

## **ITEM 8: UPDATE ON GEOLOGICAL DISPOSAL FACILITY SITING PROCESS**

**Report to RWPG, 27<sup>th</sup> April 2023**

This report provides an update on recent developments related to the process for identifying a Geological Disposal Facility (GDF). It covers:

- Nuclear Waste Services (NWS) Update;
- GDF Community Partnerships;
- International situation; and
- CoRWM update.

### **1. Introduction**

1.1 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>.

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

2.1 A new report commissioned by the NDA has concluded that boreholes can play a key role in dealing with the UK's nuclear waste inventory, including disposal of all the nation's heat generating waste<sup>4</sup>. At the same time the study, by Deep Isolation of the USA, is clear that such an approach cannot eliminate the need for a GDF or deal with the full diversity of the UK's waste inventory.

NWS has welcomed the report. They comment that they recognise *'the insight afforded by Deep Isolation's study and (that they) will continue to engage with such developments, while recognising that a GDF will still be required for the majority of the UK higher activity waste inventory, even when Deep Isolation's directional borehole technology is developed to sufficient maturity for potential implementation.'* The full report can be viewed here<sup>5</sup>.

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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/geological-disposal-higher-activity-radioactive-waste-guidance-communities>

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

<sup>4</sup> [The Engineer - New study on borehole disposal for nuclear waste](#)

<sup>5</sup> [Deep-Isolation-Report-for-NDA-20-March-2023.pdf \(deepisolation.com\)](#)

2.2 NWS has published a 'first look' paper on the **sustainability of the GDF programme**<sup>6</sup>. Their approach is framed by the UN Sustainable Development Goals (SDGs) and considers where the most significant impacts on communities and the environment could be made. It identifies three priority areas of focus:

- The Community – a GDF must work for the community, both as an infrastructure programme and as a long-term operating facility. Priorities include the building of social and infrastructural resilience, education and skills and diversity and inclusion.
- The Environment – NWS wants to ensure they minimise the impact on the local environment, and ideally enable the environment and ecosystems to be maintained and supported sustainably. Issues identified include responsible resource consumption, carbon net zero, natural capital enhancement, sustainable infrastructure and sustainable waste management.
- The Supply Chain – NWS aims to ensure that the supply chain they use to deliver a GDF will also support sustainability commitments to both the community and the environment. There is a focus on Social Value creation and Strategic Partnering.

2.3 NWS has also published a bibliography of published material on geological disposal<sup>7</sup>. The report covers the period 2007-2021 and provides links and details of relevant work. Information on some significant publications from prior to 2007 is also included.

### 3. GDF Community Partnerships

3.1 The creation of the new Cumberland Council on the 1<sup>st</sup> April 2023 means that 3 of the 4 GDF Community Partnerships are located within one local authority area. At least one principal local authority (County, District or Unitary) has to be involved for a Community Partnership to continue.

3.2 Both **Mid**<sup>8</sup> and **South Copeland**<sup>9</sup> **Community Partnerships** have announced that NWS has commenced initial work in their area intended to help understand the areas suitability for hosting a GDF. This will be focussed on desk-based studies that will assess the feasibility of connecting a surface facility to suitable geology offshore.

Studies may take around 2-3 years and will look at a range of topics, such as geology, labour & skills, local power supply and transport. Another study will be on

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<sup>6</sup> [GDF Programme Sustainability - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/gdf-programme-sustainability)

<sup>7</sup> [GDF Bibliography Summary 2007 to 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/gdf-bibliography-summary-2007-to-2021)

<sup>8</sup> <https://midcopeland.workinginpartnership.org.uk/initial-work-under-way-in-mid-copeland-as-part-of-gdf-siting-process/>

<sup>9</sup> <https://southcopeland.workinginpartnership.org.uk/studies-begin-in-south-copeland-to-understand-feasibility-of-a-gdf/>

accessways – which looks at potential options for underground tunnels linking a surface site to an underground facility.

Simon Hughes, Nuclear Waste Services' Siting Director, said: *'The work we've now started will address the most common topics to have emerged from our discussions with local people. It will begin to give us a much better understanding of the suitability of the area and enable us to consider how different elements of a GDF could be delivered in Copeland.'*

**3.3 Allerdale Community Partnership** has exhibited a large-scale model of the surface facilities at a repository, something that has received positive feedback.

Mary Bradley, Chair of the Allerdale Community Partnership commented *'These events provide an opportunity for local people to gain a better understanding about geological disposal and express their opinions. The concept of a GDF can be hard to visualise, so by using the new scale model and virtual reality technology, we can really bring the GDF to life.'*

**3.4** Claims that a low level of applications for Community Investment Funding in **Theddlethorpe** are due to a 'stigma' surrounding the link to a Geological Disposal Facility have been challenged by Council officers<sup>10</sup>.

Lincolnshire County Council's Environment and Economy Scrutiny Committee were told that few groups had come forward to date. Councillor Matthew Boles commented that *'It would strike me that the reason there's a very small uptake in applying for these grants is that the local residents have attached stigma to it.'* In response, Justin Brown, the County Council's assistant director for growth, said he was *'not surprised that not many people have applied yet. With any grant programme, the first year is always very slow.'*

The two Parish Councils covering Theddlethorpe have seen 8 of the 10 seats return anti-GDF members, these been elected unopposed<sup>11</sup>. The new councillors are all from the Theddlethorpe Resident's Association, formed to oppose the GDF, and will take up their seats on the 4<sup>th</sup> May. Prior to these elections the majority of the Parish Council seats were unfilled and recent meetings had not been able to take place.

## **4. International situation**

4.1 Nuleaf's Executive Director took part in a EURAD meeting in Nancy, France held on the 18<sup>th</sup> to 20<sup>th</sup> April. The event looked at dialogue and development of mutual understanding around a GDF. It also involved a visit to Bure, the site of an underground research laboratory which is 500 metres deep and has been constructed to assess the capacity of local clay rocks to host a GDF. A report on the visit will be made to the next Steering Group meeting.

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<sup>10</sup> [Concern over funding 'stigma' from Theddlethorpe nuclear storage \(thelincolnite.co.uk\)](https://www.thelincolnite.co.uk/news/concern-over-funding-stigma-from-theddlethorpe-nuclear-storage)

<sup>11</sup> [Nuclear storage dump opponents sweep into Theddlethorpe parish council \(thelincolnite.co.uk\)](https://www.thelincolnite.co.uk/news/nuclear-storage-dump-opponents-sweep-into-theddlethorpe-parish-council)

4.2 EURAD held an online seminar on the 22<sup>nd</sup> February entitled '**Mission (almost) accomplished – the Swiss proposals for a combined repository in clay rocks.**' A recording of the seminar is now available to view online<sup>12</sup>.

4.3 The Canadian waste management organisation (NWMO) has published its **Triennial Report 2020-22** setting out progress in delivering a geological disposal facility<sup>13</sup>. The report details both their technical work and community and indigenous engagement over this period. Two sites, both in Ontario, remain in the siting process. The selection of the final site for their repository is expected in 2024.

## 5. CoRWM update

5.1 Nuleaf staff joined a CoRWM meeting held online on the 21<sup>st</sup> March. The meeting provided a range of useful updates including the following:

- CoRWM are preparing a report on the use of robotics in a GDF. Such technologies could significantly affect the approach taken to GDF development and waste installation.
- The Committee are also preparing position papers on (a) the underground verification process and (b) retrievability. Both will be out in 2023.
- They will also be looking in more detail at the implications of SMRs and AMRs for legacy wastes and the size of a GDF.
- In terms of Near Surface Disposal (NSD) they are considering the planning aspects. Current proposals are for any such facility to fall under the Town and Country Planning Act.

The Committee members also made some comments on NWS:

- They have some concerns about NWS' target of a 2026 date for the move to 2 communities.
- They are in dialogue with NWS on the potential need for a Underground Rock Laboratory (URLs) as part of the UK process. NWS are engaged in work in URLs elsewhere and will undertake further characterisation work as required, depending on the geology at the site finally selected.
- CoRWM believe that NWS need to develop their capacity in terms of humanities and social sciences.

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<sup>12</sup> [Webinar: Lunch & Learn | Mission \(almost\) completed. The Swiss proposal for a combined repository in clay rocks. by SCK CEN Academy \(bigmarker.com\)](#)

<sup>13</sup> [NWMO-Triennial-Report-2020-22-EN-Secured-4.pdf](#)