

Home>About AWE>History>Timeline>First Polaris Submarine - HMS Resolution - Operational

**About AWE**

**News**

**Scientific and Technical**

**Business**

**Careers**

**Site Map**

Search:

Go

**AWE Home Page**

**About AWE**

Who are we

The Company

What we do

Safety and Environment

History

Timeline

Frisch-Peierls Memorandum

UK Decides to Develop Nuclear Weapons

Aldermaston Airfield Taken Over

First UK Nuclear Device Successfully

Detonated

Blue Danube Nuclear Bomb Delivered to

RAF

Grapple Series Begins at Christmas Island

UK/US Agreement

Red Beard (tactical) Enters Service

Yellow Sun MK.2 Enters Service

Blue Steel Nuclear Missile Enters Service

UK Mounts First Underground Nuclear Test

(UGT)

WE 177 Free-Fall Bomb Enters Service

**First Polaris Submarine - HMS Resolution**

- Operational

UK Starts Chevaline Programme

Pochin Report Recommendations Improved

Safety Procedures

HELEN Laser Opened by HM the Queen

Mogul-D Commissioned

AWRE Becomes Atomic Weapons

Establishment (AWE)

Government Announces AWE to be

'contractorized'

Hunting-BRAE Ltd. Awarded Phase 2

Management Contract

## First Polaris Submarine - HMS Resolution - Operational

The Royal Air Force was not destined to have the monopoly of nuclear capability for long: in the early 1950s strategists had considered that a nuclear weapon might be delivered by sea, perhaps smuggled into a British harbour in the hold of a ship.

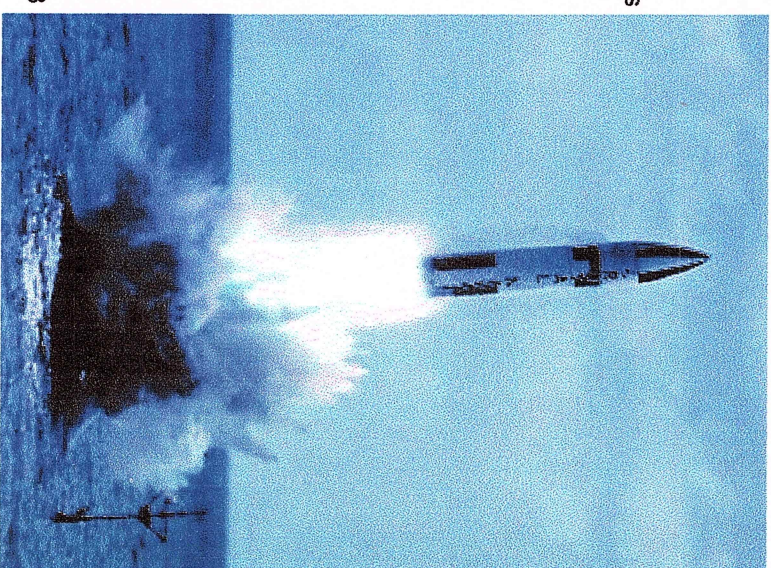
A decade later, delivery from beneath the sea by means of submarine launched ballistic missiles offered a new way forward. The cancellation of the joint US/UK missile project - Skybolt - led to the 1962 Nassau agreement, by which the Americans agreed to provide Britain with details of their submarine launched missile system - Polaris.

This posed a challenge for Aldermaston's warhead designers; the need to fit three warheads atop a missile only fifty-four inches in diameter called for a smaller warhead than anything previously designed.

At this time, the UK had not achieved the level of **Computer**-based modelling and simulation capability which existed in the US; but the A3 Polaris missile was ready for flight, increasing the pressure on AWRE to produce a viable design.

Aldermaston's warhead designers solved the problem by scaling down the first stage of the existing WE 177 (the primary) to match the size and mass required to fit it in the Polaris re-entry body.

AWRE completed its test programme in 1965 and in 1968 the first of the Polaris submarines - HMS Resolution - went on patrol, armed with sixteen missiles, each capable



A test firing of a Royal Navy Polaris A3

Cray C98D Super **Computer** Installed  
Plutonium Facility A90 Fully Operational  
North Ponds Water Management System  
Commissioned

Fiftieth Anniversary of Opening AWRE

Aldermaston  
AWRE Management Ltd Win Management  
Contract

Community  
Contacts

News  
Scientific and Technical  
Business  
Careers  
Site Map

of carrying three warheads in the kiloton range.

**missile. Polaris and its successor Chevaline, were in service from 1968 to 1996.**

---

[Accessibility Policy](#) | [Feedback](#) |