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THE BRITISH STING RAY TORPEDO: INFORMATION SHOULD BE OBTAINED T--ETC(U)  
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GAO/MASAD-81-43

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UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

MISSION ANALYSIS AND SYSTEMS ACQUISITION DIVISION

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LEVEL II

SEPTEMBER 14, 1981

The Honorable Caspar W. Weinberger, Director  
The Secretary of Defense

Attention: Assistant for Audit Reports

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Dear Mr. Secretary:

Subject: The British Sting Ray Torpedo: Information Should  
be Obtained to Determine Potential Benefits to  
U.S. Antisubmarine Warfare Programs. (MASAD-81-43)

We examined issues surrounding the Navy's consideration of the British Sting Ray Torpedo as a possible alternative to the Advanced Lightweight Torpedo (ALWT). We also addressed the application of Sting Ray or its technology to ALWT, the MK-46 Mod 5 (NEARTIP) lightweight torpedo, and the antisubmarine warfare/standoff weapon (ASW/SOW) programs.

During our discussions with both British and U.S. officials, we observed apparent misconceptions about each others' systems. Our primary concern was whether the lack of a complete technical information exchange on the lightweight torpedoes had resulted in the Navy's less than full understanding of the Sting Ray's potential capabilities. We were also concerned about the possible use of Sting Ray or its technology as an alternative to ALWT and the other ASW weapons. At the time of our work, the Navy did not have adequate information and technical documentation needed to make a thorough evaluation of Sting Ray's application, in all or part, to ALWT, NEARTIP, and ASW/SOW.

In recent months, progress has been made to alleviate this problem, but continued high-level involvement appears critical if additional progress is to be made.

Our review started in March 1981 and was limited to activities which took place after the July 1979 Defense Systems Acquisition Review Council milestone I recommendation to begin development of ALWT. We did not perform a detailed analysis of individual torpedo costs or capabilities nor look into the political overtones which accompany international trade or "offset" purchase.

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## BACKGROUND

Under the Department of Defense (DOD) Major Weapon Systems Acquisition Policy, all available system alternatives--including foreign options--are to be considered at major decision milestones. At milestone I of the acquisition process, one or more alternatives are selected for competitive demonstration and validation. In preparation for ALWT's milestone I, in July 1979 the Navy reviewed the Sting Ray as an alternative to the proposed ALWT. The Sting Ray was rejected after the Navy analyzed available operational requirements data and concluded that its performance goals would not meet ALWT requirements. This remains the official U.S. Navy position.

## RECENT STING RAY DEVELOPMENTS

British sources say that since the ALWT's milestone I, Sting Ray has completed its development cycle, including much of its in-water testing, and is entering production--amid British claims of being a new design at the limits of current ASW technology. Although designed to its original requirements, the British claim that (1) the Sting Ray will be superior in performance to NEARTIP and (2) the application of Sting Ray technology to ALWT could possibly lead to an earlier initial operational capability date for ALWT.

In addition to evaluating the Sting Ray as an alternative to ALWT, the need to carefully evaluate Sting Ray technology recently became more important as broader issues were raised regarding Sting Ray's potential usefulness as an alternative to other ASW weapons.

## AGENCY COMMENTS

We brought these issues to the attention of DOD and Navy officials. In commenting on the draft of this report, the Under Secretary of Defense for Research and Engineering agreed that only limited data has been exchanged but indicated that there are difficulties to overcome to obtain such data from foreign contractors and governments. He said that recent meetings to correct this problem were not as fruitful as hoped, yet he expressed optimism as to the results of future efforts. He stated that DOD is already doing everything in its control to evaluate the potential benefits of the Sting Ray program to the United States. Therefore, he disagreed with our proposals that the Secretary of Defense (1) direct the Navy to obtain sufficient Sting Ray information and (2) establish a high-level, independent focal point for Sting Ray information exchange. A copy of DOD's July 24, 1981, letter is enclosed.

In addressing our first proposal, the Under Secretary pointed out that the Navy has been repeatedly rebuffed in its attempts to obtain the necessary information and that it does not have the authority to make demands on either the Royal Navy or the Sting

Ray contractor. We are encouraged with the Navy's recently increased efforts to communicate its information needs to the British, and we believe it was a positive step toward understanding the full potential of U.S. and British lightweight torpedoes. For example, an early July 1981 conference brought together high-level U.S. and British officials and ASW technical experts to exchange information on the Sting Ray, NEARTIP, and ALWT. We hope these new efforts will continue and will clarify the status of each system and stimulate periodic technical information exchange as new information becomes available.

The Under Secretary of Defense also disagreed with our second proposal to establish a high-level, independent focal point for Sting Ray information exchange. As indicated, there has been an increased spirit of cooperation between U.S. and British officials to exchange lightweight torpedo information. The direct involvement of the Acting Assistant Secretary of the Navy and British counterparts in the information exchange effort is a perfect example of this. We believe that these high-level contacts, outside both U.S. and British project offices, are critical to the exchange of information.

#### OUR OBSERVATIONS

We believe such efforts should continue until DOD is assured that the information exchange is progressing satisfactorily either on a country-to-country basis or in some other form, such as cooperative agreements among the contractors involved. Therefore, we believe the intent of our proposals are currently being implemented by DOD. If these efforts continue, they should ensure that the potential benefits of the Sting Ray program to the Navy's ALWT, NEARTIP, and ASW/SOW programs are completely considered.

We are sending copies of this report to the chairmen, House and Senate Committees on Appropriations and Armed Services, and to the Secretary of the Navy.

Sincerely yours,



W. H. Sheley, Jr.  
Director

Enclosure



RESEARCH AND  
ENGINEERING

## THE UNDER SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

24 JUL 1981

Mr. Walton H. Sheley, Jr.  
Director, MASAD  
Rm 6915  
U.S. General Accounting Office  
Washington, D. C. 20648

Dear Mr. Sheley:

I am responding to a draft letter and supplement to Secretary Weinberger regarding the British Sting Ray torpedo. Your schedule does not allow us sufficient time to coordinate comments in the normal manner. Nevertheless, I believe it necessary to provide a response to some of the errors of omission and commission contained in the draft.

There are two basic, and very different, issues to be addressed with respect to Sting Ray. These are:

- o Should Sting Ray, in all or part, be considered as an alternative to our Advanced Lightweight Torpedo (ALWT)?
- o Should Sting Ray be considered as an interim weapon instead of the MK 46 NEARTIP until ALWT is in production?

At the time of the DSARC Milestone I for ALWT, the DoD evaluated Sting Ray as an alternative. This evaluation was carried out on the assumption that Sting Ray would meet or exceed all of its performance goals. The Navy concluded, and the DSARC agreed, that Sting Ray's performance goals fell well short of essential ALWT requirements. During his recent visit, British Vice Admiral Bryson agreed that Sting Ray in its present configuration would not meet ALWT requirements and stated that the UK had no immediate plans to upgrade Sting Ray. We have encouraged our ALWT prime contractor, Honeywell, to work with the Sting Ray contractor, Marconi, to determine whether the Marconi design experience can benefit ALWT. To date this effort has been limited by the Marconi reluctance to provide information to either Honeywell or the US Government. We are continuing to pursue this approach.

In our discussions with Lord Trenchard in early June we pointed out that we did not have adequate information on Sting Ray to evaluate its performance compared to NEARTIP for consideration as an interim weapon. Lord Trenchard suggested and we agreed to hold the recent meetings to correct this deficiency. OSD and Navy worked together to prepare a detailed agenda for the proposed technical exchange. The UK was invited to send a technical team to assist in the preparation of the agenda but declined to do so. Navy further agreed to and did provide information on NEARTIP and ALWT that had been excluded from prior exchanges with UK. Unfortunately the UK could not provide the level

of detail which we require in order to make a responsible procurement decision. Vice Admiral Bryson agreed and stated that they would not have the kind of information and data we require until after their Fleet acceptance trials next year. Should the UK be willing to share this information with us, I can assure you that Sting Ray will receive a fair and thorough evaluation.

I do not concur in your recommendation to establish a high level independent focal point for Sting Ray information exchange. The limited information we have received officially and in writing has been properly disseminated. The fact that most of our current information has come from verbal exchanges among many people naturally leads to uneven dissemination.

I also do not concur in your recommendation to direct Navy to obtain sufficient Sting Ray information. Navy has been repeatedly rebuffed in their attempts to obtain the necessary information and does not have the authority to make demands on either the Royal Navy or Marconi.

I would like to point out some factual errors in your supplement. You state that security restrictions prevents exchange of information on warheads, terminal homing and counter-countermeasures. We have for years had a free exchange of information on warhead lethality. The UK has not shared data on recent Sting Ray warhead tests but this is the exception. Until recently counter-countermeasures and terminal homing information were not exchanged by mutual consent. At the recent meeting with UK, the US Navy did provide details of NEARTIP counter-countermeasures performance and was prepared to discuss ALWT terminal homing had the UK been willing to respond in kind. Your supplement also states that the ASW/SOW DSARC Milestone I was held earlier and that contracts were awarded to Gould and to McDonnell-Douglas. We have not yet had DSARC Milestone I for ASW/SOW. A single sustaining contract has been awarded to Boeing teamed with Gould.

It is not my intention to be critical of your letter and supplement. I appreciate the short time your staff had to prepare it and the rapidly moving events. I hope that I have convinced you that we are already doing everything in our control to evaluate the potential benefits of the Sting Ray program to the US.

Sincerely,



