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DSG(2020)C055

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Dear Deirdre & Brian

DOUNREAY UPDATE

I hope this letter finds you well. Given the ongoing restrictions we are still unable to hold the regular liaison meetings with you, however there are a few topics that I wish to update you on.

The site continues to follow current Government guidance on COVID-19. For those who need to go on site, a film and series of guides have been produced to ensure familiarity with the latest rules. These guides are updated to reflect any changes in restrictions. Guidance includes the avoidance of car-sharing wherever possible and the wearing of face coverings where required. More than 50% of DSRL staff continue to work from home. While the situation is being kept under constant review, the site's planning horizon has now been extended with a view that some staff will be working from home until at least the summer of next year. This is intended to provide some clarity to those able to work from home and ensure numbers on site are minimised in order to protect front-line safety and decommissioning activities.

It was announced earlier this year that Dounreay Site Restoration Limited will become a direct subsidiary of the Nuclear Decommissioning Authority from the end of March next year. Preparations for this change are taking place, including detailed engagement with regulators. Announcements about the first senior management appointments are expected in the coming weeks and we will keep you updated on this via the monthly newsletter.

G Coghill, Chair of Buldoe Liaison Group raised a couple of points on your behalf at a recent Dounreay Stakeholder Group meeting, so I would like to take this opportunity to respond to her questions:

- Smart sensors are being used at Sellafield and she asked whether Dounreay is proposing to use them. DSRL is aware of the introduction of smart technology through the Stores Operators Forum and the Industry Guidance on storage of Higher Activity Waste (HAW). DSRL participated in the early definition of a number of HAW Stores inspection technologies in the past. At this time, DSRL has not made any decisions on the use of such technology in our HAW stores until we consider how they have performed "in real" situations and if the applications are applicable to our stores and environments. It is an area where we are keeping an open mind on. With regards to LLW, once disposal, appropriate arrangements for monitoring will be in place for LLW which will consist of visual checks of accessible packages and routine health physics surveys of the vault.
- Confirmation that the LLW being disposed in the vaults is from Dounreay and Vulcan only. We have discussed this on several occasions over the years and I can confirm that DSRL has permission to dispose of LLW from Dounreay and Vulcan only in the vaults.

As you will be aware the LLW Facility is authorised for the disposal of low-level radioactive waste under the Environmental Authorisation (Scotland) Regulations (EASR). The relevant permit and supporting Environmental Safety Case (ESC) identify limits on the total inventory of radionuclides that can be disposed within the facilities. These limits are based on inventory estimates undertaken in 2009 and not on how much radioactivity can be safely disposed to the facilities. Operations of the facilities has identified that the defined limits are unnecessarily restrictive, particularly for some radionuclides at low activities with no impact on safety and must be amended if the facilities are to be able to take Dounreay and Vulcan's LLW.

If the authorised limit is reached for any radionuclide, no further disposals of waste packages containing that radionuclide can be made. It is therefore necessary to update the ESC and seek a variation to the EASR permit to ensure appropriate activity limits are in place. DSRL aims to deliver the updated ESC to SEPA in April 2021 as part of the variation application.

Also, the project team are developing the next steps and best way forward for the interstitial grouting within the LLW vault (the grouting within the small gaps between the half height ISOs in the vault). Initially it was proposed that the containers would be emplaced in two layers, each the equivalent of four HHISOs high. The first layer would be grouted to fill the gaps between the containers before emplacement of the second layer which would also be grouted. The design of the concrete walls requires the emplacement of the graded backfill in a manner that balances the loading across the wall during the grout process.

In order to mitigate technical risks, it is proposed that the grouting should be undertaken at frequent intervals, using a multi-staged approach, which involves 9 stages of grouting for each of the two layers, using a bespoke shuttering system. The multi-staged approach to grouting and backfill that is proposed has been demonstrated as BPM and is consistent with the ESC but will require the agreement of SEPA. Implementation of the proposed work requires the following key elements to be completed:

- It is a pre-requisite for this work that waste packages are de-stacked into 'temporary islands' at the front of the LLW vault and then moved from the 'temporary islands' as dictated by grout stages. It is proposed to start with small numbers of containers, ie 16 and work up to 128 containers per stage.
- The greater frequency of grouting operations allows smaller pour sizes and therefore it is proposed to use the existing grout plant, utilising for the most part existing equipment and quality assured processes.
- The more frequent approach requires the use of shuttering. A bespoke shuttering system which clamps to the face of the waste packages is proposed and a detailed design has been developed. Trials of the shutter membrane are proposed prior to the work commencing. It is proposed that fabrication of the shutters will be done in-house.
- Backfill around the LLW vault will be undertaken in parallel with grouting. The sequencing of the backfill will be optimised to minimise differential loads across the vault wall whilst achieving a practicable approach. Geotechnical inspection of the excavation slopes and any necessary remedial action is scheduled to take place in February/March 2021 prior to backfill operations commencing in the Spring.
- The original concept for the facilities envisaged the re-use of excavated materials in the eastern stockpile during backfill and closure operations. Unfortunately, all the suitable material for backfill was used during the construction of the firing range to the west of the site. Initial plans are to import backfill for the first stages. The import of backfill is contrary to the planning permission for the facilities as Planning Condition 21 requires. Agreement from Highland Council will therefore have to be gained before material is brought on site for backfilling operations.

We will keep you informed as this progresses and the necessary approvals are obtained.

If you have any questions or would like further information regarding any of the above, then please contact Marie Mackay on 07809543371.

Yours sincerely



Sam Usher
Strategic Programme Director, Dounreay

cc: G Coghill, Dounreay Stakeholder Group