Meeting:	Nuleaf Steering Group
Date:	15th December 2022
Item:	6
Subject:	Update on Geological Disposal Facility (GDF) siting process
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nuclear legacy advisory forum

Introduction:

This report provides an update on recent developments related to the process for identifying a site for a Geological Disposal Facility and activities at RWM. It covers:

- Geological Disposal Facility (GDF) Siting Process;
- Nuclear Waste Services (NWS) update;
- CoRWM Update; and
- International news.

Recommendation: This report is for noting.

Background information:

The UK Government's policy on **Working with Communities – implementing geological disposal** was published in December 2018[1], with the equivalent policy for Wales published in January 2019[2]. The **National Policy Statement,** governing the planning aspects of the GDF in England, was published in July 2019[3].

1. Geological Disposal Facility (GDF) Siting Process

1.1 Nuleaf convened a meeting of our GDF local authority group on the 14th November. These meetings, held quarterly, enable local authorities involved in the GDF Community Partnerships to share updates and discuss issues of common interest. There has been a lot of activity across the 4 Partnerships.

[1] https://www.gov.uk/government/publications/implementing-geological-disposal-working-with-communities-long-term-management-of-higher-activity-radioactive-waste
[2] https://gov.wales/docs/desh/publications/190116-geological-disposal-of-higher-activity-radioactive-waste-working-with-communities-en.pdf
[3] https://www.gov.uk/government/publications/national-policy-statement-for-geological-disposal-infrastructure

Allerdale GDF Community Partnership has seen a high level of interest in community funding from local groups. The full £1million of Community Investment Funding (CIF) available in year 1 has been spent. Some of those that applied requested funding that stretches into next year and so some of the 2023 funds have already been allocated.

Allerdale is undertaking a review of its Search Area. These are defined around council ward boundaries, and the new Cumberland authority will be based on much larger wards meaning that the Search Area would become two or three times greater. The Community Partnership is also planning more engagement with the Solway Firth Partnership given the possible proximity of any undersea repository to the Firth and Scottish border.

In neighbouring **Copeland** the seismic surveys are now complete but it is likely to be 2024 before the full results are released.

Baseline surveys of attitudes have been completed in both **Mid Copeland** and **South Copeland**. In Mid Copeland the survey recorded a community view that was 39% positive. Around Millom the figure was negative 34%[4].

In Mid Copeland, the first year of Community Investment Funding (CIF) ended in November and all of the £1million available has been allocated. South Copeland started later but they are confident that all funds will be distributed by the end of their financial year.

The recently established **Theddlethorpe GDF Community Partnership** held its first meeting on the 24th November. An invitation to join the Partnership has been extended to The Guardians of the East Coast (GOTEC) [5], a group opposed to geological disposal in Lincolnshire, and they have decided that they will join. The Partnership is looking to recruit other members, particularly those from the business sector, the farming community and young people.

One workshop on Community Investment Funding has been held and there has been a significant amount of interest in applying for funds from the local community.

1.2 **Lincolnshire County Council** has decided to become a contributing member of Nuleaf. The Council is closely engaged in the local GDF siting process, and we are delighted that they have decided to fully affiliate to our network.

[4] https://southcopeland.workinginpartnership.org.uk/south-copeland-community-partnership-resident-research-june-july-2022-initial-survey-results/
[5] https://www.gotec.org.uk/post/gotec-invited-to-join-the-community-partnership

1.3 At a recent meeting of Nuleaf's Radioactive Waste Planning Group (RWPG), Guy Esnouf of NWS stated that they are working towards the selection of the final two communities by 2026. This would mean that the window for any additional communities entering the GDF siting process is likely to close in 2023 unless an exceptional candidate emerged after that point.

2. Nuclear Waste Services (NWS) Update

2.1 NWS has published a new report: **GDF - Creating Jobs and Skills: A First Look[6].**

The report recognises that the siting process is at an early stage and the appraisal has to be generic rather than site specific. However, it concludes that a GDF would create more than 4,000 jobs within the first 25 years (the Site Characterisation and Initial Construction phases) and an average of 2,000 jobs over the whole 175 years before final closure. It states that 'most' of the jobs created during construction and operation could and should be created locally.

The paper outlines the range of employment that would be created and highlights that, while many highly skilled workers will be required, 75% of roles would be for those holding A levels or below. A commitment is made to invest in local labour and support local contractors. Examples are provided as to how this has worked in other GDF and large-scale infrastructure projects.

NWS will present the findings of the report to the December Steering Group meeting. They have also provided a blog on this topic for the Nuleaf website[7].

2.2 Existing boreholes at Rosemanowes quarry in Cornwall have been sealed by NWS[8], part of an ongoing research project to demonstrate its approach to deep borehole sealing to regulators.

Formerly a working quarry, and the location of the UK Hot Dry Rock Geothermal Energy Research site, it offers access to one of the most comprehensively mapped well systems in the world. Two pre-existing boreholes in granite, one 2km deep and the other 300m deep, were successfully sealed using an innovative technology called a Downhole Placement System (DPS) tool.

During the process of exploring if a site is suitable to host a GDF, deep boreholes will be drilled to investigate the geology of the location. NWS will then need to seal these boreholes as part of the site restoration programme to minimise impact on the environment.

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[6] https://www.gov.uk/government/news/gdf-to-create-more-than-4000-jobs-within-the-first-25-years
[7] https://www.nuleaf.org.uk/gdf-creating-jobs-and-skills-a-first-look/
[8] Latest step of borehole sealing project a success - GOV.UK (www.gov.uk)

2.3 NWS has launched two short videos where Chief Scientist Prof. Neil Hyatt looks at the geological[9] and community aspects[10] of geological disposal.

3. CoRWM Update

3.1 CoRWM has published a preliminary position paper on the **decommissioning and radioactive waste management implications of fusion energy**[11]. They recommend that CoRWM should provide appropriate scrutiny and advice on radioactive wastes from fusion and commit to preparing a consolidated position paper on the decommissioning and waste management aspects. A report on their recent visit to the Culham fusion reactor is now available[12].

3.2 The Committee has also issued a report on the **Implications of inshore siting of a GDF.**[13] The report notes interest in the development of an inshore repository and considers a range of legal, technical and social issues related to such a development. They conclude that an inshore GDF preserves the fundamental characteristics of a GDF as originally envisaged. However, they comment that an inshore facility may lead to an increase in costs compared to one onshore and that there are issues of public perception and some unresolved legal uncertainties that will need to be considered.

4. International news

4.1 Theo Leggett of the BBC has put together a podcast on the issues around geological disposal. In it he visits the Aspo Hard Rock Laboratory in Sweden and meets representatives of SKB (the developer) and the local authority in Oskarshamn. He also discusses the UK process with Prof. Neil Hyatt of NWS and Dr Paul Dorfman and Marianne Birkby, both of whom oppose GDF development. The podcast can be heard here[14].

4.2 Switzerland has announced the proposed site for its geological repository as being **Nordlich Lagern,** close to the border with Germany[15]. The Swiss siting process was not based on volunteerism; rather it was driven by geological considerations, with much of the country deemed unsuitable due to the faulting and

[9] https://www.youtube.com/watch?v=1GPDi39iDlY
[10] https://www.youtube.com/watch?v=MWkPujO8gC0
[11] Radioactive wastes from fusion energy: preliminary position paper - GOV.UK (www.gov.uk)
[12] Nuclear fusion and radioactive waste regulation: CoRWM members visit the Culham Centre for Fusion Energy - GOV.UK (www.gov.uk)
[13] Implications of inshore siting of a geological disposal facility (GDF) - GOV.UK (www.gov.uk)
[14] https://www.bbc.co.uk/sounds/play/w3ct30xm
[15] https://nagra.ch/en/media-release-nagra-proposes-nordlich-lagern-as-the-site-for-switzerlands-deep-geological-repository/

fracturing found in the Alps. The repository is in a low-lying area underlain with clay. The Swiss developer, Nagra, is expected to submit general license applications to the federal government in 2024. A national test of public support is still required, with this expected in 2031.

4.3 China has begun construction of an underground research laboratory at **Beishan** in the Gobi Desert, Inner Mongolia[16]. The laboratory will be situated 560metres below the surface in granite and will test the suitability of the area for the long-term storage of high-level radioactive waste. China plans to construct a geological repository nearby by 2050 if the laboratory research shows the site is suitable.

[16] Excavation of Chinese underground lab begins : Waste & Recycling - World Nuclear News (world-nuclear-news.org)