

Abolition 2000 Seminar  
London - 19 February 2011

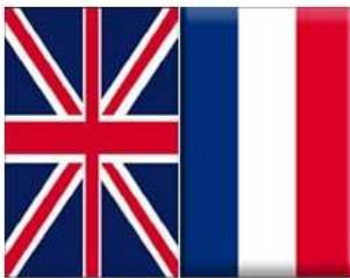
## UK – France nuclear co-operation: Overview of the Treaty.

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### What we will talk about:



- Scope of UK-France defence co-operation agreement.
- 'Teutates' programme.
- Hydrodynamics research.
- Timescale and costs.
- Future possibilities.
- Opportunities for intervention.

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## France – UK summit, 2 November 2010



- Declaration on Defence and Security Co-operation.
- 50 year Defence and Security Co-operation Treaty.
- Subordinate treaty on development of joint radiographic / hydrodynamic facilities for modelling performance of nuclear weapons.

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## Purpose of the nuclear treaty

- “To collaborate in the technology associated with nuclear stockpile stewardship in support of our respective independent nuclear deterrent capabilities, in full compliance with our international obligations, through unprecedented co-operation.”
- The programme “will assist both countries in maintaining the safety and reliability of their respective nuclear stockpiles and will improve expertise in countering nuclear terrorism.”

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# Project Teutates



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# Project Teutates



## CEA-DAM Valduc:

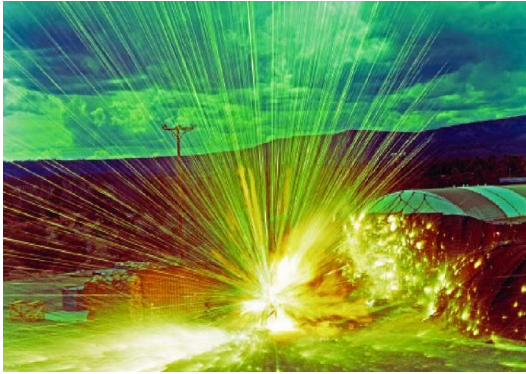
- EPURE: Radiographic / hydrodynamic facilities for modelling performance of nuclear weapons.
- Location for experimental work.

## AWE Aldermaston:

- Technology Development Centre.
- Development of radiographic analytical equipment to be used in EPURE.

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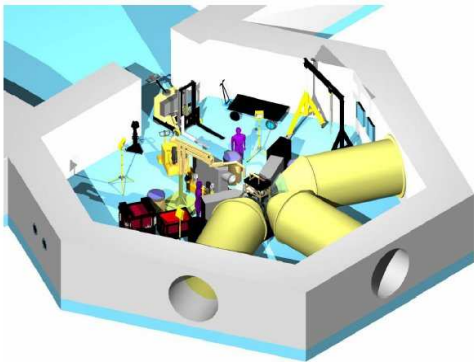
## Hydrodynamics Research



- Explosives are used to test properties of materials at high temperature and pressure, mimicking conditions during a nuclear explosion.
- Under such conditions solid materials behave like liquids and gases, and so this branch of research is known as hydrodynamics.

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## Hydrodynamics Research



- Images captured using powerful high speed flash X-ray machines.
- More than one X-ray machine allows data to be captured in different dimensions.
- Supercomputers used to analyse data and model how a warhead would behave during a real nuclear explosion.

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## Hydrodynamics Research



- Hydrodynamic experiments provide data on warhead performance and safety which was historically obtained from underground nuclear weapon tests.
- Data from the experiments could also be valuable in design of new warhead types.

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## Outline timetable

Much of the detail of the Teutates programme has yet to be agreed.

Both countries modify their own national programmes in transition to Teutates:      **Now - 2014**

EPURE Phase 1 and Aldermaston Technology Development Centre operational:      **2015**

EPURE second axis operational:      **2019**

EPURE third axis operational:      **2022**

## Sharing costs and saving money?



- “This co-operation has the potential to save considerable sums for both parties” - Peter Luff, 29 November 2010.
- Costs will be shared “equitably” between France and the UK.
- France to pay early build EPURE costs.
- UK to pay for Technology Development Centre.
- Costs to be shared from 2015.
- AWE's Project Hydrus hydrodynamics facility will not be built.

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## Sharing costs and saving money?



**But:**

- “Due to the immaturity of present cost estimates and the need to protect commercial sensitivities I am unable to be more specific at the present time on the potential cost to the public purse” - Peter Luff, 29 November 2010.
- Set-up costs will be significant.
- Total costs likely to be hundreds of millions of Euro over the whole life.
- Not yet clear how – or even if – savings will be made.

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## What the treaty does not cover

The agreement is limited to collaboration at Valduc and Aldermaston. It does not enable:

- Exchanges of strategic information.
- Co-operation on the deployment of nuclear weapons.
- Exchange of nuclear materials or warheads.

although:

- “There may be transport of nuclear materials in France and the UK.”

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## Sharing of information

**SECRET**

The exchange of classified information is allowed but:

- Each country will keep full sovereignty over its experimental results.
- EPURE facilities will comprise separate areas for solely national and joint use.

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## Impact on arms control



- **Non Proliferation Treaty:**
  - Article I
  - Article VI
- **Comprehensive Test Ban Treaty:**
  - does the UK-France Treaty breach the spirit of the CTBT?

## US – UK Mutual Defense Agreement: Barrier or Driver?

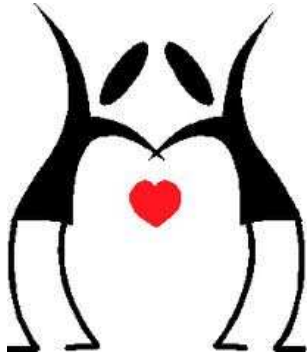
“For a long time there has been a French-American bilateral relationship and an Anglo-American bilateral relationship on the nuclear deterrent ... there has been discussion for some time about whether the relationship should be trilateral, given the cost of the programmes, but the decision has been taken that for the moment the double bilateral relationship will continue”.

- Liam Fox, Secretary of State for Defence,  
November 2010.

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## Possible areas of future co-operation



- Co-operation on equipment and technology for next generation of nuclear submarines – including propulsion systems ?
- Sale of tritium ??
- Shared submarine patrols ???

## Opportunities for intervention (UK)



- Parliamentary ratification: Section 20, Constitutional Reform and Governance Act 2010 - but Parliamentary debate is not a requirement.
- Legal challenge - but UK courts have taken the view that they should not rule on defence policy matters.
- Planning applications at AWE?

**Thank you, friends ...  
happy campaigning!**

Nuclear Information Service

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