

## John Ainslie

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**From:** BRIAN BURNELL [brian.burnell@btinternet.com]  
**Sent:** 27 March 2008 11:49  
**To:** John Ainslie  
**Subject:** Re: Origin of Trident warhead  
**Attachments:** Notes from TNA AVIA 65.doc

Hi John

Thanks for these thoughts. An off-the-cuff quick response about Anglicisation is that I don't believe it has a different meaning in regard to Trident than it ever had from Red Snow onwards. BTW, there is a list in the PRO of items purchased in the US for Red Snow, implying that they were identical to those in the US W-28. List at attachment is from TNA AVIA 65/1792.

These were often quite innocuous components, but of a nature that it would be uneconomic to establish production facilities in the UK for a very limited production run. Putting my engineer's hat on for a moment to illustrate. Lets suppose you wanted a rubber door seal for a washing machine. You could, if you wanted to be entirely independent, and if you had the skills, manufacture a rubber door seal yourself, after first manufacturing the tools and dies required to mould it exactly as the original. But the mould and tools might cost you £50K. A door seal bought over-the-counter would cost you approx £15. Clearly, its not economic to make a rubber door seal yourself. Exactly the same applies to nuclear warheads. In engineering terms they are no more than a collection of components. The labels of 'nuclear' and 'non-nuclear' are not engineering terms, but political ones.

But the purchase of even the simplest of components that are only of use in a specific 'collection of components' is rock-solid hard evidence that the US and UK 'collections' and warheads are identical.

And BTW, in UK archives, the term used was usually 'Chinese copy' rather than 'Dutch copy'. Cultural differences I expect. The term 'Chinese copies' featured quite prominently in the discussions ref Polaris A3T because any major changes to the warhead would not only require nuclear tests to validate the warhead, but also full-scale and expensive missile firings from Cape Canaveral to ensure that any changes had not upset the very delicate missile guidance technology. Even the slightest changes of CofG would do that, and the Wilson government were adamant that any changes should not require further missile firings. Ergo: the UK and US warheads were essentially identical. Ditto with Chevaline, which we now know reverted to a version of the earlier W-58, after it was rejected for the earlier warhead.

Regards  
Brian

----- Original Message -----

From: "John Ainslie" <John.Ainslie@banthebomb.org>  
To: "BRIAN BURNELL" <brian@nuclear-weapons.info>  
Sent: Thursday, March 27, 2008 10:09 AM  
Subject: Origin of Trident warhead

Brian

Bob Ainsworth made the following point in a Parliamentary debate on Aldermaston in Westminster Hall yesterday -

"My hon. Friend the Member for Islington, North raised a point that I need to respond to-he would want me to put this on the record. The UK produced a new design of nuclear weapon to coincide with the introduction into service of the Trident system. The warhead was designed and manufactured in the UK by AWE, although it was decided on cost-effectiveness grounds to procure certain non-nuclear warhead components from the United States."

This would suggest that the Trident warhead may have been developed from the lightweight warhead tested in the late 1970s.

I was checking the statement by Harold Agnew of Los Alamos on Trident being a "Dutch copy" of the US design. This was said in a BBC TV documentary, the Moscow Criterion, in 1995. I no longer have a copy of the video but I do have notes on it. Agnew's comment may have been a general statement about the warheads for British submarine launched missiles, rather than specifically about Trident. Your research indicates that this was not true with regard to Polaris or Chevaline.

With regard to the "non-nuclear components" - a US neutron generator was used in the Polaris economy test and the current Trident warhead uses a US neutron generator. At least part of the Arming, Firing and Fuzing system for Trident is also from the US and the same was probably the case with Polaris.

However the sentence in the National Archive Operational Selection Policy on Nuclear Weapons Policy about the warheads being "anglicised" at AWE would suggest a US design, unless they are using the term in a different way than for Red Snow.

John

-----Original Message-----

From: BRIAN BURNELL [mailto:brian.burnell@btinternet.com]  
Sent: 25 March 2008 18:33  
To: John Ainslie  
Subject: Fw: cut-down

You might want to see this too John. The references to Harlot Wilson (oops miskeyed !) are as relevant today vis-a-vis Trident and W76 as they were then about WE.177. IMO.

Brian

----- Original Message -----

From: "BRIAN BURNELL" <brian.burnell@btinternet.com>  
To: [REDACTED]  
Sent: Tuesday, March 25, 2008 6:26 PM  
Subject: cut-down

> Hi Mike