 7 Advanced Gas Cooled (AGR) reactors. These stations, along with a Pressurised Water Reactor (PWR), represent the UK's current nuclear power fleet and account for 15-20% of electricity generation.

Three of the AGR stations have, or are about to, cease generation and the rest are due to end their operational life this decade. The decommissioning of these sites and management of the nuclear waste that will arise has economic, social and environmental implications for host local authorities and communities.

This Briefing Paper explains the plans for the decommissioning of the AGR stations and the expected timetable for their remediation. It highlights the issues for local government and the role that councils will play as the clean-up progresses. The paper will be updated as more information emerges on the overall approach taken and the proposals for individual sites.

2. The EDF Fleet and current closure plans

All of the current fleet of grid connected nuclear reactors in the UK are operated by EDF Energy. Consisting of seven AGR's and a PWR[2], the plants date from the 1970s to the 1990s (Table 1).

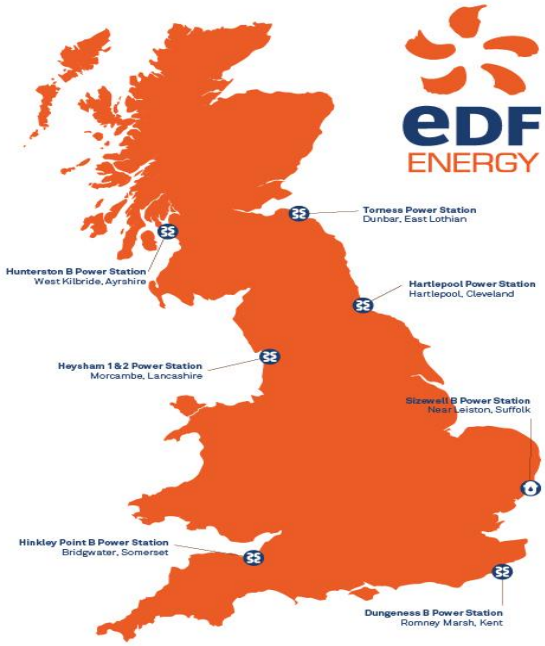
[1] https://www.gov.uk/government/news/decommissioning-agreement-reached-on-advanced-gas-cool-reactor-agr-nuclear-power-stations
[2] Pressurised Water Reactor

Station	Type	Commissioned	Scheduled Decommissioning
Hunterston B	AGR	1976	2022
Hinkley Point B	AGR	1976	2022
Hartlepool	AGR	1983	2024
Heysham 1	AGR	1983	2024
Dungeness B	AGR	1983	2022
Heysham 2	AGR	1988	2030
Torness	AGR	1988	2030
Sizewell B	PWR	1995	2035

Table 1: The EDF reactor fleet.

The timetable for closure and decommissioning of the AGRs has moved forward in the last year, due to the identification of operational issues at a number of stations. Generation has already ceased at Dungeness B and will do so shortly at Hunterston B and Hinkley Point B. Hunterston B will begin defueling first, by January 2022, followed by Hinkley Point B by the middle of that year. Dungeness B will commence low-rate defueling in the second half of 2022.

All four of the remaining AGR stations will end generation on a rolling basis by 2030, and EDF has suggested that a further two plants, Torness and Heysham 2 may be at risk of early closure due to safety concerns[3]. Current plans are that the more recent PWR plant at Sizewell will operate until 2035.



Map 1: Location of the EDF stations

[3] EDF Warns More Nuclear Plants Could Shut Early - Simply Switch

3. Agreement on decommissioning and waste management

The **UK Government (BEIS)** has reached an agreement with **EDF** and the **Nuclear Liabilities Fund (NLF)** over the decommissioning of the UK's Advanced Gas Cooled (AGR) reactors[4].

Under the agreement, the AGR's will be defueled by EDF before being transferred to the NDA to complete the decommissioning process, with Magnox as the Site Licence Company (SLC). EDF aims to achieve the defueling of reactors in 3.5 to 5 years. However, Dungeness B will take longer due to its reactors being larger and containing more fuel. Defueling there is estimated to have a duration of 10 years.

EDF's costs of defueling and decommissioning will be met from the NLF's **Segregated Decommissioning Fund**. The NLF[5] was originally established in 1996 as the Nuclear Generation Decommissioning Fund to provide finance for the decommissioning of the 8 stations now operated by EDF and some other nuclear liabilities. The Fund is a limited company and is owned by the Nuclear Trust, which has five trustees, three appointed by BEIS and two by EDF.

The arrangements are intended to incentivise EDF to achieve the defueling of the AGR stations in a cost-effective manner, and the company has agreed to take on the potential of up to £100m in charges for missing targets in return for the potential to earn up to £100m for meeting targets.

Overall, the Government believes that this arrangement will achieve £1Bn of savings without compromising on safety or security. It expects these savings to be realised over the 20 years of the defueling and decommissioning programme, through a combination of:

- removal of uncertainty for EDF so they can prepare with full confidence for defueling, which will lead to shorter defueling periods;
- the introduction of incentivisation, including some risk-share to enhance defueling performance; and
- synergies and efficiencies anticipated through bringing the AGR and Magnox stations together under a single owner and licensee.

The agreement to decommission the AGR stations will further expand the scale of the NDA's operations, which already represent the largest decommissioning programme in Europe. In Hinkley, Hunterston and Dungeness it will lead to two closed nuclear stations being situated side-by-side. New locations, such as Torness, Hartlepool and Heysham will become part of the NDA/Magnox estate.

[4] Advanced Gas Cooled Reactor (AGR) decommissioning: factsheet - GOV.UK (www.gov.uk)
[5] https://www.nlf.uk.net/

4. Issues for local authorities

The timescales for closure, defueling and decommissioning for each EDF site are still being firmed up, and the Lifetime Plans for the Magnox stations that are co-located with some EDF plants are also under review. Despite this, a range of issues for local authorities and communities can be identified.

Direct Employment

The current EDF stations support thousands of direct and indirect jobs across the UK. Each site is a major employer within their community with, for example, 500 staff and 250 contractors at Dungeness B.

The impact of plant closure, defueling and decommissioning on employment levels at EDF sites is, as yet, unclear. The move into defueling will ensure a continuity of jobs, though there will be a managed reduction over a 3 to 4 year period. Beyond that employment levels will be linked to the planned timetable for decommissioning at each site, and the potential for co-ordinated work across 'A' and 'B' sites where these sit side by side.

Wider socio-economic impacts

The decommissioning of the AGRs should provide wider economic benefits and supply chain opportunities. The Government has stated that '*The transfer of the stations to the NDA will provide enhanced opportunities for realising synergies, sharing know-how and creating a coordinated and consistent strategy as well as maximising and coordinating competition through the supply chain, which will also allow for more efficient delivery.'*

Working with local authorities and LEPs, there should be scope for skills enhancement and retraining that will allow local people to access the new roles required for decommissioning. The NDA must also apply its commitments to social value to its work around the EDF sites.

Planning

Local Planning Authorities (LPAs) have a role as a regulator of the EDF stations as they are decommissioned. LPAs will have to approve the Planning Applications needed for the decommissioning work such as building new facilities or repurposing existing ones. Land Use and Waste Plans will require clear policies that set out the council's view on the process by which the stations and wider sites are remediated. Issues that will need to be addressed include:

- The scope for interim uses and the Council's vision for the next planned use of the site (see below)
- Storage of waste
- Transportation
- Employment and skills
- Environmental protection and carbon management
- Mitigation measures through e.g. Section 106 agreements.

Where there is co-location with an existing Magnox station, then the inter-relationship between activities and plans for both sites will need to be considered.

Overall, Nuleaf believes that a Master-planning or Strategic Planning approach should be adopted for the decommissioning of all NDA sites, including the AGR fleet. We also believe that, where supported by the local authority, Magnox should enter into Planning Performance Agreements (PPAs) in relation to the decommissioning of the AGR sites. They already do this at some of their existing sites.

Next planned use

The next planned use of a current nuclear site is a central driver for decommissioning with implications for the local economy and environment. Current NDA sites are intended to move to a variety of future uses, from open space and nature habitat to business parks or new nuclear development.

EDF and Magnox will have to engage effectively with local government and communities to determine the next planned use for the AGR sites and identify any opportunities for interim uses, including where this would require delicensing of part of a site.

Where an AGR is co-located with a Magnox site this may lead to a rethinking of the desired next use for the combined area covered by the two. The AGR sites will need to be incorporated into the NDA's vision as set out in their **Land Optimisation Programme,** currently under development.

National and local engagement

Nuleaf meets quarterly with EDF and NDA Communications Teams and will continue to host events that enable our members to engage at a national level on proposals for AGR decommissioning.

Looking forward, the management of EDF sites by Magnox will require thought to be given as to how local engagement processes are reformed to reflect the new reality on the ground.

In some host communities a Site Stakeholder Group (SSG) is already established, and EDF has begun the process of engaging with local authorities and SSGs around the three AGR sites that have already ceased generation.

In Heysham, Hartlepool and Torness this isn't the case, although EDF does have Local Community Liaison Committees (LCLCs) which perform a similar purpose to SSGs and involve local authority officers and elected members. Unlike NDA, EDF operates visitor centres around its nuclear stations, although it is unclear

whether these will continue to function once a station moves to decommissioning.

Community funds

An EDF company has agreed a large community benefits package as part of the development of the new Hinkley Point C plant. EDF also operates a community fund around its renewable energy developments.

Throughout their generating lives, the AGR stations have invested around £10,000 a year into local community projects with employees engaged in their local communities. Magnox provides more significant community funds around its sites. It is hoped that their approach is extended to the AGR stations once under Magnox control, and that they are incorporated into the NDA's strategic work on socio-economics and sustainability. The overall scale of NDA funds should be extended to reflect the larger scale of its operations as it oversees the EDF station decommissioning.

Environmental protection

Responsibility for protection of people and the environment, and for safety, will remain with the Environment Agency/SEPA and the Office for Nuclear Regulation (ONR) throughout the defueling and decommissioning phases, as it does with current NDA sites.

Through engagement with EDF/NDA and the regulators, councils have the potential to promote wider environmental benefits during the decommissioning phase, for example through enhancement of biodiversity on or around the site. As Magnox will be responsible for the clean-up of both A and B sites in some locations, there will be scope for collaborative working across the two sites, which may enable the freeing up of land for positive environmental outcomes.

The NDA has, in its recent **Strategy**[6], committed to move towards net-zero carbon across its operations and deliver against the UN Sustainable Development Goals. These commitments will need to be applied to its work on the AGR sites. Discussion should be undertaken with EDF to ensure that action on these areas is developed through the defueling phase.

6 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/973438/NDA_Strategy_2021_A.pdf