

# Requirements for the Provision of Industrial, Medical Gases and Special Gases and Associated Equipment and Services.

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## Introduction

The Atomic Weapons Establishment (AWE) is an arms-length body of the Ministry of Defence employing around 6,000 people headquartered in Aldermaston, Berkshire.

For more than 70 years, AWE has supported the UK Government's nuclear defence strategy and the Continuous at Sea Deterrent. We also use our nuclear know-how and technical expertise to provide innovative solutions that support the UK's counterterrorism and nuclear threat reduction activities.

We work at the extremes of science and engineering to understand the performance of nuclear warheads, and assess the safety, security, and effectiveness of the stockpile in the absence of live testing.

For further reading on AWE's vision and goals, see the link below:

<https://www.awe.co.uk/what-we-do/>

AWE is looking to engage with the market to understand the supplier's capability and capacity to meet its needs for industrial, medical and special gases and associated equipment and services post expiry of its existing contract which expires on 31st December 2024. A procurement is required to secure future supplies under a new contract for the long term.

The supply of products and associated services will support the AWE sites at both Aldermaston and Burghfield. At present there are no plans to service other sites, however, it should be noted that during the life of the contract term, the infrastructure and layout of the site may change which may in turn lead to required changes in respect of the in-scope services and locations.

In respect of the requirements, the following are deemed in scope. Please see the RFI Requirements document for more detail and note that a full list will be supplied at ITT together with specifications and sizes:

1. Compressed Industrial Gases
2. Compressed Medical Gases
3. Compressed Research/Special Gases and Gas Mixtures
4. Bulk Gases in Liquid Form
5. Cryo Liquids in Small Vessels
6. Solid Carbon Dioxide (CO<sub>2</sub>, 'Dry Ice')
7. Gas Regulators and Handling Equipment
8. Assorted Fixtures and Fittings
9. Maintenance and Inspection Services
10. Rental of Gases Tanks
11. Delivery Services
12. Gas Safety Training Courses
13. Demand and Inventory Management

## Appendix A: Scope of Services required by AWE

This list is provided to give suppliers an indication of the type of services that AWE require and to enable suppliers to assess the supply chain requirements they may require to support ALL service types across the range of goods, equipment and services required.

In respect of the requirements, the following are deemed in scope. Please note that a full list will be supplied at ITT together with specifications and sizes:

### 1. The Provision of Compressed Industrial Gases

High-Level Scope	Comments
<ul style="list-style-type: none"> <li>• Oxygen,</li> <li>• Nitrogen,</li> <li>• Argon,</li> <li>• Compressed Air,</li> <li>• Dissolved Acetylene,</li> <li>• Propane,</li> <li>• Hydrogen,</li> <li>• Carbon Dioxide,</li> <li>• Liquid Helium</li> </ul>	Cylinders of various sizes

### 2. The Provision of Compressed Medical Gases

High-Level Scope	Comments
<ul style="list-style-type: none"> <li>• Medical Oxygen,</li> <li>• Entonox,</li> <li>• Nitrous Oxide</li> </ul>	Cylinders of various sizes

### 3. The Provision of Compressed Research/Special Gases and Gas Mixtures

High-Level Scope	Comments
<ul style="list-style-type: none"> <li>• Chlorine,</li> <li>• Chlorine VLSI,</li> <li>• CP Grade Nitrogen, Deuterium,</li> <li>• Research Grade Hydrogen,</li> <li>• Research Grade Carbon Dioxide,</li> <li>• 500 ppm Moisture / Nitrogen,</li> <li>• 5% Hydrogen / Nitrogen,</li> <li>• 5% hydrogen / Argon,</li> <li>• Sulphur Hexafluoride,</li> <li>• Zero Grade Hydrogen,</li> <li>• 10% Methane / Argon,</li> <li>• 7.5% Methane / Argon,</li> </ul>	Various mixes and cylinders of various sizes

<ul style="list-style-type: none"> <li>• Zero Argon Nitrogen,</li> <li>• Zero Grade Air</li> </ul>	
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#### 4. The Provision of Bulk Gases in Liquid Form

High-Level Scope	Comments
<ul style="list-style-type: none"> <li>• Nitrogen,</li> <li>• Argon,</li> <li>• Oxygen</li> </ul>	<p>Delivered to onsite tanks of various capacities</p> <p>Tanks are currently a combination of AWE and supplier rentals.</p>

#### 5. The Provision of Cryo Liquids in Small Vessels

High-Level Scope	Comments
<ul style="list-style-type: none"> <li>• Nitrogen,</li> <li>• Argon,</li> <li>• Oxygen</li> </ul>	Cylinders of various sizes

#### 6. The Provision of Solid Carbon Dioxide (CO<sub>2</sub>, 'Dry Ice')

High-Level Scope	Comments
Dry Ice	Pellets, Blocks and Slices

#### 7. The Provision of Gas Regulators and Handling Equipment

High-Level Scope	Comments
<ul style="list-style-type: none"> <li>• Spindle Keys,</li> <li>• Inline O<sub>2</sub> Regulator,</li> <li>• Inline Air Regulator,</li> <li>• Inline Inert Gas Regulator,</li> <li>• Inline He Regulator,</li> <li>• Inline CO<sub>2</sub> Regulator,</li> <li>• Inline H Regulator,</li> <li>• In-line Flashback Arrestors,</li> <li>• Regulator S/S Portapak,</li> <li>• Regulator S/S Oxygen,</li> <li>• Regulator S/S Acetylene,</li> <li>• Regulator S/S Nitrogen,</li> <li>• Flashback Arrestors,</li> <li>• Regulator S/S Arc-Tig,</li> <li>• Regulator High Pressure S/S Nitrogen,</li> <li>• Regulator High Pressure M/S Nitrogen,</li> <li>• Regulator M/S Oxygen,</li> </ul>	Various specifications

<ul style="list-style-type: none"> <li>• Regulator M/S CO<sub>2</sub>,</li> <li>• Regulator M/S Acetylene,</li> <li>• Regulator M/S Inert,</li> <li>• Regulator M/S Hydrogen,</li> <li>• Regulator M/S Air,</li> <li>• Regulator M/S Helium,</li> <li>• Regulator S/S Propane,</li> <li>• Flow gauge,</li> <li>• Heated Regulator,</li> <li>• Hose connectors,</li> <li>• Hoses</li> </ul>	
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## 8. The Provision of Assorted Fixtures and Fittings

High-Level Scope	Comments
Manifolds, and other associated fitting	Various specifications

## 9. Maintenance and Inspection Services

High-Level Scope	Comments
Visual inspections and maintenance as required - providing trouble-shooting and risk avoidance	A fleet of small portable vessels to maintain compliance with PSSR regulations

## 10. Rental of Gases Tanks

High-Level Scope	Comments
<ul style="list-style-type: none"> <li>• Rental of tanks for gases on AWE sites in liquid form</li> <li>• Delivery, installation and commissioning of rental tanks</li> <li>• Routine inspections and maintenance of rental tanks</li> <li>• Disconnection, decommissioning and removal of rental tanks</li> </ul>	Tanks of various sizes

## 11. Delivery Services

High-Level Scope	Comments
Delivery of gases, equipment, fixtures and fittings to AWE sites and locations within sites	Delivery to and within AWE sites to maintain stock and availability levels Note that AWE is a secure site and subject to access control, and security clearance of the supplier's staff

## 12. Gas Safety Training Courses

High-Level Scope	Comments
Gas Safety Training	On-site or offsite as required to AWE staff

## 13. Demand and Inventory Management

AWE requires the successful bidder to undertake inventory and demand management in respect of the requirements listed above.

Continuity of supply is critical to AWE and as such, any successful bidder will need to implement an operating model to ensure that the availability of gases meets AWE requirements can be met 365 days a year.

The proposed inventory management solution should be light / zero touch from AWE staff, whilst demonstrating appropriate budgetary controls and contract management.