

UK-US Air Transports of High Enriched Uranium: Global Security at Risk for Commercial Gain

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Planned air transports of high-enriched uranium from Dounreay in Scotland to the US state of Tennessee would risk of accident or a terrorist seizure of weaponisable nuclear material, writes Ernie Galsworthy. The motive for the transport appears to be purely commercial – and would thus put the public at needless risk for the sake of a cut-price nuclear waste / fuel deal between US and UK authorities.

Despite the politically inspired rhetoric from both governments, it remains hard to see the nuclear proliferation benefits of taking safely stored and managed HEU, and transporting it by air from one nuclear weapon state to another.

There has been a recent flurry of [media reports](#) suggesting that a proposed transport of radioactive materials from the Caithness Dounreay site to the United States could be sent by plane.

The reports note the surprise upgrade of Wick John O’Groats Airport through an £8 million cash injection from the Nuclear Decommissioning Authority (NDA).



The Dounreay nuclear plant, now undergoing decommissioning, as seen from Sandside Bay in March 2008. Photo: Paul Wordingham via Flickr (CC BY).

This follows from the Global Nuclear Security Summit in Washington DC at which, on 31st March, the US and UK Government announced a deal under which 700kg of un-irradiated Highly Enriched Uranium (HEU) – categorised by the NDA as ‘exotic fuels’ and safely stored at Dounreay – would be transported to the United States in exchange for US nuclear material being sent to Europe for conversion into medical isotopes for diagnosing cancer.

The deal was trumpeted as a 'win-win' for both parties – the United States has more capacity to store and process the HEU, while France and Belgium get 'beneficial' nuclear materials that will help save lives in the fight against cancer. What is not to like in such a deal?

But digging a little deeper makes the deal look like a purely commercial decision suiting the UK, US and European nuclear industries – and one that creates a real and serious security risk.

The NDA-owned HEU at Dounreay, which comprises around a tonne of radioactive material, is made up of oxide powders, pellets and some uranium metal and alloys with varying levels of weapons enrichment that present difficulties for long-term disposability. Whether it is transported by sea, or even by air, there is real concern over the potential for an accident or a malicious attack that would put the public at risk.

How many nuclear weapons could be made if such material got into the wrong hands? Why risk global nuclear security by transporting this waste across the Atlantic by air? Why is the nuclear industry getting involved in upgrading airports? And what makes this particular transport of such importance?

Strong local opposition to rail shipments

Previously, despite local opposition, NDA had been sending these materials out by rail as part of a long series of transports moving it from Dounreay to Sellafield for long-term management and storage.

These transports have been subject to considerable criticism from local pressure groups like [Highland Against Nuclear Transports](#) (HANT) group and [Cumbrians Opposed to a Radioactive Environment](#) (CORE), as well as Scottish and English members of [Nuclear-Free Local Authorities](#) (NFLA).

The first stage of these transports has taken place over the rail network, much of which is single track and in remote rural locations. In the last six months the NDA has also moved to look at transporting the materials by sea from Scrabster in Caithness to Barrow in Cumbria. NFLA have again been concerned over a sea transport travelling through one of the most difficult shipping routes in the British Isles. This at a time when there is no emergency towing vehicle on the west coast of Scotland (the nearest is stationed at Orkney).

In meetings held between the NFLA Scotland Forum and Dounreay / NDA staff, considerable concern was raised by councillors and council officers over the safety and security of these transports, the risks of an accident or malicious incident involving them, and the lack of any information provided to the local Councils on the route of the transports.

Without any further discussion, and garnering only a brief reference in the NDA's Strategy consultation that Dounreay HEU may be 'transferred to a third party', it appears the previous public consultation processes – which were already fairly inadequate – have been ditched in favour of removing much of the materials to the United States in, as [the BBC called it](#), *"the largest ever such movement of nuclear waste"*.

No mention had previously been made of the US link and no specific public information has been provided to consultees.

NFLA are writing to NDA to now clarify how many transports, whether by sea or by air, will have to take place, and whether there will be any public consultation on this. It also wants to know what programmes the HEU arises from at Dounreay – such as nuclear submarine fuel, fuel for nuclear weapon warheads or from other military nuclear programmes.

And it would like to know why £8 million will be spent on Wick John O’Groats Airport, when its commercial use as an airport is limited compared, for example with the main air hub in the Highlands of Scotland, at Inverness.

All this nuclear risk for a grubby commercial deal?

It now appears that the NDA plan is to transport the HEU to the US private sector facility Nuclear Fuel Services at Erwin in Tennessee in what NFLA believe should be seen as a commercial deal between the UK and US.

The NFS facility is where Russian uranium, from HEU, was made into fuel for commercial reactors operated by the Tennessee Valley Authority (owned by the federal government). It is unknown if the Dounreay material would end up going to TVA or other site reactors for use.

The Dounreay HEU is likely to be blended into Low Enriched Uranium (LEU) and potentially used as nuclear fuel in commercial nuclear power plants. It looks like the material coming the other way is actually not specifically linked to the UK, but is rather going to France and Belgium, where their research reactors need HEU, some of which could be used to make medical isotopes.

However, as [an article in wired.com](#) notes, other states like Australia are already making medical isotopes out of low enriched uranium – so why is HEU being sent from the US to France and Belgium at all, when LEU could be used instead?

From the US perspective this is simply a commercial deal aimed at supplying nuclear power fuel. On the UK end, it appears to be little more than a nuclear waste-dumping deal. Despite the politically inspired rhetoric from both governments, it remains hard to see the nuclear proliferation benefits of taking safely stored and managed HEU, and transporting it by air from one nuclear weapon state to another.

The answers we need – and are not getting

There are a number of other important specific questions about this deal which also need answers, including:

- What is the percent enrichment of the HEU?
- What is the actual ‘swap’ for HEU to medical isotope reactors?
- As part of any deal, will the US no longer advocate conversion of medical isotope reactors to LEU?
- How much money is exchanging hands in this deal? Will the deal have to be subsidised or will the fuel value of the HEU pay for it?
- At what point in the transit does waste from Dounreay become a commercial product in the US? Only after it’s converted to fuel?
- What are the waste streams in the US and how will they be disposed of and who pays?
- In the US, where is the environmental impact documentation on the import?

- What type of export and import licenses are needed from regulatory authorities for this commercial deal? Both in the UK and US the Governments appear to be doing this under the cover of a government-to-government non-proliferation deal which may allow them to avoid obtaining licenses. That looks to us like poor radioactive waste management practice.

NFLA is writing to the NDA and the UK Government to clarify such matters, and it is encouraging American environmental NGOs to do the same of the US authorities.

The waste should not be moved!

We firmly believe the radioactive waste at Dounreay should rather be stored on-site and not be subject to such excessive levels of high-risk transportation.

These transports will continue to be undertaken in a secretive manner, with local authority emergency planning units unlikely to be informed, but whose units would almost certainly have to be involved in the event of a serious accident or incident. And all this has been done without an iota of public consultation.

We call for this deal to be cancelled forthwith. The waste should be stored on-site at Dounreay and not moved over 6,000 miles away. These cosy relations between nuclear weapon states need to be robustly challenged. It is simply not right to dump our radioactive waste legacy on to another country whilst suggesting we are also against the proliferation of such nuclear materials.

The US and UK governments should not be saying we are preventing nuclear terrorism on one side, while potentially opening nuclear material up to such groups by transporting it thousands of miles instead. It is hypocritical to say the least. And in terms of openness and transparency and full public consultation, this deal has been anything but, using a 'smokescreen' of cancer-saving materials going the other way to justify the deal.

NFLA will work with other relevant UK and US groups to publicise these concerns -*Ecologist* readers and the wider public need to know what is really going on.

Councillor Ernie Galsworthy is the UK and Ireland [Nuclear-Free Local Authorities](#) (NFLA) Steering Committee Chair. The NFLA would like to acknowledge with thanks input from Tom Clements of Savannah River Site Watch, Martin Forewood of CORE Cumbria and Tor Justad of HANT for their contributions to this article.

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