

Richard L. Garwin

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January 16, 1978

The Honorable David E. Mann
Assistant Secretary of the Navy
for Research & Development
The Pentagon, Room 4E732
Washington, DC 20350

Dear David,

I tried to call you Friday, January 13, but was not surprised that we were unable to make contact in a single day. Hence, this letter.

My purpose is to bring to your attention, in case you haven't thought of it, the value of some information which the Navy should have provided its management, and to the Defense Department before 1972, but which has been very difficult to obtain.

As you remember, in 1972 the TRIDENT program was accelerated, including the TRIDENT-I missile (the old extended range Poseidon-Expo), the TRIDENT-II missile, the TRIDENT submarine, and the TRIDENT base. I have always been an enthusiastic supporter of the TRIDENT-I missile and argued that the more one worried about Polaris/Poseidon vulnerability, the more one wanted the TRIDENT-I missile retrofitted into the Poseidon ships. Many in the Navy felt that a big submarine was more important than retrofitting TRIDENT-I missiles into Poseidon submarines, and, in fact, the TRIDENT-I program has been delayed by several years because of the expenditure of money on the TRIDENT submarine.

The Navy (and the Defense Department) also testified over the years that the TRIDENT submarine was vital because the Poseidon submarines would not last very long; their hulls would rust away. I maintained that one can only draw that conclusion after having decided on some level of expenditure for maintenance, and that there must be some trade-off between maintenance practices and expenditures on the one hand, and hull lifetime on the other. Do you have this information, and has it ever been provided to DoD or to the Congress?

The other hull-lifetime problem is that of fatigue. Repeated deep dives may build up metal fatigue, leading to failure of the hull after ten

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years, twenty years, fifty years, or a thousand years. I maintained at that time (and still believe) that if one has a hull life of thirty years on some diving schedule, then by restricting the submarine depth by twenty percent in peacetime, one could extend this life by a factor 10 or more. Do you have this information for Navy, DoD, and National decision purposes?

I have three rather different types of interest in answers to these questions. First, in my role as consultant to DoD and to the Administration in analyzing and defining national security programs. Second, I am frequently requested by responsible Congressional committees to testify as to my views on strategic and defense programs. In fact, I must testify to the House Armed Services Committee about strategic forces January 31. Third, some years ago I contributed to a U.K. Parliament committee white paper on the future of the British Polaris, and I maintain a lively interest in what our British allies should do with their program. Thus, if the information existed on an unclassified basis, it would be most valuable to me, but I would also be interested in classified reports.

My best judgement, expressed in testimony to the Congress over the last eight years or so, is that the hulls can be preserved indefinitely (for at least fifty years) against corrosion and metal fatigue, just as the B-52Gs can be kept flying to the year 2000 or beyond (when in the early 1960s the Air Force claimed that they could not fly beyond 1970 or thereabouts). I think that it is important for various elements of the United States Government to have reliable information on this score, to replace my own "judgment."

Best regards.

Sincerely yours,

Richard L. Garwin

Richard L. Garwin
Forwarded in his absence

cc:

Dr. William J. Perry
Dr. Frank Press

RLG:MLL:16,DM