

Ref: FOI2026-034

06 July 2026

We refer to your request for the following information:

- "1. Separated Helium-3 Inventories: The total volume/mass of stored Helium-3 gas currently held across your sites that is not mixed with active tritium.*
- 2. Off-spec/recovered noble gases: Inventories of any "off-spec", contaminated, or recovered noble gas stocks originating from tritium handling, storage, or decay processes, which have subsequently been purged of tritium (e.g., contaminated with helium-4, nitrogen, or air, but safe for non-radiological handling).*
- 3. Data on the Stocks: For the materials identified in points 1 and 2, please provide:*
 - The current storage locations (e.g., specific facility or site name).*
 - The known purity levels or contaminant profiles of these gases.*
- 4. Strategic Management: Any internal assessments, policy documents, or correspondence from the last ten years relating to the potential commercial sale, disposal, or strategic retention of these non-tritium helium-3 stocks."*

Your request has been handled as a request for information under the Freedom of Information Act 2000 (the Act).

A search for the requested information within AWE has now been completed, and we can confirm that information in scope of questions 1, 2 and 3 is held. However, AWE does not hold any recorded information in scope of question 4.

1. Separated Helium-3 Inventories

The total volume of separated Helium-3 gas currently held across AWE sites, and not intentionally mixed with active tritium, is 107 litres at standard temperature and pressure.

This represents the estimated quantity of Helium-3 present within a number of discrete storage vessels located at AWE Aldermaston. It should be noted that the volume stated reflects the calculated quantity of Helium-3 at s.t.p., rather than the physical capacity of the storage vessels.

Whilst the request specifies Helium-3 "not mixed with active tritium", AWE notes that certain gases identified may contain trace quantities of tritium (less than 1 GBq). Such materials remain legally classified as radioactive.

2. Off-spec / Recovered Noble Gases

AWE has been advised by its Radiation Protection Adviser (RPA) community that:

- Under the Environmental Permitting Regulations (EPR), any substance containing artificial radionuclides is classified as radioactive material, irrespective of concentration; and
- Tritium concentrations exceeding 100 Bq/g are considered radioactive, and activities exceeding 1 GBq fall within the scope of the Ionising Radiations Regulations (IRR).

Given that these thresholds are extremely low, Helium-3 derived from tritium handling, storage or decay processes is highly likely to retain trace tritium sufficient to meet the definition of radioactive material.

Accordingly, AWE does not hold Helium-3 stocks that can be definitively characterised as “non-radiological” in the manner described.

In accordance with the duty to provide advice and assistance (section 16 of the Act), AWE has instead provided information held on purity levels and contaminant profiles, including where trace tritium may be present.

3. Data on the Stocks (Location and Purity)

All identified Helium-3 stocks are located at AWE Aldermaston. A summary of recorded purity levels and contaminant profiles is set out below:

Location	Helium-3 Purity	Contaminants / Balance Gases	Calculated Helium-3 Volume @ s.t.p.
AWE Aldermaston (1 vessel)	50.5%	49.5% Helium-4	2 litres
AWE Aldermaston (1 vessel)	68%	18% Argon; 13% Nitrogen	52 litres
AWE Aldermaston (1 vessel)	99%	~1% other gases (assumed air)	3 litres
AWE Aldermaston (3 vessels)	74%	20% Nitrogen; 5% Oxygen; 0.3% Argon; trace tritium (<1 GBq)	46 litres
AWE Aldermaston (1 vessel)	99.3%	Nitrogen, oxygen and helium-4 traces; possible trace tritium (<1 GBq)	4 litres

Total: 107.02 litres (at s.t.p).

4. Strategic Management

AWE confirms that it holds no recorded information in scope of this part of the request.

Please remember to quote the reference number above in any future communications. If you have any queries regarding the content of this letter, please contact this office in the first instance.

If you are unhappy with the way your request has been handled you have a right to request an internal review within 40 days of receiving this letter, by writing to information.requests@awe.co.uk or our postal address: Information Requests Team, AWE Aldermaston, Reading, RG7 4PR. If you are still unhappy after an internal review has been completed, under the provisions of Section 50 of the Freedom of Information Act 2000 you have the right to take your complaint to the Information Commissioner's Office. Please note the Commissioner will generally not consider a complaint until you have exhausted AWE's internal complaints process.

Yours sincerely,

AWE Information Requests Team