

The 'Trident' Decision

Evidence-based policy making or
policy-based evidence making?

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Background: The UK deterrent

- 'Fewer than 200' warheads (Dec '06)
 - 'Expected to last into the 2020s.'
 - 58 Trident D5 submarine-launched intercontinental ballistic missiles
 - Life-extension programme required to extend service life 'much beyond 2020.'
 - 4 Vanguard-class nuclear-armed submarines
 - 'Original design life of 25 years'
 - Vanguard (2017), Victorious (2019), Vigilant (2021), Vengeance (2024)
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Why then?

- December 2006 White paper:
 - ‘...it should be possible to extend the life of the submarines by around five years. Accordingly, the first submarine would be going out of service around 2022 and the second around 2024. Continuous deterrent patrols could no longer be assured from around this latter point if no replacement were in place by then.’
 - ‘A reasonable estimate is that it might take around 17 years from the initiation of detailed concept work to achieve the first operational patrol.’
 - ... 2024-17=2007
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The debate: An overview

- Debate set-up by the White Paper:
 - What should replace the Vanguard-class submarines?
 - Focus of ensuing debate
 - Does the UK need a nuclear deterrent at all?
 - Can a Vanguard-class submarine's life be extended beyond 5 extra years?
 - Should the UK design a new type of reactor for a replacement submarine class?
 - ...
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Challenging the life extension claim

- Garwin, Coyle, Postol and von Hippel's critique on the White Paper.
 - Three arguments why life extension might be feasible:
 - Analysis of 'what it would take' technically to extend the life of Vanguard-class submarines to 45 years.
 - Comparison with the US Ohio-class nuclear-armed submarines.
 - Discussion of how incorrect technical judgements can arise in a large bureaucracies.
 - Advantages of life extension
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Government's response to GCPvH

- Ohio- and Vanguard-classes are not comparable:
 - Fundamental design differences
 - Similar operational availability
 - 14 Ohio-class submarines v. 4 Vanguard-class
 - Technical difficulties with extending Vanguard-class beyond 30 years:
 - 'Shopping list' of components that might need replacement, some of which 'would involve hull penetrations.'
 - '...it is highly likely to represent poor value for money. Moreover, there is also serious concern as to whether it will be technically feasible.'
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Characterising the debate

- The real issue is probably not 'Is it possible?' but 'How much would it cost, and what are the risks?'
 - The answer depends on a detailed technical and economic study of classified technology.
 - On the basis of unclassified information, it is impossible to know who was right.
 - 'I am not saying that it is absolutely sure that life extension is (a) possible and (b) cheaper...' (Garwin)
 - It does not appear that the government ordered an appropriately detailed classified analysis of the cost of life extension.
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Other possible motivations

- Retention of the skills base required to build nuclear submarines
 - 10 year gap between Trafalgar and Astute programmes; Astute programme was 'difficult'.
 - Industry: '22 month' drum beat needed.
 - Discussed in the White Paper, but not prominently.
 - Employment considerations [??]
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Is the skills argument reasonable?

- House of Commons Defence Committee's report:
 - 'Decisions on the future of the UK's nuclear deterrent should be taken on the strategic needs of the country, not on industrial factors. However, whilst industrial considerations should not affect the substance of decisions, they will necessarily affect the timing of those decisions. It is not unreasonable for the Government to take these factors into account.'
 - From government's perspective which argument is stronger?
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Are these purely technical issues?

- Does effective deterrence rely on continuous-at-sea patrols?
 - '...detailed concept work needs to start in 2007 if we are to avoid a gap in deterrence at the end of the Vanguard-class submarine.'
 - Does the UK need a purely indigenous capability to build nuclear-powered submarines?
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Conclusions

- Governments like saying that a decision has been taken on the basis of purely technical factors.
 - How can that decision be subject to 'peer review' when the essential technical details are classified?
 - Decision calculus *ought* to be more complicated anyway.
 - In reality, decisions are often taken for other, non-technical reasons.
 - Review of the technical arguments again necessary for ensuring an honest debate.
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