



C/o Richard Outram, NFLA Secretary
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Mr Mark Rouse,
Managing Director,
Dounreay Site Restoration Ltd (DSRL)
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19 December 2022

Ms Nicole Paterson,
Chief Executive,
Scottish Environment Protection Agency (SEPA)
Nicole.paterson@sepa.org.uk

Dear Mr Rouse and Ms Paterson,

We are writing to you as Chair of Highlands against Nuclear Transport and Scottish Nuclear Free Local Authorities about the recent revelations in the national and local press of the discovery of fifteen radioactive particles in February and March of this year on the shoreline and beaches adjoining the Dounreay facility. Seventy-three per cent of the particles were described as "significant" and said to have "a realistic potential to cause harm to members of the public".

We are not reassured by statements issued by DSRL that there is no danger as "the foreshore is not used by the general public" (as radiation observes no geographical boundaries and there can be zero guarantee that particles will not pass into areas accessible by local people) and by SEPA that "we are content that that the monitoring and retrieval programme in place continues to provide appropriate protection for the public" (because frankly we do not believe it does).

Furthermore, there is a real deficiency in the current reporting mechanisms to bring these matters to the attention of local stakeholders. It is outrageous that the local community only heard about the discovery of the particles from reports in the national and local press.

No reference to the discovery of particles was made to the public meeting of the Dounreay Stakeholder Group on March 23 and at the Site Restoration Sub-Group meeting on October 19 the increase in the particles was described as 'weather related'. DSG Members did not receive bespoke letters nor was a special meeting convened to explain the situation and the remedial action that was being taken a suggestion which HANT originally raised at a meeting of the DSG Site Restoration Group on January 2022.

This has meant that DSG members have been kept uninformed and it has seriously eroded trust between local stakeholders on the DSG and the senior management at the facility responsible for communications, public safety and decommissioning.

The Dounreay Stakeholder Group, Caithness West Community Council, Buldoo Residents Association have also expressed serious reservations at this unacceptable situation.

HANT, other local organisations and the local community have real concerns about the ongoing risks posed to public safety because of past operations at the Dounreay site and the historically lackadaisical approach to the disposal of arisings from these operations. It is not hard for any casual researcher to discover evidence of this, you can simply turn to the entry on Dounreay on Wikipedia:

'Sodium explosion

A 65-metre (213 ft) deep shaft at the plant was packed with radioactive waste and at least 2 kg of sodium and potassium.^[18] On 10 May 1977, seawater, which flooded the shaft, reacted violently with the sodium and potassium, throwing off the massive steel and concrete lids of the shaft.^[18] This explosion littered the area with radioactive particles.^[18]

Radioactive fuel swarf

Tens of thousands of fragments of radioactive fuel escaped the plant between 1963 and 1984, resulting in fishing being banned within two kilometres (one nautical mile) of the plant since 1997.^[19] These milled shards are thought to have washed into the sea as cooling ponds were drained.^[19] As of 2011, over 2,300 radioactive particles had been recovered from the sea floor, and over 480 from the beaches.^[19] As of 2019 the 2 km ban on harvesting seafood was still in place, but there were no other restrictions.^[20]

Nuclear Decommissioning Authority ownership

Irradiated nuclear fuel particles on the seabed near the plant,^[6] estimated to be about several hundreds of thousands in number,^[30] caused by old fuel rod fragments being pumped into the sea.^[6] The beach had been closed since 1983 due to this.^[6] In 2008, a clean-up project using Geiger counter-fitted robot submarines was planned to search out and retrieve each particle individually.^[6] Particles were still being washed ashore at Sandside Bay beach and one particle at a popular tourist beach at Dunnet in 2006.^[31] In 2012, a two million becquerel particle was found at Sandside beach, twice as radioactive as any particle previously found.^[32]

With the references being

[6] <https://www.theguardian.com/environment/2008/may/25/pollution.conservaton>

[18] <https://www.newscientist.com/article/mg14619830-600-lid-blown-off-dounreays-lethal-secret/>

[19] <https://www.theguardian.com/environment/2011/sep/21/scottish-nuclear-leak-clean-up>

[20] <https://www.gov.uk/government/publications/radioactive-particles-in-the-environment-around-dounreay>

[30] Ross, David (20 November 2008). "Evidence of many more radioactive particles near beach". The Herald. Retrieved 18 August 2009.^[permanent dead link]

[31]

<https://web.archive.org/web/20070927191113/http://www.neimagazine.com/story.asp?sectionCode=132&storyCode=2040484>

[32] <https://www.bbc.co.uk/news/uk-scotland-highlands-islands-17098948>

HANT has previously regularly asked at meetings of the DSG for information about the monitoring being carried out and the results.

We have previously been told that information will be made available when the monitoring report is provided by an independent body. It is now highly regrettable that this information has not previously been supplied.

Although some information is available online, via this link:

<https://www.gov.uk/government/publications/radioactive-particles-in-the-environment-around-dounreay>

This is largely unintelligible to lay people / members of the public so any online information needs to be provided in a format that is understandable.

Commenting on the information that is available, Tim Deere-Jones (Marine Radioactivity Research and Consultancy) said:

'The Government website reporting of 2022 Dounreay particle information provides only minimal information. Much of what it does provide is based on inadequate and incomplete investigation: characterised by truncated gamma spectrometry counting time, no analysis for pure beta and alpha emitters such as Strontium 90 or Plutonium nuclides, no real discussion of the full range of probable dose delivery pathways (especially those associated with multiple sea-to-land transfer mechanisms), and no reference to the fact that the terrestrial Dounreay site is also known to harbour such particles.

'The website also offers no discussion of the marine regional hydrodynamic/tidal/residual current, wind and wave regimes which must exercise significant influence on the behaviour and end fate of the many thousands of particles which are reported to have been released from the Dounreay site. The UK Government and Dounreay management need to provide much more detail in order to adequately inform the public about the risks of the particles and the progress they are making towards remediation'.

Tim Deere-Jones (Marine Radioactivity Research and Consultancy)
17/12/2022

To retrieve the situation, we would recommend some remedial measures be implemented to help improve future relations between DSRL, SEPA and the DSG.

1. That regular up-to-date reports be provided on the monitoring results and any retrieval efforts to the DSG and through press releases to the national and local media. This would enable the DSG to provide this information to the organisations present who in turn can inform their own members. Similarly, the local press to disseminate this information through feature articles to the public.

If the results of the monitoring can demonstrate that there is no danger to the public, this will provide reassurance to everyone living in the area around Dounreay.

2. That the Dounreay "clean up" reports provided by DSRL to the Particles Retrieval Advisory Group (Dounreay PRAG) be provided to the DSG and national and local press. An online search found the latest information from the PRAG that was accessible was from 2016, and this is totally unacceptable.

3. That the format of the online information provided at <https://www.gov.uk/government/publications/radioactive-particles-in-the-environment-around-dounreay> should be reviewed taking account of the comments of Mr Tim Deere-Jones, but also with input of members of DSG to make the presentation of this material more accessible to a lay audience.
4. That a presentation be made to the DSG by the outside body carrying out the monitoring to describe its methodology and how regularly it is carried out – again to provide local reassurance.

HANT and the NFLA looks forward to the immediate implementation of these proposals and will be monitoring this issue closely over the next months. Thank you for considering these proposals. We look forward to receiving your reply which we would ask you to send by email to Richard Outram, NFLA Secretary, at richard.outram@manchester.gov.uk

Yours sincerely,

Tor Justad
Chairperson, Highlands Against Nuclear Transport

Councillor Paul Leinster,
Convenor, NFLA Scottish Forum