

**Meeting:** Nuleaf Steering Group  
**Date:** 15<sup>th</sup> December 2022  
**Item:** 4  
**Subject:** Updates on national developments in radioactive waste management  
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## Introduction:

This paper updates members on recent developments in radioactive waste management and NDA operations. It covers:

- NDA Group update;
- UK Government update;
- Decommissioning of the AGR Stations;
- Small Modular Reactors (SMRs);
- Fusion Power;
- Regulators update;
- Nuleaf news;
- International news; and
- Submarine Dismantling Project (SDP).

## Recommendation:

This paper is for noting.

### 1. NDA Group update

1.1 Nuleaf's Executive Director joined a **Critical Enablers (CE) Theme Overview Group (TOG)** meeting on the 7<sup>th</sup> October and a joint **Sustainable Decommissioning and Remediation (SDR) and Integrated Waste Management (IWM) TOG** on the 10<sup>th</sup> October. Key issues discussed were:

**Site End States (SES):** The SES for all NDA sites have been under review and a generic options paper for the Magnox sites was approved in 2020.

The preferred options for the end states at Winfrith, Trawsfynydd and Hunterston have been agreed and Berkeley is expected to be finalised soon. Magnox is still working through the sequencing of site decommissioning and

how this might be achieved. As an example, it may be that a dedicated team could be established to decommission boilers at every site in sequence, rather than whole sites being decommissioned one after another.

NDA are currently looking at how to integrate sustainability and social value considerations into their plans. Finally, the Programme Business Case is with the Government awaiting approval. Given the recent political situation it is not clear when this will occur.

The preferred Site End State for the LLWR was accepted in May 2022. Credible options for Sellafield were approved in late 2020 and work on assessment of the components of the SES is underway, accompanied by stakeholder engagement.

**Asbestos:** Asbestos is present at all NDA sites and will need to be managed safely. The NDA met in May 2022 to consider radioactive and non-radioactive asbestos, create a clearer picture of the challenges and assess how this issue can be dealt with.

The NDA's goal is to remove as much asbestos as possible before placing sites into Care and Maintenance where that is planned. It is also seeking to move from a reactive approach to one that is more strategic. One major challenge is that the UK capacity for asbestos disposal is limited, with many existing landfills having a finite lifespan. Also, the scale of the inventory is still unclear and probably won't be known until demolition occurs.

1.2 The NDA has published three new socio-economic reports covering Cumbria, Magnox and Dounreay:

The **West Cumbria**<sup>1</sup> paper concludes that in 2021 Sellafield and the LLWR, across Cumbria and Warrington, directly contributed £778million of GVA to the UK, of which around £600 million was in labour costs, with a workforce of 11,760. The West Cumbrian sites spent £1.36 billion on goods and services, around half of which was paid to firms located in West Cumbria or with local operations.

When multiplier effects are taken into account the estimate is that Sellafield and LLWR generated £2.52 billion of GVA and supported 40,360 jobs, around half of which was within the local economy.

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<sup>1</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1106820/The\\_economic\\_contribution\\_of\\_the\\_NDA\\_to\\_the\\_West\\_Cumbria\\_economy\\_-\\_2022.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1106820/The_economic_contribution_of_the_NDA_to_the_West_Cumbria_economy_-_2022.pdf)

The **Magnox**<sup>2</sup> study was undertaken by Economic Insight. It found that, across 12 sites, Magnox directly employed 2,043 staff in 2021. If indirect and induced employment is included, 7,277 job nationwide are supported. Magnox contributed £393 million in direct, indirect and induced GVA.

The study also highlights the significant differences in employment and spend between sites. While Harwell and Wylfa both employ over 250 staff directly, Bradwell, in quiescence, only has 15 staff on site. Direct GVA from Harwell is £17million while for Bradwell it is only £1million.

The **Dounreay**<sup>3</sup> study estimates that the site contributes £77.5 million a year to the economy of the far north of Scotland and employs 15% more staff than 6 years ago. It also comments that the Caithness and North Sutherland Regeneration Partnership (CNSRP), set up to help the area transition as Dounreay employment declines, has been highly successful in attracting new industries such as the Beatrice Offshore Wind Farm and a space satellite launching facility.

Nuleaf held an online meeting with Jamie Reed of NDA to discuss the reports on the 2<sup>nd</sup> November.

1.3 Magnox has published an infographic setting out the funding allocated over the last decade through the **Magnox socio-economic scheme**<sup>4</sup>. The most significant funds were provided to the Wylfa site (£2.2million) and the least to Winfrith (£66,000).

1.4 It has been announced that the NDA has established a three-year partnership with the **National Decommissioning Centre (NDC)**, which involves the University of Aberdeen, Net Zero Technology Centre (NZTC) and the oil and gas industry. The aim of the collaboration is to share learning on decommissioning between the nuclear and oil and gas sectors<sup>5</sup>.

1.5 Fifteen radioactive particles have been discovered around the **Dounreay** site in Caithness, the highest reported number in nearly 20 years<sup>6</sup>. Eleven of the finds were classified as 'significant', the highest category used. Dounreay Site Stakeholder Group (SSG) Chair Struan Mackie commented *'It is important that as the interface between the site, nuclear regulators and the community, we ascertain why such an*

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<sup>2</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1106369/Magnox\\_economic\\_impact\\_assessment\\_2022.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1106369/Magnox_economic_impact_assessment_2022.pdf)

<sup>3</sup> <https://www.gov.uk/government/publications/dounreay-socio-economic-report>

<sup>4</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1102644/Infographic\\_SSG\\_in\\_English.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1102644/Infographic_SSG_in_English.pdf)

<sup>5</sup> <https://www.thechemicalengineer.com/news/nuclear-and-oil-decommissioning-sectors-join-forces/>

<sup>6</sup> <https://www.endsreport.com/article/1804756/closed-nuclear-site-records-its-highest-number-radioactive-particles-nearly-two-decades>

*increase has happened, and whether it was preventable... It is important that matters such as this are open, transparent and in the public domain.'*

1.6 **Sellafield** has published its 2021/22 review<sup>7</sup>. It sets out the planned progress with the site mission up to 2040 and wider work designed to support the supply chain and create a positive social impact.

1.7 The NDA has published its **Mission Progress Report 2022**<sup>8</sup>. Headlines include the fact that 93 Ha (9%) of land has been de-designated, that all sites have been defueled of Magnox fuel and all oxide fuel reprocessing has been completed. Four of the 47 Strategic outcomes have been completed, with the full mission likely to take at least 120 years to complete.

1.8 The **Cumbria Coastal Community Forest** has received £200,000 of funding from the NDA<sup>9</sup>. The project is being led by Cumbria County Council, Cumbria Woodlands and the National Trust and also involves Copeland, Allerdale and Barrow Borough Councils among others.

The scheme will see up to 150Ha of new woodland planted. James Cobbold, Forest Director, said *'Through the creation of new woodlands in partnership with communities, the Community Forest provides a powerful way to build relationships with local people, organisations and businesses to create sustainable change for the coast of Cumbria. Having the NDA recognise the importance of the Community Forest is vital to its long-term success and we look forward to working with them.'*

1.9 The NDA is due to launch a consultation on its **Business Plan 2023-26** shortly. Nuleaf will alert members when this is published and will submit a response, which will be circulated for comment.

## 2. UK Government update

2.1 The **Rt. Hon Grant Shapps MP** has been appointed BEIS Secretary of State by Prime Minister Rishi Sunak. **Graham Stuart MP** is Minister of State (Minister for Climate). The latter's responsibilities include nuclear and nuclear supply chains. Mr Stuart was previously Minister of State in the Foreign and Commonwealth Office and is MP for Beverley and Holderness. Born in Cumbria, he previously worked in publishing and was a member of Cambridge City Council.

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<sup>7</sup> <https://www.gov.uk/government/publications/review-of-the-year-202122-creating-a-clean-and-safe-environment-for-future-generations>

<sup>8</sup> [The Nuclear Decommissioning Authority Mission Progress Report 2022 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/the-nuclear-decommissioning-authority-mission-progress-report-2022)

<sup>9</sup> [NDA announces £200,000 boost for Cumbria's Coastal Community Forest - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/nda-announces-200000-boost-for-cumbria-s-coastal-community-forest)

2.2 The Government announced on the 29<sup>th</sup> November that it would provide £679 million for the development of a new nuclear plant at **Sizewell C**<sup>10</sup>. This would meet 50% of the project's development costs and the Government and EDF will now work together to raise the capital required for the project.

Also confirmed were plans to establish **Great British Nuclear (GBN)**. GBN will be an arm's length body, tasked with developing a pipeline of new build nuclear projects.

### 3. Decommissioning of the AGR Stations

3.1 EDF, which operates the UK's AGR plants, is considering whether there is a case to enable the Hartlepool and Heysham 1 reactors to remain open beyond their current closure date of 2024. This will require discussion with regulators and Government. The review is expected to take a few months.

3.2 The **Nuclear Free Local Authorities (NFLA)** has published a briefing on the AGR closure programme. The Briefing focusses on the issues around cracking of graphite in the reactor core and other issues that have led regulators to require the end of generation at the stations<sup>11</sup>.

### 4. Small Modular Reactors (SMRs)

4.1 It was announced on the 11<sup>th</sup> October that the NDA has signed a **Memorandum of Understanding** with Cwmni Eginio, intended to support the development of Small Modular Reactors (SMRs) in north Wales<sup>12</sup>. The MoU enables the NDA to share information and expertise on the characteristics of the land at Trawsfynydd, align decommissioning plans with the new nuclear project, and support Cwmni Eginio with stakeholder engagement and socio-economic plans.

NDA Chief Executive, David Peattie, said: '*We are engaging with several stakeholders to explore potential uses of our estate, using our capability and expertise to support the Government in delivering its energy security strategy. This is an important step, formalising our support to Cwmni Eginio, and enabling the NDA to deliver its mission to safely decommission our sites and free up the land for future use. The success of the project at Trawsfynydd will also benefit the community neighbouring our North Wales site.*'

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<sup>10</sup> [UK government takes major steps forward to secure Britain's energy independence - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/uk-government-takes-major-steps-forward-to-secure-britain-s-energy-independence)

<sup>11</sup> <https://www.nuclearpolicy.info/wp/wp-content/uploads/2022/10/A364-NB250-%E2%80%93Update-on-the-AGR-closure-programme-%E2%80%93Oct-2022.pdf>

<sup>12</sup> <https://www.gov.uk/government/news/agreement-to-progress-development-of-new-uk-small-modular-reactors>

Welsh Government Economy Minister Vaughan Gethin stated *'The MoU between Cwmni Eginio and the NDA is very good news. We established Cwmni Eginio to maximise the potential of the Trawsfynydd site to benefit the economy of the surrounding area. I'm pleased to see this further step forward in the project.'*

4.2 Rolls-Royce has published a siting assessment of existing nuclear power plant sites that could potentially host SMRs and has identified 4 NDA owned sites as priorities<sup>13</sup> with scope for up to 15GW of capacity. Two of the sites - Trawsfynydd and land neighbouring the Sellafield site - are within the control of the NDA. The two other sites - Wylfa and Oldbury - are on NDA land leased to Horizon Nuclear Power.

NDA CEO David Peattie commented *'This study is a tangible step forward in our mission to safely decommission our sites and free up land for future use, delivering benefit to local communities and so to the wider economy. We're engaging with several potential partners to explore the use of land in our estate whilst utilising the NDA's nuclear sector expertise to support the delivery of the UK government's energy security strategy.'*

4.3 The House of Commons Science and Technology Committee has been conducting an inquiry into 'delivering nuclear power'; which has included discussion on the deployment of SMRs on NDA sites. You can watch the evidence sessions on Parliament TV<sup>14</sup>.

## 5. Fusion power

5.1 It has been announced that the former coal fired power station at **West Burton** in Nottinghamshire has been chosen as the site for the **STEP fusion energy** programme<sup>15</sup>. West Burton was one of five shortlisted sites along with Severn Edge and Moorside.

It is claimed that the STEP programme will create thousands of highly skilled jobs during construction and operations, and attract other high-tech industries to the region, furthering the development of science and technology capabilities nationally. A commitment has also been made to the development of apprenticeship training centres in Nottinghamshire, building on the success of the UK Atomic Energy Authority's (UKAEA) Oxfordshire Advanced Skills centre in Culham, which develops around 180 apprentices from 25 employers every year.

5.2 Catherine Draper joined an online seminar on the decommissioning of the JET fusion plan at Culham in Oxfordshire on the 15th November. The experimental JET

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<sup>13</sup> [Study identifies potential Rolls-Royce SMR sites : New Nuclear - World Nuclear News \(world-nuclear-news.org\)](https://www.world-nuclear-news.org/Study-identifies-potential-Rolls-Royce-SMR-sites)

<sup>14</sup> <https://parliamentlive.tv/Commons>

<sup>15</sup> <https://www.gov.uk/government/news/west-burton-selected-as-home-of-step-fusion-plant>

reactor closes in 2023 and will require decommissioning and repurposing at an estimated cost of around £500 million. This will be the first decommissioning project of its kind and is expected to provide a range of learning. It is expected that work, which will include construction of ILW and LLW stores, will be completed by 2039.

## 6. Regulators Update

6.1 ONR has published their **Chief Nuclear Inspector's report** on the nuclear industry<sup>16</sup>. It focusses on three areas: Management of aging facilities; conventional health and safety performance; and leadership for safety and security culture.

*In terms of the first of these, the Inspector comments that 'we judge that, although safe and secure operations are being maintained, the adequacy of arrangements varies across licensed sites, as does performance against those arrangements. We found that licensees have improved their programmes for the management of ageing assets and continue to do so; each licensee remains on a journey of further strengthening their existing arrangements in this area.'*

*On conventional health and safety it is concluded that 'Performance .... remains variable, with some duty holders' performance remaining static or declining. Consequently, we are increasing regulatory oversight in targeted areas, and taking enforcement action where we consider it appropriate to do so.'*

6.2 On the 30<sup>th</sup> November ONR published its **Themed inspection on the management of aging facilities**<sup>17</sup> building on the comments in the Chief Inspectors report.

The report is based on a series of inspections with five licensees selected as a representative sample of the industry. These were the Atomic Weapons Establishment (AWE Plc), in Aldermaston and Burghfield, Berkshire; Sizewell B Power Station; Devonport Royal Dockyard Ltd (DRDL); Hinkley Point A; and Sellafield.

The study highlights variations between licensees in performance for managing ageing assets. It concludes that, while there were many examples of good practice, significant challenges still need to be addressed. Across all the sites visited, ONR found that a common challenge for licensees was ensuring the capability and skills needed for the effective ageing management of facilities, with improved knowledge transfer essential and rare skill sets being lost, if not passed on and shared within organisations. The regulator also stressed the importance of putting in place sustainable funding models to deliver the resources necessary.

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<sup>16</sup> <https://www.onr.org.uk/documents/2022/cni-annual-report-2022.pdf>

<sup>17</sup> [Chief Nuclear Inspector's themed inspection on the management of ageing facilities - Office for Nuclear Regulation - News \(onr.org.uk\)](#)

6.3 At the request of members, a meeting with ONR has been arranged for the 7<sup>th</sup> February to discuss nuclear security issues. The meeting is being held online between 13.00 and 14.00 and an invitation has been sent out.

6.4 Nuleaf's Executive Director met representatives of the Environment Agency on the 9<sup>th</sup> and 25<sup>th</sup> November to discuss their work on decommissioning and waste management. The Agency is keen to engage with Nuleaf around their developing site level work driven by the **Guidance on Requirements for Release from Radioactive Substance Regulation (GRR)** and has agreed to join the January Radioactive Waste Planning Group (RWPG) meeting to discuss this.

It was also noted that a consultation on new **Guidance on Requirements for Authorisation (GRA)** for a GDF will be launched in summer 2023. Again, it is hoped to arrange an engagement event for our members on that.

## 7. Nuleaf update

7.1 Nuleaf held an online meeting on nuclear **Emergency Planning** on the 11<sup>th</sup> October. The meeting heard from ONR on the current policy context and a range of other issues. There was a high level of interest, with both regular Nuleaf attendees and others, including Emergency Planning officers, participating. A draft note of the meeting has been circulated to all who attended.

7.2 Given the significant changes in the policy environment and NDA structures in the last two years, a comprehensive review of all Nuleaf **Briefing Papers** has been undertaken, and the new papers are now available on the Nuleaf website. The Briefing Papers have also been redesigned as part of a general revision of all communications materials. Two further Briefings, on Transport and Engagement, are in preparation. Drafts will be presented to members for comment before finalising.

7.3 Over the summer, Nuleaf commissioned Assystem to undertake an **Appraisal of Support for Nuclear Communities**. Assystem were asked to look at three issues – the extent to which the NDA 'adds value' to local communities around decommissioning sites; how community benefits for decommissioning sites compare with those of comparable industries; and how the added value provided by NDA compares with that offered by similar bodies in other countries.

The report will be presented to the December Steering Group meeting and has been circulated to members. It will be used to lobby Government and the NDA and inform future Nuleaf engagement.

7.4 Nuleaf held its second annual **Welsh Members Meeting** in Llangefni, Anglesey on the 22<sup>nd</sup> November. The meeting, which was well attended, heard from Gwen Parry Jones, CEO of Magnox; and Alan Rayment, CEO of Cwmni Eginio.

The discussion covered issues around apprenticeships and skills, the involvement of young people and the delivery of socio-economic support and wider social value. A note of the meeting will be posted on the Nuleaf website.

Nuleaf is grateful to Ynys Mon/Anglesey Council for hosting the event.

## 8. International news

8.1 Nuleaf's Chair, Cllr David Moore, along with Cllr David Wimble and Philip Matthews, participated in a GMF meeting in Borsele, Netherlands on the 4<sup>th</sup> and 5<sup>th</sup> October. The highlight of the trip was a visit to the COVRA (Dutch radioactive waste management organisation) facility at Nieuwdorp. The site contains a range of innovative storage facilities for nuclear waste. A presentation on the visit will be given at the December Steering Group meeting.

8.2 Nuleaf's Executive Director was invited to join an IAEA technical meeting in Vienna on the 31<sup>st</sup> October to 4<sup>th</sup> November, the first on local and community perspectives to be held for three years. Presentations were given by local community representatives from a wide range of nations, from the USA to Uganda.

8.3 On the 3rd November, GMF Europe signed a **Memorandum of Understanding**<sup>18</sup> with the **Energy Communities Alliance (ECA)**<sup>19</sup> and the **Canadian Association of Nuclear Host Communities (CANHC)**<sup>20</sup>, which represent nuclear communities in the USA and Canada respectively.

Nuleaf was actively involved in the discussions that led up to the agreement. It offers significant opportunities to learn from and share information with municipalities in North America, whether on decommissioning, waste management or geological disposal. The agreement mirrors a recently reaffirmed agreement between the NDA and their Canadian and American counterparts<sup>21</sup>.

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<sup>18</sup> [GMF, ECA and CANHC announce New Global Partnership of municipalities with nuclear facilities – GMF EUROPE](#)

<sup>19</sup> [Energy Communities Alliance \(energyca.org\)](https://www.energyca.org)

<sup>20</sup> <https://www.canhc.ca>

<sup>21</sup> [Reaffirming the commitment to continue collaborating on sustainability in legacy nuclear sites - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

## **9. Submarine Dismantling Project (SDP)**

9.1 The Ministry of Defence has stated that most of the Low-Level Waste (LLW) contained in the 7 decommissioned submarines at Rosyth will be gone by 2024, with all submarines removed by 2035<sup>22</sup>. The SDP has been criticised for the long delays and slow progress in dealing with the nuclear legacy. One of the submarines at Rosyth, Dreadnought, has been at Rosyth since 1980 and has been out of service so long that a lot of the LLW has already decayed.

A further 20 submarines await decommissioning at Devonport. The reactor pressure vessels (RPVs) from the decommissioned ships will be stored at Capenhurst pending disposal in a GDF. Low level waste will be managed by Tradebe at Winfrith in Dorset.

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<sup>22</sup> [Rosyth to be 'de-nuclearised' with removal of old submarines | Dunfermline Press](#)