

**Meeting:** Nuleaf Steering Group  
**Date:** 9<sup>th</sup> March 2022  
**Item:** 5  
**Subject:** Update on Geological Disposal Facility (GDF) siting process  
**Author:** Phil Matthews



## 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;
- RWM Update;
- CoRWM Update; and
- International situation.

**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<sup>1</sup>, with the equivalent policy for Wales published in January 2019<sup>2</sup>. The **National Policy Statement**, governing the planning aspects of the GDF in England, was published in July 2019<sup>3</sup>.

## 1. Geological Disposal Facility (GDF) Siting Process

1.1 It was announced on the 14<sup>th</sup> December that a second GDF Community Partnership (CP) has been formed in Copeland. This Partnership covers the electoral wards of Millom and Black Combe and Scafell in the south of the local authority area. The Lake District National Park and its proposed extension have been excluded from the Search Area, but there is significant interest in the scope for the underground

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<sup>1</sup> <https://www.gov.uk/government/publications/implementing-geological-disposal-working-with-communities-long-term-management-of-higher-activity-radioactive-waste>

<sup>2</sup> <https://gov.wales/docs/desh/publications/190116-geological-disposal-of-higher-activity-radioactive-waste-working-with-communities-en.pdf>

<sup>3</sup> <https://www.gov.uk/government/publications/national-policy-statement-for-geological-disposal-infrastructure>

element of the repository being located in deep geology offshore. A dedicated website has been set up and Community Investment Funding of up to £1million a year has been made available<sup>4</sup>.

Given the formation of both the South and Mid Copeland Community Partnerships, the Copeland Working Group has come to an end. The founder members of the Community Partnerships include local councillors, RWM, Copeland Borough Council and CALC (Cumbria Association of Local Councils). Other parties may be invited to join the Partnership.

1.2 Allerdale joined Copeland in launching a Community Partnership on the 18<sup>th</sup> January 2022<sup>5</sup>. Members include Allerdale Borough Council, CALC, RWM, Cumbria Chamber of Commerce and Inspira, a local skills development body. As in Copeland, Community Investment Funding can now be accessed by local organisations.

The Borough Council agreed to join the Partnership at a meeting on the 26<sup>th</sup> November last year, on the condition that the Solway AONB (Area of Outstanding Natural Beauty) was excluded from the Search Area. The Lake District National Park is also excluded. Cllr Marion Fitzgerald, deputy leader and the council's representative on the Community Partnership commented *'Participation of a principal local authority is necessary for a Community Partnership to be formed. When one is formed it simply means that the conversation can continue and that Radioactive Waste Management will be able to carry out further, more detailed investigations. It means just that and nothing more.'*

1.3 Cumbria County Council's leader, Stewart Young, has rejected a request to reverse the decision of the County not to participate in the Copeland GDF siting process<sup>6</sup>. Millom Councillor Keith Hitchen, whose ward is within one of the two Community Partnership areas in Copeland, stated *'I believe it's important we don't lose sight, with what we have to do in the next 16 months, that we still have to represent the views and opinions of our local communities. We have projects going on that I'm sure would benefit from a share of that million pounds. Here we have an opportunity to actually give guidance to that partnership on where some of those funds could be invested.'*

However, the leader argued *'Copeland Council should be concerned and indeed the residents (should be concerned) that if this goes ahead and the waste from Sellafield is transferred to a GDF, that will lead to the loss of thousands of well-paid jobs at Sellafield.'*

Radioactive Waste Management responded *'Cumbria County Council has been invited to join all GDF Community Partnerships in Cumbria and that invitation*

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<sup>4</sup> <https://southcopeland.workinginpartnership.org.uk/second-gdf-community-partnership-forms-in-copeland/>

<sup>5</sup> <https://allerdale.workinginpartnership.org.uk/geological-disposal-facility-gdf-community-partnership-launches-in-allerdale/>

<sup>6</sup> <https://www.newsandstar.co.uk/news/19883634.cumbria-county-council-leader-rejects-call-join-gdf-discussions/>

*remains open. A GDF will generate many thousands of jobs over its 100-plus year lifetime, both at the facility and in the wider supply chain, as well as a range of contract opportunities for businesses. There will continue to be thousands of jobs at Sellafield for the foreseeable future: clean-up and remediation of the site will take at least another 100 years. The site plans also take full account of a GDF being developed.'*

1.4 More information has been provided on the search area being considered in Lincolnshire<sup>7</sup>. The suggested area is centred around a disused gas terminal and encompasses Withern, Theddlethorpe and Mablethorpe as well as an area stretching offshore for 22km. Jon Collins, independent chair of the Theddlethorpe GDF Working Group said members would look at *'local geology, environmental issues, transport, and safety'* and consult with the local community over the plan.

1.5 It is unlikely that Hartlepool will progress to establishing a GDF Working Group following local resistance<sup>8</sup>. Interest in engaging in the siting process had been led by the Wharton Trust, a local community organisation. But no local councillors supported the proposal and there was strong opposition from the Tees Valley Mayor and the local MP.

Sasha Bedding of the Wharton Trust commented *'Disappointingly, our democratic right to have a conversation has been curtailed. It's a real shame our town, which has benefited enormously from the production of that waste, isn't in a position to have an informed conversation about what to do with that waste that we have created.'* Mr Bedding pointed to the contradiction between the opposition to waste disposal facility and the local support for a new nuclear station in Hartlepool, which would require surface storage of waste for over 60 years.

1.6 A study by Sheffield University has claimed that the entire UK inventory of high-level waste from fuel reprocessing could be disposed of via boreholes. A GDF would still be required for the large volumes of ILW but the use of boreholes would reduce the cost and scale of the deep repository required<sup>9</sup>.

## **2. Nuclear Waste Services (NWS) Update**

2.1 Nuclear Waste Services was launched on the 31<sup>st</sup> January 2022, bringing together the Low Level Waste Repository Limited, Geological Disposal Facility (GDF) developer Radioactive Waste Management Limited and the Nuclear Decommissioning Authority (NDA) group's Integrated Waste Management Programme. More on the creation of NWS is included in the National Updates Paper.

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<sup>7</sup> <https://www.bbc.co.uk/news/uk-england-lincolnshire-60304295>

<sup>8</sup> <https://www.hartlepoolmail.co.uk/news/environment/talks-on-multi-billion-pound-nuclear-waste-facility-in-hartlepool-stall-amid-lack-of-council-support-3509138>

<sup>9</sup> <https://www.theengineer.co.uk/boreholes-nuclear-waste-drilling-sheffield/>

2.2 NWS has published responses to a range of Freedom of Information (FoI) requests relating to the Allerdale Working Group<sup>10</sup> and to the number of interested parties they are currently in discussion with regarding the GDF<sup>11</sup>.

2.3 Following the retirement of Prof. Cherry Tweed, Neil Hyatt has been appointed as Chief Scientist for Geological Disposal, Nuclear Waste Services. Neil, who is based at the University of Sheffield, has a wealth of experience in the treatment and management of radioactive waste, and has held national and international leadership roles supporting academia, industry and the government. He is currently a member of the government's independent Committee on Radioactive Waste Management (CoRWM). Prof. Cherry Tweed has been working on geological disposal since 1985 and Nuleaf wishes her well in her retirement.

2.4 NWS has published its **GDF Annual Report**<sup>12</sup>, outlining progress with the national programme. It includes a revised costing for the GDF, based on a larger volume of waste and 'more realistic' scope. It is now projected that the total bill could be up to £53 billion, compared with an estimate 4 years ago of between £12 billion and £20 billion to build and operate the facility for 150 years. This cost will be borne by taxpayers and nuclear power operators, with each paying roughly half. However, that ratio rests on the assumption that 16 gigawatts of new nuclear power will be built.

2.5 A new video explaining its mission and the need for a GDF has also been released<sup>13</sup>.

### 3. CoRWM Update

3.1 CoRWM members undertook a visit to the Culham Centre for Fusion Research (CCFE) in early December 2021<sup>14</sup>. CoRWM's interest in fusion is primarily in relation to the regulation of radioactive waste. CoRWM has also recently published a preliminary position paper on this topic<sup>15</sup> and its response to the recent BEIS consultation<sup>16</sup>.

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<sup>10</sup> [https://www.gov.uk/government/publications/foi-03648-requests-related-to-allerdale-working-group?utm\\_medium=email&utm\\_campaign=govuk-notifications-topic&utm\\_source=aacfb68c-093e-4457-a625-446d2b4f9e3c&utm\\_content=immediately](https://www.gov.uk/government/publications/foi-03648-requests-related-to-allerdale-working-group?utm_medium=email&utm_campaign=govuk-notifications-topic&utm_source=aacfb68c-093e-4457-a625-446d2b4f9e3c&utm_content=immediately)

<sup>11</sup> <https://www.gov.uk/government/publications/foi-02331-interested-parties-in-discussion-about-the-siting-of-a-gdf/foi-02331-interested-parties-in-discussion-about-the-siting-of-a-gdf>

<sup>12</sup> <https://www.gov.uk/government/publications/gdf-annual-report-2020-2021>

<sup>13</sup> <https://www.youtube.com/watch?v=X3USS9Dskn0>

<sup>14</sup> [https://www.gov.uk/government/news/nuclear-fusion-and-radioactive-waste-regulation-corwm-members-visit-the-culham-centre-for-fusion-energy?utm\\_medium=email&utm\\_campaign=govuk-notifications&utm\\_source=47c18e4c-ae35-48c5-b72d-818a2d72afab&utm\\_content=immediately](https://www.gov.uk/government/news/nuclear-fusion-and-radioactive-waste-regulation-corwm-members-visit-the-culham-centre-for-fusion-energy?utm_medium=email&utm_campaign=govuk-notifications&utm_source=47c18e4c-ae35-48c5-b72d-818a2d72afab&utm_content=immediately)

<sup>15</sup> <https://www.gov.uk/government/publications/radioactive-wastes-from-fusion-energy-preliminary-position-paper>

<sup>16</sup> [https://www.gov.uk/government/publications/towards-fusion-energy-corwm-response-to-beis-consultation?utm\\_medium=email&utm\\_campaign=govuk-notifications-topic&utm\\_source=a7db0c1c-22c3-4a71-99a7-9bb629658348&utm\\_content=immediately](https://www.gov.uk/government/publications/towards-fusion-energy-corwm-response-to-beis-consultation?utm_medium=email&utm_campaign=govuk-notifications-topic&utm_source=a7db0c1c-22c3-4a71-99a7-9bb629658348&utm_content=immediately)

## 4. International situation

4.1 A study commissioned by Norwegian Nuclear Decommissioning (NND) on behalf of the European Repository Development Organisation (ERDO) has concluded that deep borehole disposal is a viable and cost-effective solution for all the long-lived heat generating nuclear waste that is being stored in 5 European countries – Croatia, Denmark, the Netherlands, Norway and Slovenia<sup>17</sup>.

One or more deep geological repositories will still be required for the bulky Intermediate Level Waste (ILW) and non-heat generating High Level Waste (HLW). However, the use of boreholes for part of the waste inventory could lead to significant cost savings overall. The report has recommended that the next stage should be the development of a full-scale demonstrator project.

4.2 On the 27<sup>th</sup> January the Swedish Government approved plans to develop a deep repository for Spent Fuel. This enables the developer, SKB, to begin preparation for the construction of the GDF, though final regulatory hurdles have still to be cleared. The host community at Forsmark in Östhammar has already voted in favour of the development.

The siting process has taken 30 years to get this far, being launched in 1992 with an invitation extended to every local authority in Sweden to take part. Eventually two communities remained, Östhammar and Oskarshamn. They have moved forward in tandem, and while Östhammar will be the site of the GDF, Oskarshamn will host the encapsulation plant.

The Swedish Government has also recently agreed to the extension of the final repository for short lived radioactive waste in Forsmark. The extension is required to accommodate decommissioning waste from Sweden's current nuclear power plants.

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<sup>17</sup> <https://www.world-nuclear-news.org/Articles/Deep-borehole-disposal-suitable-for-ERDO-countries>