29. We were told in oral evidence that —

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"the construction of all four submarines is proceeding according to the schedule agreed upon with Vickers".

It appears, however, that some of the schedules originally planned or agreed have since been revised. HMS VANGUARD is still expected to meet the scheduled in-service date, but MoD have agreed with VSEL a deferral of the programme for HMS VICTORIOUS (SSBN 06) of six months. This will still meet staff requirement dates, but allows the company a somewhat easier industrial loading profile. As a consequence of the lengthy negotiations on SSBN 07, the in-service date for that boat has also been deferred by six months. That means that the phasing-out of the Polaris fleet will in its turn be delayed by six months.

30. In 1988, we noted that —

"The decision on whether or not to put HMS RESOLUTION through some sort of refit is clearly related to the Government's confidence in meeting the in-service date for Trident. The MoD now expects to take a decision in June this year on whether or not to give HMS RESOLUTION a fourth refit. This will be at a time when there is no reason to doubt that the in-service date for Trident can be met, but before there can be full confidence that this will be so".

It now appears that the overall programme has slipped to the right by six months against the dates envisaged three years ago. Nonetheless, MoD still take the view that a fourth refit of HMS RESOLUTION is "highly unlikely" and there are no plans to undertake such a refit.⁵

- 31. In 1985, the predecessor Committee looked in some detail at the issue of Polaris refits. On the basis of previous commission lengths, they found that HMS RESOLUTION would be due for a fourth refit in late 1989 and noted an earlier MoD memorandum which described it as "likely that one of our Polaris boats will have to undergo a fourth major refit". In the event MoD has opted for what it described then as "enhanced" that is, extended commission lengths.
- 32. In the past, MoD took the view that to keep Polaris going into the mid-1990s was stretching the effectiveness of the weapon system and the service life of the Polaris SSBNs, even if there had been a fourth refit. This was one of the arguments adduced in favour of the decision to acquire Trident. It now appears likely that at least one Polaris boat will have to be run on well into the late 1990s, despite the potential operating problems identified ten years ago. Even though the Polaris submarines may have proved to have a longer life than was previously expected, doubts must remain about the reliability and effectiveness of a system kept in service so far beyond the original intentions.

Massiles

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33. We reported last year on the problems encountered in the Trident missile test firing programme. Following modifications, the US Navy programme of missile test firings was completed successfully and the Trident II D5 system was operationally deployed in March 1990 on USS TENNESSEE. The US Navy has conducted patrols with two Trident submarines and has had "an entirely satisfactory patrol experience". From the briefing we received in the United States on the Trident programme, including a full account of the measures taken to rectify the problems with the missiles, we are confident that the solutions found have

Report of Session 1987-88, para 116.

only minimal effect on the missile's range. The US has a total of ten D-5 OHIO class submarines on order; the programme to retrofit the D5 missile to the Trident C4 hulls has been deferred until at least 1998 under current budgetary proposals.

- 34. Following a US/UK review of the overall Trident programme, the UK's planned buy of D-5 missiles for 1991 has been deferred for a year and included in the production order for US Fiscal Year 1992. MoD described this as "a sensible rescheduling of expenditure". The revised schedule for delivery of the missiles will still enable the UK's planned missile outload dates to be met. Overall, the Ministry expects the deferral of expenditure to produce a saving of about £1 million.
- 35. The cost of the strategic weapon system missile programme is now estimated to be £944 million that is, more than £800 million less in real terms than the 1981 estimate, and £32 million less, in hybrid prices, than the 1989-90 estimate. We noted last year that there were likely to be cost implications for the UK resulting from the reduction in the US FY90 missile order. At that time, the Ministry expected the impact of the possible increase in unit price of FY90 missiles would not be clear until contractual negotiations were completed later in the year. MoD has now given us in classified evidence the percentage and real increases in the unit production cost of the UK's batch of missiles for FY90. There are likely to be further cost implications for the UK as a result of the latest reduction in planned US procurement of D5 missiles. Proposals which substantially alter the total missile procurement of the United States have been put to Congress as part of the programme due to be approved in October 1991. MoD regards it as "almost inevitable" that there will be cost increases to the UK, but the extent of these is yet to be determined. 5

Warhead

- 36. The production of fissile material for the warhead in the existing facilities at AWE is continuing to schedule, as is the commissioning of the new A90 facility. The warhead programme overall remains on schedule to meet the planned outload delivery, due in 1992. There have been only slight improvements in the manpower situation at AWE (see Part V below). It is not clear how far the shortfall against that ceiling will affect AWE's ability to achieve the planned programme.
- 37. The US nuclear production plant at Rocky Flats, Colorado has been shut down on safety grounds for an indefinite period. The UK warhead programme is completely independent and is unaffected by this closure. The US could go ahead with warhead production using the Mk IV re-entry body instead of the Mk 5 currently in their Trident inventory. We have also been briefed in the United States on the range of options open to the US.
- 38. The US authorities have not approached the UK to request assistance from British facilities in the production of fissile material or components. Given the limited production facilities at Aldermaston, and the demands of the UK's own programme, it must be open to some doubt whether the UK has the capacity to offer such assistance if it were requested. Any such request would need to be considered in the light of the UK's international obligations notably under the 1968 Treaty on the Non-Proliferation of Nuclear Weapons, Article 1 of which states:

"Each nuclear weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices...".

Number of Para S. Ninth Report of Session 1989-90, para 45.