

Audit



Report

OFFICE OF THE INSPECTOR GENERAL

THE TIMBER WIND SPECIAL ACCESS PROGRAM

Report Number 93-033

December 16, 1992

Department of Defense

The following acronyms are used in the report:

ABM	Anti-Ballistic Missile
DOE.....	Department of Energy
DUSD(SP)	Deputy Under Secretary of Defense (Security Policy)
E.O.	Executive Order
NASA	National Aeronautics and Space Administration
OSD	Office of the Secretary of Defense
SDIO	Strategic Defense Initiative Organization



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December 16, 1992

**MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION
DEPUTY UNDER SECRETARY OF DEFENSE (SECURITY
POLICY)
DIRECTOR, STRATEGIC DEFENSE INITIATIVE
ORGANIZATION**

**SUBJECT: Audit Report on the TIMBER WIND Special Access Program
(Report No. 93-033)**

We are providing the report for your review and comments. Comments on the draft report were considered in preparing the final report. The audit was initiated based upon concerns raised to the Inspector General, DoD, by an individual outside of DoD.

DoD Directive 7650.3 requires that all audit recommendations be resolved promptly; therefore, you must provide final comments on the unresolved issues and recommendations within the report. As required by DoD Directive 7650.3, the comments must indicate concurrence or nonconcurrence in the findings and the recommendations. If you concur, describe the corrective actions taken or planned, the completion dates for actions already taken, and the estimated dates for completion of planned actions. If you nonconcur, you must state your specific reasons for the nonconcurrence. If appropriate, you must propose alternative methods for accomplishing the desired improvement. We also ask that your comments indicate concurrence or nonconcurrence with the internal controls highlighted in Part I. Recommendations are subject to resolution in accordance with DOD Directive 7650.3, in the event of nonconcurrence or failure to comment. This report identifies no potential monetary benefits. Comments on the final report are needed within 60 days.

The courtesies extended to the audit staff are appreciated. If you have any questions on the audit, please contact Mr. Rodney D. Britt at (703) 693-0543 (DSN 223-0543). Appendix C lists the final report distribution.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Enclosures

Office of The Inspector General

AUDIT REPORT 93-033
(PROJECT NO. 2AD-0009)

December 16, 1992

AUDIT REPORT ON
THE TIMBER WIND
SPECIAL ACCESS PROGRAM

EXECUTIVE SUMMARY

Introduction. In 1987, the Strategic Defense Initiative Organization (SDIO) began research and development on a nuclear propulsion system for a rocket that would intercept hostile ballistic missiles. The project was protected under a special access program named TIMBER WIND. Between FYs 1987 and 1991, SDIO budgeted approximately \$139 million for the program.

Objective. The objectives of the audit were to evaluate the justification for protecting the program using special access measures, the program's test plans, and the process used to select a system design from competing alternatives. The audit was initiated based on allegations by a non-DoD individual.

Audit Results. We found adequate controls existed over the program's test plans, and we found no evidence of illegal or improper tests. In addition, we found that SDIO had reviewed other nuclear propulsion technologies before choosing the particle bed technology. The audit disclosed two reportable deficiencies, however, related to program classification:

- o The decision to protect the program using special program measures was not adequately justified as required by DoD 5200.1-R. It is not clear that the Restricted Data procedures used to protect nuclear-related information would not have been adequate or that the classification decision complied with Executive Order 12356 (Finding A).

- o On October 1, 1991, program management and funding of the SDIO program was transferred to the Air Force, which publicly announced its involvement in developing a nuclear propulsion technology. However, because there is limited DoD guidance concerning what is required when a special access program is terminated or transferred, SDIO continued to safeguard its association with the technology for reasons that were not related to national security (Finding B).

Internal Controls. The audit identified internal control weaknesses in the processes used to approve and terminate TIMBER WIND as discussed in Part I.

Potential Benefits of Audit. The audit identified no monetary benefits but emphasized the need to examine critically the justification for establishing special access programs, as well as for continuing to protect information under special access channels when a program ends. Benefits are summarized in Appendix B.

Summary of Recommendations. We recommend expediting issuance of and enforcing compliance with new procedures on approval of special access programs. We also recommend procedures to enhance the termination process for special access programs. Further, we recommend that SDIO stop protecting the relationship between itself and the technology.

Management Comments and Audit Response. We received comments from the Director, Strategic Defense Initiative Organization; the Director, Strategic and Space Systems, Office of the Under Secretary of Defense for Acquisition; and the Deputy Under Secretary of Defense (Security Policy). They nonconcur with the report findings, taking strong exception to a conclusion in the draft report that initiating TIMBER WIND in secrecy may have resulted in a violation of the Atomic Energy Act of 1954. We reexamined the Act and revised the audit report to more accurately reflect the Act's intention for research and development efforts. A synopsis of the comments follows each finding, along with our response. Part IV provides the complete text of the comments, along with a more detailed response.

We also received comments from the Deputy Director, Space Programs, Office of the Assistant Secretary of the Air Force (Acquisition). The Air Force conducted a security review of the draft report and concluded that the report was unclassified. The Air Force comments are also in Part IV.

Comments from the Deputy Under Secretary of Defense (Security Policy) on the final report are due in 60 days.

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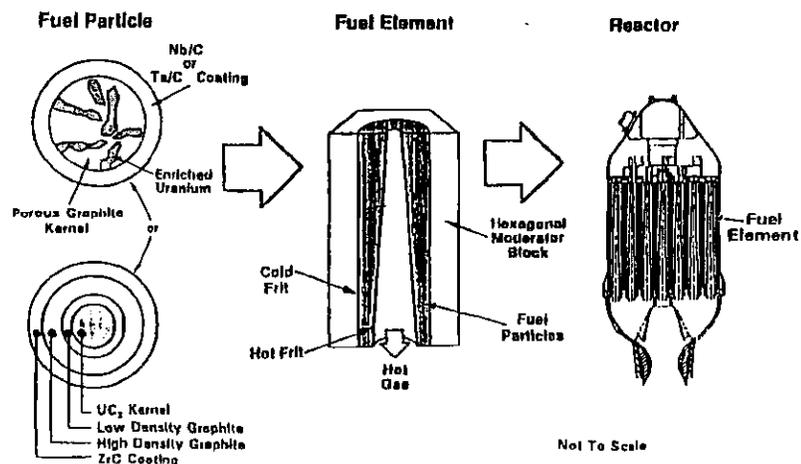
This report was prepared by the Acquisition Management Directorate, Office of the Assistant Inspector General for Auditing, DoD. Copies of the report can be obtained from the Information Officer, Audit Planning and Technical Support Directorate, (703) 614-6303 (DSN 224-6303).

PART I - INTRODUCTION

Background

SDIO was created in 1984 to manage and direct the conduct of a research program that could provide the basis for decisions on developing a system for protecting America against ballistic missile attacks. In exploring technologies that would provide a capability to intercept ballistic missiles, SDIO considered an existing, but still "state-of-the-art," nuclear propulsion technology that used a particle bed reactor. It initiated development on the propulsion technology in 1987 and protected it under a special access program named TIMBER WIND. SDIO's budget for the program was about \$139 million between FYs 1987 and 1991.

The particle bed reactor technology was developed at Brookhaven National Laboratory, Upton, New York. The reactor consists of a core composed of 37 hexagonal fuel elements, surrounded by a neutron moderating material. Each fuel element contains millions of specially-coated uranium fuel particles. The particles, about 400 microns (0.05 cm) in diameter, are in the annular space between concentric tubes enclosed in a hexagonal block of neutron moderator material. The outer tube (referred to as the cold frit) consists of a porous aluminum material. The inner tube (referred to as the hot frit) is a slotted, tapered cylinder composed of carbide-coated carbon-carbon or graphite material. Top and bottom beryllium-alumina end assemblies complete the particle bed enclosure, provide positioning for the fuel element in the overall reactor assembly, and comprise portions of the coolant flow distribution paths. SDIO believed that the particle bed design was the best because of its compact design and the promise of high thrust-to-weight ratio not achievable by other designs.



Since 1987, Grumman Aerospace Corporation, Space Systems Division, Bethpage, New York, has been the system's lead design development and integration contractor. Babcock and Wilcox, Lynchburg, Virginia, designed and manufactured the special nuclear fuel for the reactor. Sandia National Laboratory, Albuquerque, New Mexico, conducted the tests to prove the program's technology. The Department of Energy (DOE) Defense Programs provided oversight of the testing conducted at the Sandia National Laboratory.

Objectives

Announced audit objectives. The audit objectives were to evaluate the justification for classifying the program as a special access program, the program's test plans, and the process used to select a system design from competing alternatives. The audit was initiated as a result of allegations made by Mr. Steven Aftergood, a member of the Federation of American Scientists. We have addressed Mr. Aftergood's specific allegations in Appendix A, and a copy of his letter is at Appendix A.

Findings on the audit objectives. The two findings in the report relate to the objective of evaluating the justification for developing the particle bed reactor technology under special access controls. Finding A addresses the justification for the decision as measured against procedures detailed in DoD 5200.1-R, dated June 1986. Finding B addresses how TIMBER WIND was terminated.

No finding on an objective. Mr. Aftergood alleged that the TIMBER WIND program had involved proposed secret flight testing and disposal of a nuclear reactor-driven engine within the atmosphere. Although we found some evidence that showed the program office had planned a flight test, the program's funding levels could not support a flight test program. As a result, we did not continue addressing the program's test plan as an audit objective. We also reviewed how SDIO decided to pursue the particle bed reactor technology. As discussed in Appendix A, we found no problems with the process.

Scope

We reviewed the documentation that supported the decision to protect the technology under a special access program and compared it to requirements when TIMBER WIND was approved in 1987. We also reviewed program documents since the beginning of the program. To determine the progress the program made since 1987, we reviewed test plans and results, inter-agency correspondence, contracts, and schedules. Because of Congress' interest in the program, we reviewed language in the Classified Annexes to the FY 1991 and FY 1992/1993 DoD Authorization Bills and the FY 1989 Appropriation Conference agreements for special access programs. Finally, we interviewed Office of the Secretary of Defense (OSD) officials responsible for security oversight and SDIO and Air Force officials responsible for security oversight or program management. An engineer with the Technical Assessment Division, Office of the Assistant Inspector General for Auditing, assisted the audit team in understanding technical aspects of the particle bed reactor technology. This performance audit was conducted from October 1991 through February 1992 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD, and accordingly included such tests of internal controls as were considered necessary. Appendix C lists activities visited or contacted.

Internal Controls

Controls assessed. We evaluated internal controls applicable to approving and terminating special access programs to ensure that DoD complies with laws and regulations. Specifically, we reviewed guidance issued in DoD 5200.1-R, "Information Security Program Regulation," June 1, 1986. We also assessed the controls over TIMBER WIND's testing program to determine if they had been adequate to ensure compliance with laws and safe testing of nuclear material.

Internal control weaknesses. The audit identified internal control weaknesses as defined by Public Law 97-255, "Federal Manager's Financial Integrity Act of 1982"; Office of Management and Budget Circular A-123, "Internal Control Systems," August 4, 1986; and DoD Directive 5010.38, "Internal Management Control Program," April 14, 1987. The internal control

weaknesses include not ensuring that DoD 5200.1-R was followed when approving special access programs and not having definitive guidance on how to terminate a special access program. Recommendations A. and B.1., if implemented, should correct the weaknesses. There are no associated monetary benefits.

SDIO's implementation of Public Law 97-255. After we initiated the audit, program management was transferred to the Air Force. As a result, we decided not to pursue SDIO's implementation of Public Law 97-255 relevant to TIMBER WIND.

Prior Audits and Other Reviews

No prior audits of TIMBER WIND had been conducted. However, in March 1991, the General Accounting Office (GAO) initiated a review (Code 392612) of the establishment and management of special access programs within DoD. TIMBER WIND was one of the programs included in the GAO review. The GAO draft report is expected to be issued in December 1992.

PART II - FINDINGS AND RECOMMENDATIONS

A. TIMBER WIND'S JUSTIFICATION AS A SPECIAL ACCESS PROGRAM

The decision to protect SDIO's development of a nuclear propulsion technology within a special access program was questionable. SDIO did not adequately justify why the existing control system, to include Restricted Data provided under the Atomic Energy Act of 1954, was not sufficient to protect the development of the technology. Although this was required by DoD 5200.1-R, the Office of the Secretary of Defense did not enforce the requirement. The DoD initiated the program in secrecy, limiting open discussion and debate on the feasibility of using this technology for an SDIO mission by the mid-1990s, the safety factor involved in using a nuclear propelled missile interceptor, its cost, and other applications of the nuclear propulsion technology.

DISCUSSION OF DETAILS

Background

Need for a special access program. DoD 5200.1-R Subsection 12-100 states that:

It is the policy of the Department of Defense to use the security classification categories and the applicable sections of E.O. 12356 [National Security Information, April 2, 1982] and its implementing ISOO Directive [Information Security Oversight Office No. 1, "National Security Information," June 23, 1982] to limit access to classified information on a "need-to-know" basis to personnel who have been determined to be trustworthy. It is further policy to apply the "need-to-know" principle in the regular system so that there will be no need to resort to formal Special Access Programs In this context,

Special Access Program may be created or continued only on a specific showing that:

a. Normal management and safeguarding procedures are not sufficient to limit "need-to-know" or access.

Approval of special access program. Subsection 12-101(e) states that "special access programs. . . that desired to be established in a DoD Component other than the Military Departments shall be submitted with information referred to in paragraph 12-105(a) to the [DUSD(P)] Deputy Under Secretary of Defense (Policy) for approval." Subsection 12-105(a), requires written reports covering "the rationale for establishing the Special Access Program including the reason why normal management and safeguarding procedures for classified information are inadequate."

Justification and Approval

Request for approval. On September 30, 1987, the Director, SDIO, requested the Deputy Secretary of Defense establish and fund the TIMBER WIND special access program. Although the Director's request cited three reasons why normal security controls were insufficient for protecting development of the nuclear propulsion system, his reasons did not adequately explain why normal management and safeguarding procedures would be insufficient for protecting the program's information. The first reason was to protect traceability between the technology and the potential deployment for intercepting and destroying hostile ballistic missiles. The second reason was the possibility that Soviet knowledge of DoD's development of the technology could lead to countermeasures and parallel development of a similar system. Finally, the Director wanted to gain a technological lead-time advantage, which he concluded was critical to a decisive national advantage.

Technology link. The need for SDIO to protect the link between the technology and its potential deployment for national security reasons was not clear in 1987 and is not clear today. SDIO's charter to develop missile interceptors was open information, and the existence of the particle bed reactor type technology was also contained in open sources of information. We found unclassified studies from the period 1956 to 1988 concerning the technology, including one conducted for DOE concerning application of particle bed reactor technology to the strategic defense mission. Information on the nuclear

propulsion technology itself dated to the 1950s. With the SDIO's unclassified mission and a widely known technology, it is difficult to understand why strict controls were placed on the program and the fact that it was being developed.

Soviet development. The Director was concerned that Soviet knowledge of the program could lead to countermeasures and the Soviets would initiate parallel development. However, DoD's interest in applying nuclear propulsion technology to a rocket is not a recent initiative. DoD explored this application in the 1960s and 1970s within an ongoing nuclear propulsion program known as Nuclear Engine Rocket Vehicle Application. The program was jointly managed by the National Aeronautics and Space Administration (NASA) and DOE. The rocket application for nuclear propulsion technology has also been discussed in open sources since 1960.

Decisive lead-time. Finally, the Director wanted to protect the effort as a special access program to gain a technological lead-time advantage, so SDIO initiated the project with an accelerated time-frame for its testing program. The Director expected to have a propulsion system available on an intercept vehicle within 3 to 5 years, with a flight test performed, despite studies that showed the technology needed more time than that to develop and additional engineering work needed to be conducted on the reactor before using the particle bed technology. Within a year of TIMBER WIND's initiation, the flight test plans had been delayed at least 2 years. Experts in the field estimated that the nuclear propulsion technology requires 17 years to mature.

OSD oversight and approval. SDIO did not adequately justify why normal management and safeguarding procedures were not sufficient to protect the program's information, as required by subsection 12.105(a) of DoD 5200.1-R. Although the Assistant for Special Programs indicated that this was discussed at briefings with the Deputy Under Secretary of Defense (Security Policy) [DUSD(SP)], DoD guidance requires that the justification be included in a report. In the case of TIMBER WIND, an adequate justification becomes particularly important, because nuclear information is strictly controlled by DOE's Restricted Data classification system established under the Atomic Energy Act of 1954. We believe an adequate justification would have included an explanation of why the Restricted Data classification system could not protect the information. SDIO had used the Restricted Data classification system to protect its X-ray laser technology program.

According to the Assistant for Special Programs, there was another reason to approve a special access program. When the program was reviewed for special

access program approval, some officials within the Office of the Secretary of Defense were concerned that TIMBER WIND might be interpreted as violating the Anti-Ballistic Missile (ABM) Treaty. The concern was associated with the potential application of the technology in developing an anti-satellite weapon or a weapon that could destroy the Soviet's anti-satellite capabilities. The discussion at the time of approval of the special access program was not focused on any actual illegal acts regarding the ABM Treaty but rather on the Soviet Union's perceptions if the technological developments in TIMBER WIND were inadvertently disclosed. According to the Assistant for Special Programs, these concerns helped justify establishing the special access program. We do not believe this was a valid consideration because concealing a program that could be in violation of a treaty is not consistent with Executive Order (E.O.) 12356, which states that information should never be classified in order to conceal violations of the law.

Impact of Starting as a Special Access Program

The Atomic Energy Act of 1954 provided a framework for conducting, assisting, and fostering nuclear research and development to encourage maximum scientific and industrial progress. The Act encouraged widespread participation in the development and utilization of atomic energy. Because SDIO's involvement in developing a nuclear propulsion system was protected as a special access program, knowledge of its initiating the program was limited to 100 people, 12 of whom were DOE employees from the laboratories and headquarters. From DOE headquarters, the Assistant Secretary for Defense Programs and the Director, Advanced Concepts Division for Defense Programs were read on to TIMBER WIND.

Research. The Atomic Energy Act directed DOE to exercise its powers to insure the continued conduct of research and development activities and to assist in the acquisition of an ever-expanding fund of theoretical and practical knowledge about understanding and utilizing atomic energy and special nuclear material. Section 31(a) directed DOE to make arrangements, which included agreements, for the conduct of research and development activities relating to nuclear process, utilization of special nuclear material and atomic energy, and the protection of health and the promotion of safety during research. This direction in no way restricted DoD in engaging in military research of atomic energy. SDIO and DOE conducted nuclear research under a "Memorandum of Agreement between the Department of Defense and the Department of Energy on the Strategic Defense Initiative Technology Program," signed by the

Secretary of Defense on June 14, 1984, and by the Secretary of Energy, on July 14, 1984. This agreement showed that both DoD and DOE had responsibility for conducting research, development, and testing of nuclear power systems. The agreement required that a Strategic Defense Initiative DoD/DOE Steering Committee ensure that the boundaries of responsibility between DoD and DOE were established for each specific technology. Such boundaries were not formally established, because TIMBER WIND was not presented before the Steering Committee.

Congressional interest. In 1988, Congress directed DoD to initiate a Defense Science Board Review of the program's technical risks and potential applications. On January 16, 1991, the Defense Science Board recommended that the program be removed from special access required classification to allow for open debate over the development of the nuclear propulsion technology, including the safety and health implications. The Board also recommended that continued development of the technology be funded jointly by DoD, DOE, and NASA. The Board suggested an annual funding level of \$125 million to ensure complete testing of a ground test article in 5 years. Finally, the Board concluded that the technology had as much potential for application to NASA's long-range mission as it did for SDIO's short-range missile intercept capability.

DoD's continued interest. SDIO stopped funding the research at the end of FY 1991; however, the ongoing research effort for the propulsion technology transferred to the Air Force. Since accepting the transfer, the Air Force renamed the program the Space Nuclear Thermal Propulsion program. The FY 1993 budget request was \$38.9 million. The Air Force has estimated that the total cost for continued research and development of the technology is about \$800 million. DoD is pursuing a Memorandum of Agreement and Understanding with both NASA and DOE for joint development and funding of space nuclear propulsion technology. Neither DOE nor NASA have signed the agreement; neither organization is budgeting for development of the technology.

Conclusion

The decision of whether to protect information under special access methods is a largely subjective one; however, we concluded that the DoD was overly cautious in determining that special access safeguards were necessary for TIMBER WIND. In any event, the guidance that has been in effect since 1986

required documentation of the reasons for needing a special access program and why normal management and safeguarding procedures were inadequate. The technology itself could have been protected under the Restricted Data classification system used by DOE, but there is no documentation of whether this was a consideration. The application of the nuclear propulsion technology to an SDIO mission had been studied in an unclassified manner; yet the DoD protected the program as special access. This provided enhanced security, but limited discussion and debate on the feasibility of the technology and alternative applications of the technology. Ironically, despite the special security measures, information on TIMBER WIND was disclosed to the general public anyway.

Recommendation for Corrective Action

We recommend the Deputy Under Secretary of Defense (Security Policy) expedite issuance of the revised DoD 5200.1-R and enforce compliance with the new procedures concerning approval of special access programs.

Management Comments and Audit Response

Director, Strategic Defense Initiative Organization. The Director, SDIO, nonconcurred with the finding. In general, the Director believes that SDIO followed all procedures in place at the time of the request to approve TIMBER WIND as a special access program. The Director also took exception with the conclusion in the draft report that TIMBER WIND may have been initiated in violation of the Atomic Energy Act of 1954 and that approval for the special access program was due to a perceived violation of the Anti-Ballistic Missile Treaty by OSD officials.

Audit Response. Although SDIO generally followed the guidance established in DoD 5200.1-R in justifying TIMBER WIND as a special access program, it did not provide adequate justification why normal security processes could not protect the information. Alternatives such as reliance on the Restricted Data classification system should have been explicitly addressed. This has been a requirement since 1986. However, DUSD(SP) did not enforce the requirement in this instance.

We had tentatively concluded in the draft report that DoD might have initiated a nuclear propulsion program in violation of the Atomic Energy Act of 1954. We had referred to Section 91(b) of the Act as our support; however, we had not considered the propulsion system to be a utilization facility. If we had, then DoD's involvement in producing a nuclear propulsion system would have required specific approval from DOE. SDIO's General Counsel had initially indicated this in comments to a working draft of the report. However, after further analysis, we have concluded that Section 91(b) does not apply to the development of the particle bed reactor technology under TIMBER WIND, since the program was no more than a technology demonstration effort. Section 91(a) of the Act applies, which allows DoD to explore nuclear technologies as assisted by DOE. We have revised the report accordingly and removed draft report Recommendation A.1.

We had made no conclusions in the draft report that TIMBER WIND violated the Anti-Ballistic Missile Treaty. We stated that there were concerns that others might perceive that the program violated the Treaty and this was a factor in the decision to approve it as a special access program. DUSD(SP) provided some wording on this, as shown in Part IV.

Director, Strategic and Space Systems. The Director also nonconcurred with the finding, suggesting it had no basis. The Director further suggested that the auditors did not recognize that the particle bed reactor technology was chosen because of its high thrust-to-weight ratio. He stated that the intent of TIMBER WIND was to mature the technology to where its potential could be practically compared with other more established nuclear approaches. Finally, the Director took exception with the draft report's conclusion that DoD may have violated the Atomic Energy Act.

Audit Response. We mentioned that the particle bed reactor had a high thrust-to-weight ratio not achievable by other concepts. With respect to the Atomic Energy Act, as mentioned above, we acknowledge Section 91(b) was not applicable to the TIMBER WIND development and revised the report accordingly.

Deputy Under Secretary of Defense (Security Policy). The DUSD(SP) nonconcurred with the finding and partially concurred with draft report Recommendation A.2. This recommended adding a procedure to DoD 5200.1-R to require certification to the Deputy Secretary of Defense that normal classification controls were inadequate. In nonconcurring with the finding, the Deputy Under Secretary stated that SDIO had adequately justified the need for the special access program and that the Secretary of Defense endorsed the

decision. The Deputy Under Secretary also noted that although open information exists on the theory of particle bed reactors, the special access program was protecting the fact that DoD was developing capabilities to employ the technology operationally in a strategic defense initiative program and the sensitivity of the technology developments themselves.

In partially concurring with the draft recommendation, the Deputy Under Secretary believed that procedures were in place to ensure that special access programs were justified. He specifically mentioned interim guidance issued in February 1992 that requires all special access programs be revalidated yearly by the Deputy Secretary of Defense. The Deputy Under Secretary believes this procedure will ensure that special access programs are justified. He also stated that certification denotes a legal precision that he does not consider necessary or appropriate.

Audit Response. We disagree that SDIO had adequately justified the need for the special access program. Further, we do not agree that the fact that SDIO was developing a nuclear propulsion capability to meet its mission warranted protection. We believe that since the SDIO ballistic missile intercept mission was unclassified, and that several "state-of-the-art" candidate systems were also unclassified, a more detailed explanation as to why normal controls to include Restricted Data would be inadequate should have been requested by the Deputy Under Secretary. During the audit, we were told that DoD management closely scrutinized the reasons why special access measures were needed for TIMBER WIND. However, when we asked for the documentation to support the claim, we were told that documentation did not exist.

We reviewed a draft of the revised DoD 5200.1-R, dated October 1992, which contains procedures for the Deputy Secretary of Defense to approve special access programs and for the DoD component head to approve the request package in writing before it is submitted to the Deputy Secretary. If the draft guidance is issued, these procedures would satisfy the intent of draft report Recommendation A.2. We believe that the signature of a DoD component head would constitute, in effect, a certification that applicable criteria for special access status had been met. Therefore, we revised the recommendation to address expediting issuance of and ensuring adherence to the revised guidance.

STATUS OF RECOMMENDATION

<u>Number</u>	<u>Addressee</u>	<u>Response Should Cover:</u>			
		<u>Concur/ Nonconcur</u>	<u>Proposed Action</u>	<u>Completion Date</u>	<u>Related Issues</u>
A.	DUSD (SP)	X	X	X	N/A

B. TIMBER WIND'S TERMINATION AS A SPECIAL ACCESS PROGRAM

There is little guidance within DoD concerning what is required when a special access program is terminated or transferred. As a result, SDIO continued to safeguard its association with the particle bed reactor technology for no reasons related to national security. This was contrary to E. O. 12356.

DISCUSSION OF DETAILS

Termination and Transfer of the Program

SDIO decided to terminate the special access measures of TIMBER WIND on May 3, 1991, and started the termination process on June 27, 1991. The Deputy Secretary of Defense approved termination of TIMBER WIND on October 18, 1991. Program management and funding had transferred to the Air Force on October 1, 1991. In January 1992, the Air Force publicly announced the Space Nuclear Thermal Propulsion program was being established to develop the particle bed reactor technology.

There is no specific DoD guidance or procedure addressing termination or transfer of a special access program in DoD Directive 5205.7 and DoD 5200.1-R. After TIMBER WIND was terminated, SDIO continued to protect its association with the technology because the Air Force had not decided how to protect the information. The TIMBER WIND termination procedures stated that the name TIMBER WIND could not be used in connection with discussions or correspondence involving the technology. Therefore, the Air Force did not associate its announced effort with TIMBER

WIND and SDIO. The reason for continuing to protect the association between TIMBER WIND, the technology, and SDIO was not clear.

According to the SDIO Security Manager, had the program not transferred to the Air Force, SDIO would have prepared a new classification guide for the program upon termination and would have acknowledged the association between TIMBER WIND, the technology, and SDIO. This process would have been in accordance with SDIO's internal procedures on terminating special access programs.

Since the program was to transfer to the Air Force, SDIO did not complete any action to reclassify information because it was not certain what information the Air Force wanted to protect. However, SDIO had prepared a draft classification guide for the Advance Propulsion program that did not require special access protection. The technology itself was protected under DOE's Restricted Data classification system. The draft guide was given to the Air Force in May 1991. The Air Force initiated a provisional special access program to protect the technology in November 1991. The classification guide for the provisional special access program classified the technology under special access requirements and Restricted Data measures. The Air Force eventually decided not to pursue special access program authorization.

The difficulty with the transfer of the program was that SDIO had decided to remove special access protection from the program and the technology. This was a proper decision, because it had been mandated by Congress and recommended by the Defense Science Board. The technology could still be protected under Restricted Data. With this, there appeared to be no need for the Air Force to continue protecting the technology under a provisional special access program. This added unnecessary confusion to the transfer process. There should be consistency in classification between DoD Components, but DoD guidance does not ensure this.

TIMBER WIND and E.O. 12356

SDIO continued to protect the TIMBER WIND name and its association to the particle bed reactor technology. This was discussed when the Air Force decided to announce its effort publicly. The Air Force chose not to acknowledge the link between the Space Thermal Nuclear Propulsion program, TIMBER WIND, and SDIO. This protection is not consistent with E.O. 12356, which states that "in no case shall information be classified in order to . . . prevent or delay the

release of information that does not require protection in the interest of national security."

We asked SDIO officials why they were still safeguarding SDIO association with the technology. We were told that this was a request from the Air Force. According to Air Force officials, they did not want the Space Nuclear Thermal Propulsion program to be associated with TIMBER WIND because of a recent unauthorized disclosure¹ concerning the TIMBER WIND program. The Air Force position was not consistent with E.O. 12356, which states that "in no case shall information be classified in order to . . . prevent embarrassment to a person, organization, or agency."

Recommendations for Corrective Action

1. We recommend the Deputy Under Secretary of Defense (Security Policy) add procedures to DoD 5200.1-R on how to terminate a special access program and how to transfer classified programs between DoD organizations.
2. We recommend the Director, Strategic Defense Initiative Organization, declassify the existence of TIMBER WIND, the Strategic Defense Initiative Organization's association with the technology project, and appropriate associated documents.

Management Comments and Audit Response

Deputy Under Secretary of Defense (Security Policy). The Deputy Under Secretary concurred with Recommendation B.1. but did not concur with the finding. He stated that although he agrees that there is little guidance concerning termination or transfer of special access programs, that deficiency had little bearing on the finding, which of itself, is incorrect.

¹ The unauthorized disclosure the Air Force makes reference to occurred when a person who had access to TIMBER WIND provided Mr. Steven Aftergood information on TIMBER WIND while it was still a special access program. Mr. Aftergood was not authorized to have access.

Audit Response. We revised the audit report to represent our position more clearly. Two different DoD components should not be protecting the same information differently. The Air Force, in its provisional special access program, had proposed to protect technology under special access measures, whereas SDIO's proposed classification guidance showed more accurately that the information was already protected under the Restricted Data classification system used by DOE. Procedures are needed to prevent recurrences; thus we request DUSD(SP) reconsider its position on Recommendation B.1.

Director, Strategic Defense Initiative Organization. The Director nonconcurred with Recommendation B.2. to declassify the existence of TIMBER WIND and its relationship with SDIO and the particle bed reactor technology. The Director stated that the classification authority resides with the Air Force. However, later in his comments, the Director suggests that this association was never classified.

Audit Response. The intent of Recommendation B.2 was met. As a result of the Air Force's comments, this report, which was issued as a classified, special access-controlled draft report, is now issued in unclassified form.

STATUS OF RECOMMENDATIONS

<u>Number</u>	<u>Addressee</u>	<u>Response Should Cover:</u>			
		<u>Concur/ Nonconcur</u>	<u>Proposed Action</u>	<u>Completion Date</u>	<u>Related Issues</u>
B.1.	DUSD(SP)	X	X	X	N/A
B.2.	SDIO	N/A	N/A	N/A	N/A

**PART III - ADDITIONAL
INFORMATION**

APPENDIX A: STEVEN AFTERGOOD'S ALLEGATIONS

On September 4, 1991, Mr. Steven Aftergood of the Federation of American Scientists wrote to the Inspector General, DoD, concerning possible improprieties within the TIMBER WIND program (attached). Mr. Aftergood alleged misconduct by DoD in its relations with Congress concerning the program. He also raised a question of possible abuse of classification authority to avoid controversy, embarrassment, and technical competition. Specifically, he alleged the TIMBER WIND program was classified to shield the program from public scrutiny and to conceal experimental practices that deviate from U.S. policy.

Congressional relationship. We did not substantiate the allegation that DoD did not keep members of Congress adequately informed on TIMBER WIND. We found that three professional staff members on the DoD oversight committees were cleared on the program. In addition, the Senate Appropriations Committee held a hearing on April 23, 1991; the House Appropriation Committee held a hearing on May 1, 1991; and the Subcommittee on Research and Development, House Armed Services Committee, held a hearing on April 18, 1991. Other hearings include the Senate Armed Services Committee on March 2, 1988; Senate Appropriations Committee on June 15, 1989; and the House Appropriations Committee on April 19, 1990.

Program classification. Although we share the perception that the program was over-classified, we did not substantiate that it was the original intent of DoD to avoid controversy, embarrassment, and technical competition. However, DoD continued to protect the association among SDIO, TIMBER WIND, and the nuclear propulsion technology to avoid embarrassment that may have resulted from the unauthorized disclosure.

Flight test program. Mr. Aftergood alleged that DoD concealed experimental practices that deviated from official U.S. policy. Mr. Aftergood also alleged that there was a plan to operate and dispose of a nuclear reactor within the Earth's atmosphere. He stated that these plans when executed would

violate United Nations policy. We found preliminary plans to conduct a flight test of the system within the Earth's orbit but not the Earth's atmosphere. However, since the program was not progressing rapidly enough to have a flight test in the near future, planning was preliminary. In addition, an Environmental Impact Statement would have been required and prepared before DOE approved any flight tests.

We also found that all TIMBER WIND testing was strictly controlled by DOE, since SDIO was using a DOE-controlled national laboratory. SDIO used the laboratory under an existing Memorandum of Understanding with the DOE's Defense Programs office for developing atomic weapons. DoD followed safety and experimental guidelines for all tests set by the DOE. DOE's internal control procedures at the laboratory showed that no nuclear test could be run without prior planning and approval. While reviewing the program's test results on fuel particles, we found evidence that the integrity of the DOE process was in place. For example, the results from one "Critical Experiment" on the nuclear fuel showed DOE was instrumental in monitoring the test program because of unexplained anomalies during the test. DOE recommended that testing continue but directed that a review be conducted to learn the extent of the occurrence.

Technical source selection. Mr. Aftergood questioned the process SDIO used in its decision to pursue the particle bed reactor technology over other nuclear propulsion technologies. We found that SDIO was not interested in developing different nuclear technologies in meeting its mission. It chose the particle bed reactor technology as an alternative concept in meeting its mission. Other alternative concepts included laser technology and non-nuclear kinetic energy weapons, which SDIO is continuing to research and develop.

F.A.S.

FEDERATION OF AMERICAN SCIENTISTS
 307 Massachusetts Avenue, N.E.
 Washington, D.C. 20002 (202) 546-3300

Andrew M. Scalet *Chairman* *Robert M. Solow *Vice-Chairman* Ann Dreyfus *Secretary* Carl Kayser *Treasurer* Jeremy J. Stone *President*

September 4, 1991

Honorable Susan J. Crawford
 Inspector General
 Department of Defense
 400 Army Navy Drive
 Arlington, VA 22202-2884

Dear Inspector General Crawford:

I am writing to call your attention to some possible improprieties in the conduct of a Department of Defense program known as Timberwind.

Timberwind is a special access program that seeks to develop a nuclear engine for rocket propulsion applications. Its existence was publicly disclosed in the media last spring.¹ To date, it has not been publicly acknowledged by the Pentagon.

I would like to mention two problematic aspects of this program. The first is an allegation of misconduct on the part of the Pentagon in its relations with Congress concerning this program. The second is the question of possible abuse of classification authority to avoid controversy, embarrassment, and technical competition.

The charge of misconduct in Congressional relations is as follows. It has been reported in the press that the Pentagon selectively briefed Congressional staffers that were believed to be sympathetic to the program, but not others.² If true, this would represent a serious challenge to the Constitutional system of checks and balances.

A review of the Timberwind master access list, dated 7 February 1991, suggests that the charge may be well founded. The list, which comprises some 1500 persons, includes a total of seven Congressional staff. Significantly, the House Armed Services Committee, which must authorize appropriations for the program, is not represented by even a single staffer.

- Board of Governors (Partial List)*
- * Philip W. Anderson
 - * Charles D. Anderson
 - * Kenneth J. Andros
 - * Donald Robinson
 - Laura Rosenzweig
 - Ljiljana Babi
 - * Neil A. Barkin
 - * Kenneth Barkin
 - * Herman E. Barkley
 - Ann Piss Carrisi
 - * Owen Chamberlain
 - Abner Chayer
 - Milford Cole
 - * Leon H. Cooper
 - Paul B. Conroy
 - Carl Dreyfus
 - * Steven Drellman
 - John T. Edsall
 - Paul B. Ehrlich
 - George Field
 - * Ed L. Fish
 - James B. French
 - John Kenneth Galbraith
 - Richard L. Garcia
 - * Walter Gibson
 - Edward L. Glantz
 - * Donald A. Glaser
 - * Sheldon G. Glashow
 - Marvin L. Goldberger
 - * Alfred B. Harshbarger
 - William H. Haynes
 - Reid Hoffman
 - * Robert W. Hobbie
 - * Jerome Horne
 - * N. Gabriel Horowitz
 - * Arthur Kestenberg
 - * Polykarp Kusch
 - * John E. Lamb, Jr.
 - * Larry Landman
 - * Wendell W. Lambert
 - William H. Lipscomb
 - * S. E. Lurie
 - Ray Marburger
 - Robert Marston
 - Neil E. Miller
 - Philip Morrison
 - Richard A. Muller
 - * David Nelson
 - * Marshall Mandel
 - * Steven Orszag
 - Charles E. Osgood
 - * Lioua Paoletti
 - * Anna A. Pavlenko
 - Geoffrey Paul
 - Charles C. Pease
 - John Pines
 - * Edward M. Purcell
 - George Ratzliff
 - * Warren Rieber
 - David Ritzman, Jr.
 - Allen M. Rubin
 - Earl Sorenson
 - * Arthur Schweitzer
 - * J. Robert Schrieffer
 - * Julius Schwinger
 - * Othmar T. Scharif
 - Philip A. Sharp
 - George A. Silver
 - * Herbert A. Simon
 - Alan Kinsell Smith
 - Cybil S. Smith
 - * Harry Teicher
 - Howard M. Terner
 - * James Tolar
 - Charles H. Townes
 - Frank von Hippel
 - George Wald
 - Myron E. Wagman
 - Vernon F. Weisberg
 - * James B. Wilson
 - * James B. Wilson
 - C. E. Wu
 - Wendy Yorkston
 - Robert T. York
 - * Abel Yermakov

- National Council Members*
- * Julius Axelrod
 - Deborah L. Blumkin
 - Stephen F. Cohen
 - Alan de Vries
 - David Hoffmann
 - Dirnis Hays
 - * Dudley R. Herschbach
 - Art Holman
 - James Tuckman Mahoney
 - George W. Ratzliff
 - Arthur H. Rosenfeld
 - Stephen W. Schaefer
 - Marvin I. Shiner
 - Wayne Thomas
 - Robert A. Weisberg
- Ex Officio* John Holdren Matthew S. Metzger

It is hard to imagine a legitimate explanation for this fact. Who determined which, and how many, staff members would be granted access? On what basis were they selected? Who decided to exclude the House Armed Services Committee staff from the master access list? On what basis? How could the House Armed Services Committee authorize funding for Timberwind with no approved access to information about the program?

The second questionable aspect of the Timberwind program is why it was classified at all. As you know, Executive Order 12356 permits classification of information only when its disclosure could reasonably be expected to damage national security.

In this context, the most remarkable consequence of the public disclosure of the Timberwind program is what did *not* happen— there was no discernable evidence of any damage to national security whatsoever.

In fact, none of the usual grounds for total classification of a program seem to apply. In the original classification decision, what grounds were given? What justification was given for establishing Timberwind as a special access program?

To an outside observer, it appears that the total classification of the entire Timberwind program (as opposed to limited classification of individual technologies, capabilities, or systems) was an abuse of classification authority. If that is the case, it would be quite disturbing. Overclassification has been identified, by your office among others, as a contributing factor to the cancellation of the A-12 and Tacit Rainbow programs, with the enormous resulting expense to the taxpayers.

More fundamentally, overclassification can itself be a threat to the national security because it engenders contempt for the classification process, thereby undermining legitimate classification decisions.

Again from the standpoint of an outside observer, it appears that the Timberwind program was classified in order to shield the program from public scrutiny and to conceal experimental practices that deviate from official U.S. policy.

Specifically, United Nations guidelines affirmed by the United States (even in the recent proposed U.S. revision) do not contemplate operation of a nuclear reactor

within the Earth's atmosphere and do not permit planned disposal of a reactor within the atmosphere after use.³

But contrary to repeated official U.S. policy statements, the classified Timberwind program has proposed secret flight testing and disposal of a nuclear reactor-driven engine within the atmosphere.

Another apparent defect of the program concealed by overclassification is the premature selection for development of the "particle bed reactor" design from among the dozen or so competitive designs for a nuclear rocket engine. The program appears to have initiated development of this reactor without full technical assessment of alternative, possibly superior designs.

All of this suggests a flagrant violation of E.O. 12356, section 1.6(a), Limitations of Classification:

In no case shall information be classified in order to conceal violations of law, inefficiency, or administrative error; to prevent embarrassment to a person, organization, or agency; to restrain competition; or to prevent or delay the release of information that does not require protection in the interest of national security.

The Timberwind program raises several important questions about the integrity of Pentagon operations, with implications far out of proportion to the scope of the program itself:

Has the Pentagon manipulated or evaded its Congressional reporting responsibilities? Has funding for the Timberwind program been improperly secured?

Has the Pentagon abused its classification authority by classifying Timberwind far beyond any intrinsic national security justification?

Has the Pentagon used Timberwind's classified status to prevent public scrutiny, to undercut technical competition, and to permit experimental activities that violate official policy?

I hope your office may be able to clarify the answers to these questions.

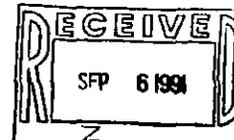
Sincerely,


Steven Aftergood
Senior Research Analyst

cc: Steven Garfinkle, Information Security Oversight Office
Frank Conahan, General Accounting Office
House Armed Services Committee

References

1. See, e.g., William J. Broad, "Rocket Run by Nuclear Power Being Developed for 'Star Wars'," New York Times, April 3, 1991, page 1; and R. Jeffrey Smith, "U.S. Developing Atom-Powered Rocket," Washington Post, April 3, 1991, page 1.
2. See, e.g., James R. Asker, "Particle Bed Reactor Central to SDI Nuclear Rocket Project," Aviation Week & Space Technology, April 8, 1991, page 18.
3. See, e.g., U.S. working paper A/AC.105/C.2/L.185 of 10 April 1991 in the Report of the Legal Subcommittee on the Work of its Thirtieth Session, United Nations Committee on the Peaceful Uses of Outer Space, Report No. A/AC.105/484, 17 April 1991, pp. 38-43. Section 2.1 states that nuclear reactors may be operated on interplanetary missions, in high orbits, and in low orbits if they are stored in a high orbit after use.



APPENDIX B: SUMMARY OF POTENTIAL BENEFITS RESULTING FROM AUDIT

<u>Recommendation Reference</u>	<u>Description of Benefit</u>	<u>Type of Benefit</u>
A.	Internal Controls. Enhances oversight of approval of special access programs.	Nonmonetary
B.1.	Internal Controls. Establishes guidance on what procedures are to be used when a special access program is transferred.	Nonmonetary
B.2.	Internal Controls. Recommendation is already implemented. TIMBER WIND has already been declassified. As a result, future application of the program's technology can freely receive the benefit of open discussion.	Nonmonetary

APPENDIX C: ACTIVITIES VISITED OR CONTACTED

Office of Secretary of Defense

Director, Defense Research and Engineering, Washington, DC
Comptroller of the Department of Defense, Washington, DC
Office of General Counsel, Washington, DC
Deputy Under Secretary of Defense (Security Policy), Washington, DC
Deputy Director for Information Security and Special Programs, Washington,
DC
Strategic Defense Initiative Organization, Washington, DC

Department of the Navy

Naval Sea Systems Command, Nuclear Propulsion Directorate, Arlington, VA

Department of the Air Force

Assistant Secretary of the Air Force for Acquisition, Washington, DC
Air Force Security and Investigative Programs, Washington, DC
Phillips Laboratory, Kirtland Air Force Base, Albuquerque, NM

Defense Agencies

Defense Advanced Research Projects Agency, Arlington, VA

Non-DoD Federal Organizations

Department of Energy, Washington, DC
Sandia National Laboratory, Albuquerque, NM
National Aeronautics and Space Administration, Arlington, VA
Information Security Oversight Office, Washington, DC
Library of Congress, Washington, DC

Audit Team Members

Donald E. Reed	Director, Acquisition Management
Kathleen M. Stanley	Program Director
Rodney D. Britt	Project Manager
Rodney E. Lynn	Auditor
Jacob Rabatin	Engineer
Sherlee J. Neff	Administrative Support

APPENDIX D: REPORT DISTRIBUTION

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition
Assistant Secretary of Defense (Public Affairs)
Comptroller of the Department of Defense
Deputy Under Secretary of Defense (Security Policy)
Director, Strategic Defense Initiative Organization

Department of the Air Force

Secretary of the Air Force
Assistant Secretary of the Air Force (Acquisition)

Non-DoD Activities

Office of Management and Budget
U.S. General Accounting Office, National Security and International Affairs
Division, Technical Information Center
Information Security Oversight Office

Congressional Committees

Senate Subcommittee on Defense, Committee on Appropriations
Senate Ranking Minority Member, Subcommittee on Defense, Committee on
Appropriations
Senate Committee on Armed Services
Senate Ranking Minority Member, Committee on Armed Services
Senate Committee on Governmental Affairs
Senate Ranking Minority Member, Committee on Governmental Affairs

House Committee on Appropriations
House Ranking Minority Member, Committee on Appropriations
House Committee on Armed Services
House Ranking Minority Member, Committee on Armed Services
House Committee on Government Operations
House Ranking Minority Member, Committee on Government Operations
House Subcommittee on Legislation and National Security, Committee on
Government Operations
House Ranking Minority Member, House Subcommittee on Legislation and
National Security, Committee on Government Operations

**PART IV - MANAGEMENT
COMMENTS AND
AUDIT RESPONSE**

SDIO Comments and Audit Response



DEPARTMENT OF DEFENSE
STRATEGIC DEFENSE INITIATIVE ORGANIZATION
WASHINGTON, DC 20301-7100

AUDIT
NOTES
FOLLOW
ON PAGES
(57-58)

August 6, 1992

SIS/S

MEMORANDUM FOR DOD INSPECTOR GENERAL

SUBJECT: Response to Draft Audit Report on the TIMBER WIND
Special Access Program (Project No. 2AD-0009)

We have reviewed the draft audit report on the Timber Wind Program and have provided extensive comments including a legal opinion on findings related to the Atomic Energy Act and the ABM Treaty.

Our review shows the report to be incorrect on fundamental premises. Our comments show that the purposes for which special access was granted were justified and the procedures followed were appropriate.

The classification authority for the current effort resides with the Air Force. It is my recommendation that the Air Force review the draft report and all comments to determine what is releasable under their ongoing effort. From the SDIO standpoint, the fundamental inaccuracies should be addressed before any release of the report is made.

Because of the numerous DoD interests involved, the Deputy Secretary of Defense should approve release of the final report.


HENRY F. COOPER
Director

Attachment

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STRATEGIC DEFENSE INITIATIVE ORGANIZATION
RESPONSE TO DRAFT PROPOSED AUDIT REPORT
AUDIT OF A SPECIAL ACCESS PROGRAM - PROJECT NO. 2AD-0009

(1, 17)

ISSUE - IG Draft Audit Report indicates Air Force publicly announced its involvement in developing a nuclear propulsion technology but SDIO continued to protect association with the program. (pages 1 and 15)

2

RESPONSE - Nowhere in the IG Draft Audit Report does the IG mention that, although the Air Force (AF) publicly announced its involvement in developing a nuclear propulsion technology, the Air Force also maintained a Provisional Special Access Program to protect much of the information that had been protected by SDIO in the Timber Wind Special Access Program (TW SAP). It is not certain whether the IG was unaware of this or failed to mention it. This bit of information is essential to the report because it explains many of the questions raised by the IG concerning continued protection of the TW information.

3

ISSUE - IG states that SDIO, in the TW SAP, considered an existing, but still "state-of-the-art" nuclear propulsion technology that used a particle bed reactor (PER). (page 1)

RESPONSE - It was believed that the goals and technology pursued in the TW SAP would extend beyond "state-of-the-art." (See additional information on this subject on following page.)

5, 9, 11

ISSUE - IG Draft Audit Report alleges inadequate justification for establishing a special access program (SAP) and states SDIO did not provide a rationale in the original SAP approval request as to why normal management and safeguarding procedures were not adequate to protect program information. (pages 5, 7, 11 & 12)

3

RESPONSE - NONCONCUR - The wording in the IG Draft Audit Report gives the impression that SDIO violated regulatory procedures in the approval and justification process. This is unfounded. All regulatory and OSD procedures were followed. The IG auditors had access to this documentation. The decision to approve the TW SAP was not the result of unreasoned action by a few individuals. The SDIO Special Access Program Oversight Committee (SAPOC) initially reviewed the program on July 16, 1987 and unanimously recommended that it be established as a special access program. This committee was chaired by the Deputy Director of SDIO. The rationale for establishing a SAP is necessarily a discretionary judgment committed to certain officials entrusted with making that decision. Concerning the need for a special access program, it should be obvious that one cannot prove normal security procedures are not sufficient without first establishing a regular security program to see if normal security procedures are adequate. If a compromise then occurred, the damage would be done. There will

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always be persons who disagree with such discretionary decisions, especially looking back four years in the past. In the case of the TW SAP, the fact that, despite the existence of a SAP, special access classified information became available to a person outside the government without a security clearance should be evidence enough that normal controls would have been inadequate. Nevertheless, the SAP security measures were partially successful. With these procedures, the program allowed a technological lead time of over three years. Without the special access measures, this lead time might not have been possible.

ISSUE - IG Audit Report alleges possible violation of provisions within the Atomic Energy Act. (page 7)

RESPONSE - NONCONCUR - (See attached comments by SDIO General Counsel)

ISSUE - IG Audit Report questions the need to protect link between TW technology and its potential deployment for national security reasons; report indicates this is not clear because SDIO's charter to develop missile interceptors is open information and there are studies concerning the technology in open literature. (Page 9)

RESPONSE - It is true that SDIO's charter to develop missile interceptors is open knowledge; however, the specifics of how that will be accomplished, i.e., technologies, performance data, vulnerabilities and capabilities will not necessarily be open knowledge. It is true that there is information in open literature going back to the 1960s on traditional nuclear rocket propulsion efforts. This literature does not address the advanced system proposed under the TW SAP and the advanced concepts that remain beyond state-of-the-art technologies. The PBR is only one of several types of nuclear reactors suitable for propulsion in outer space. It promises advantages in terms of safety and performance over traditional nuclear rocket propulsion efforts such as the solid reactor core NERVA program of the 1960s. Like the NERVA nuclear rocket engine before it, the PBR uses liquid hydrogen for cooling the reactor core. The liquid hydrogen is vaporized by the hot reactor core, and as a vapor, it is then used as the rocket propellant. In a nuclear reactor core, safety and performance revolve around the ability of the coolant to remove heat from the core. The PBR promises advancements in both safety and performance through the use of minute, coated, nuclear fuel particles. These particles, less than three hundredths of an inch in size, are coated with a high temperature material which simultaneously allows high temperature operation for high rocket propellant efficiency, and a high degree of safety because the coating contains the nuclear fuel even at extremely high temperatures. This containment feature is important because it significantly reduces the amount of radioactive materials in the engine exhaust. The small fuel particles are packed in a bed through which a gaseous coolant (hydrogen) flows. After the hydrogen is heated by the fuel, it passes through the engine producing thrust. Because the temperature of the hydrogen is 3000 K versus 2400 K for the NERVA reactor, the propellant

Deleted

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efficiency is much higher. This high propellant efficiency is only one result of the particle bed design; the other is high power. The particle bed resembles a charcoal filter in the home aquarium in that a tremendous surface area is created in a small volume. Because the heat generated by the fuel must pass through the surface of the particle to be removed from the reactor core, the high surface area allows the heat to be removed very efficiently by the high temperature coolant. It is the small particle size which provides the high surface area to fuel mass ratio, and thus creates safe high power operation. Because of the unique qualities of the particle bed, the PBR, as conceived, can provide high performance, as well as high safety, in a compact flyable system. It is true the PBR is not completely new because it represents decades of improvements on an old idea, but the current PBR incorporates the latest technology in high temperature coatings and materials. The PBR received renewed interest in the 1980s due to new higher performance requirements by DoD, which NERVA could not meet. One of the most demanding of these is the very rapid start-up requirement, which only the PBR could provide.

ISSUE - Statement in report that concerns about possible violation of the ABM Treaty was a factor in justifying the SAP. (page 10)

12

RESPONSE - NONCONCUR - Above statement was made by a person outside of SDIO. There is nothing in any of the SAP documentation to support this statement. All SDIO special access programs are reviewed by the SDIO General Counsel and subsequently by the DDR&E Strategic Arms Control & Compliance Director (who was briefed on the TW Program). (See attached comments from SDIO General Counsel).

ISSUE - At time of request for special access program approval, counterintelligence persons had only recently been briefed on the Program and were reviewing aspects of the Program for potential threat. IG questions idea of Soviet knowledge leading to countermeasures. (page 10)

11

RESPONSE - Prior to formal approval of a special access program, no one is officially briefed on the program; however, during the months of putting a program together and getting it approved, there are persons who have to be involved and they participate in putting the program together. After a program is officially approved, these persons are officially briefed and sign a nondisclosure form. There were analysts from the threat and counterintelligence community who participated in putting the program together. Classified documents were reviewed. There was evidence to indicate the Soviets were working on nuclear rocket technologies. Information available indicated the U.S. had a technological lead in some areas, especially in design and system performance. If U.S. technological leads were transferred to the Soviet effort, it would have given that country a technological advantage. One has to remember that when the TW

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12, 13

AUDIT Program was being approved in 1987, the Soviet threat was very
NOTES real. It is a known fact in the counterintelligence community
FOLLOW that SDI is a priority target for foreign collectors.

ON PAGES ISSUE - IG alleges that the special access program protection
(57-58) limited a normal government-wide strategy for developing nuclear
propulsion technology, i.e., the provisions of the Atomic Energy
Act. Report also indicates DOE should have been developing the
6 technology for future propulsion systems. (pages 13, 16 & 17)
(See attached comments from SDIO General Counsel regarding Atomic
Energy Act.)

RESPONSE - Although the TW Program was protected by special access
measures, no steps were omitted in obtaining necessary approvals
and coordinations or going through required steps for development.
In effect, this meant that necessary agencies were not cut out but
that access was sharply restricted to persons possessing the
authority to take necessary action. Principal DOE officials who
would have been concerned about the provisions of the Atomic
Energy Act were briefed on the Program. DOE officials looked at
this effort as they do other similar efforts undertaken under the
Economy Act which they refer to as "work for others," in which
they (DOE) may not contribute funds but perform efforts on behalf
of other agencies. Key DOE persons were involved from the
beginning of the Program. For example, there is documentation
that the Assistant Secretary for Nuclear Energy was given a
presentation in November 1987, the same month the SAP was
approved. The Deputy Assistant Secretary for Space and Defense
Power Systems chaired a DOE Program Technology Review Group during
1988. The Director for Office of Weapons Research, Development,
and Testing - Defense Programs, personally wrote to the SDIO
Director endorsing the Program (although this letter is not dated,
it was addressed to LtGen George Monahan who was the SDIO Director
from July 89 to July 90). There is Program documentation of
meetings and discussions with other high-level DOE officials early
in the Program. Secretary Watkins was personally briefed in April
1990. The TW Security Classification Guide (SCG) used as its
basis, the DOE/DoD/NASA Security Classification Guide for Space
Reactor Power Systems. TW security classification guides were
coordinated with DOE security classification specialists. Several
DOE security classification specialists were briefed in 1988 and
worked with SDIO on the security classification guides for the TW
SAP. DOE maintained complete control over its restricted data,
laboratories, and other areas that are predominantly DOE's
responsibilities. All nuclear-related work was performed in
laboratories and facilities under DOE supervision. There are
numerous program documents which indicate DOE involvement,
participation and coordination with program activities from the
beginning of the TW SAP.

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14

AUDIT ISSUE - IG statement that SDIO chose to develop the particle bed reactor technology with limited consideration of other available nuclear propulsion technologies and needs of other organizations, i.e., NASA. (pages 13 & 15)

FOLLOW
ON PAGES
(57-58)

RESPONSE - Although NASA had no funds to contribute to the TW Program, key individuals were briefed and attended all major reviews beginning very early in the Program. The TW Program Manager held monthly program reviews with representatives from DOE, NASA, AF, SDIO, and program contractors in attendance. The SDIO TW Program Manager participated in the "Synthesis Group," to look at possible technologies for the Space Exploration Initiative. The Chairman of the Synthesis Group wrote a letter endorsing the TW technology.

ISSUE - IG reference to Defense Science Board Recommendation (Jan 91) to remove program from special access protection. page 14)

RESPONSE - One of the DSB's recommendations was to remove the special access protection from the program and transition the program into the open in an orderly, deliberate fashion. The DSB also said in its report that the use of nuclear rocket propulsion for specific missions (e.g. SDI) and certain elements of the technology involved, may well be appropriately highly classified. The report goes on to say the existence of the program should be in the open. Basically, that is what has happened. The decision to transfer the funding and program management to the Air Force was made in December 1990 (this was one month prior to the final DSB Report), effective October 1, 1991. The SDIO SAPOC agreed during a meeting on May 3, 1991, that the program should be decompartmented; however, because the AF would be taking over on October 1, 1991 and SDIO did not know their intentions regarding program classification, members agreed that the Air Force should be notified of SDIO's intentions to terminate the SAP protective measures. A memorandum was received from the Air Force on June 13, 1991, stating the Air Force would convene a group of technical persons to review the program; the Air Force requested that SDIO continue the SAP protective measures until further notice. SDIO, knowing that the termination process would take several months to complete, started the TW SAP termination process on June 27, 1991.

ISSUE - IG statement that the only information SDIO wanted to protect under the TW Program was its association with a nuclear propulsion technology. (Page 17)

7

8

RESPONSE - NONCONCUR - There were many sensitive aspects to the TW Program. The TW Security Classification Guide (SCG) was provided to the IG during the audit. A review of this guide (26 pages long) should immediately show that this finding is unfounded in fact. The security plan and SCG for a special access program is put together like a mosaic, i.e., small pieces of information standing alone do not reveal anything of value. When these pieces, however, are put together with other pieces, they reveal a

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ON PAGES being protected. The SCG shows that key technologies and proposed
(57-58) mission were the critical areas protected. As mentioned earlier,
SDI is heavily targeted by foreign collectors. In addition to the
SDIO TW Security Classification Guide of 26 pages, the basis for
this guide was a DoD/NASA/DOE Security Classification Guide for
Space Reactor Power Systems with 32 pages.

17, 19

ISSUE - IG statement that SDIO continues to safeguard its
association with the Program's technology, although it terminated
the Timber Wind special access protective measures; that SDIO
continues protecting the association between TW, the technology,
and SDIO, and also, the connection to particle bed reactor
technology. (pages 19, 20 & 21)

RESPONSE - SDIO terminated the TW special access protection for a
technology which transferred to the Air Force. Timber Wind is
just an unclassified nickname that was designated for use with the
SDIO SAP. It is normal practice, when a SAP Program is
terminated, to discontinue the use of the nickname and
codeword. This prevents documentation from being circulated which
still bears the special access caveats and gives the impression
that there is still an active SAP. The Program technology and
effort which is what was actually classified, continues with the
AF. This effort is not continuing at SDIO. The IG audit started
at approximately the same time the TW SAP was terminated. This
was a most inopportune time to conduct an audit with SDIO in the
termination phase and the Air Force in an establishment phase.
The transfer of documents from SDIO to the Air Force was delayed
until after the IG had reviewed the documents (this was at the
request of the IG auditors). Upon completion of this transfer,
only those documents that are required by DoD Directive 05205.7,
remain in SDIO. During the IG audit, SDIO was still protecting
the technology because the Air Force had a Provisional SAP. There
was no violation of E.O. 12356. One DoD agency/service cannot
treat information as unclassified if another service/agency has
classified that information. The compromise of the TW Program
prevented a normal sequence of events. Information in the press
connected the unclassified nickname with classified program
information and the fact that the effort transferred to the AF.
The termination action for TW was unusually difficult because
there was an unusually large number of concerns to be considered
(AF, SDIO, Congress, DDR&E, DOE, NASA, DSB, OUSD(A), ODDSD(SP),
etc.). SDIO has requested a security classification guide from
the Air Force so that documents in the historical file can be
remarked according to the current AF security classification
guide.

9

Revised

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ISSUE - The audit report stated that SDIO determined it was no
longer interested in pursuing the particle bed technology.
(page 19).

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- (67-58) RESPONSE - This wording would lead one to believe that SDIO lost interest in the project. SDIO remains interested in PBR technology. The transfer to the Air Force was based on the Defense Science Board Report recommendation and was accomplished after coordination within OSD and approval by the Deputy Secretary of Defense.
- 6, 17 11 ISSUE - The IG Draft Report indicates there is no specific DoD guidance on what to do when a special access program is terminated or transferred. (pages 5, 20 & 22)
- RESPONSE - ODUSD(SP) will no doubt respond to this issue; however, each termination or transfer situation is different and usually involves different circumstances. There is no way that a DoD guidance can address all possible circumstances. The TW case was an unusual one with many parties involved and guidance coming from different directions. The procedures applied were effected after several meetings and coordination with participating parties. The example given by the SDIO Security Manager is just one example; this would not apply to all SDIO programs or circumstances. If the TW effort had not transferred to the Air Force but stayed at SDIO, the normal situation would have been to terminate the SAP protection, write a regular security classification guide, and continue the program as a regular classified program, with much of the information released at the unclassified level. The termination process effected by SDIO followed all guidelines and could not have been conducted in any other way under the existing circumstances.
- 18 ISSUE - IG statement that SDIO should have issued an updated classification guide for its program before transfer to the AF. (page 21)
- RESPONSE - It is not sure what is meant by this statement. At the time of transfer, SDIO made available to the AF three different security classification guides: (1) the current TW SAP guide, (2) a draft updated SAP guide and (3) a draft collateral or regular security classification guide. SDIO did not know which would be implemented by the AF. When SDIO started the termination process on June 27, 1991, the termination package contained a proposed draft collateral security classification guide. The termination package was approved by the Deputy Secretary of Defense on October 18, 1991. By that time, the effort belonged to the AF and the AF had security classification authority. It would have been inappropriate and impossible for SDIO to approve a security classification guide for an AF effort.
- 19 ISSUE - Recommendation that Director, SDIO, declassify the existence of Timber Wind, the SDIO's association with the technology project and all associated documents. (page 22).

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RESPONSE - NONCONCUR - Director, SDIO, does not have declassification authority for the effort that was pursued under the TW Program. The effort transferred to the Air Force on October 1, 1991. EO 12356 states in Sec. 3.2(a) that "In the case of classified information transferred in conjunction with a transfer of functions, and not merely for storage purposes, the receiving agency shall be deemed to be the originating agency for purposes of this Order." SDIO has terminated the TW special access protection and its existence is not classified. The association between the nickname, TW, and SDIO has never been classified and is not now classified. SDIO's opinion is that, in keeping with the Defense Science Board's recommendation, critical technology elements and detailed mission data should probably still be classified under the regular DoD system. This classification decision, however, should be made by the Air Force. SDIO received a copy of a memorandum dated 29 July 1991 from the Honorable Don Yockey, USD(A), to Secretary of the Air Force, in which the AF is instructed to take actions necessary to implement the program transfer as expeditiously as possible, including all necessary actions relating to its classification status. SDIO has requested a copy of the current Air Force Security Classification Guide and will remark its historical file accordingly.

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23

ISSUE - Suggested changes in IG Draft Report, Paragraph on Congressional Relationships. (page 23)

13

RESPONSE - The wording in the second sentence in the paragraph on Congressional Relationships, should be changed to read, "We found that there were at least three professional staff members from each of the DoD oversight committees briefed on the TW Program." In addition to the hearings mentioned in this section, there were several others not listed --- one as early as March 2, 1988 to the Senate Armed Services Committee. Others not listed were: Senate Appropriations Committee on June 15, 1989 and House Appropriations Committee on April 19, 1990.

23

ISSUE - IG statement about continued protection done only to avoid embarrassment. (Page 24)

RESPONSE - This statement is unfounded. As discussed above, there were many valid reasons for security protection. SDIO takes exception to the IG statement that "Although we substantiated the allegation that the program was overclassified ---" on page 24 of the draft report. SDIO does not feel the allegation has been substantiated.

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SDIO LEGAL OPINION ADDRESSING ALLEGED POTENTIAL VIOLATIONS OF THE ATOMIC ENERGY ACT AND CONCERNS ABOUT ABM TREATY VIOLATIONS STATED IN DRAFT AUDIT REPORT ON THE TIMBER WIND SPECIAL ACCESS PROGRAM

14 This opinion responds to the draft report's assertions that SDIO may have started the TW program in violation of the Atomic Energy Act and may have justified its special access justification, in part, on concern about possible ABM Treaty violations. For reasons set forth in this memorandum, we conclude that each of these assertions is unfounded and recommend that they be deleted from the final report.

ATOMIC ENERGY ACT ASSERTION

On page 7, the draft report states that DoD possibly initiated the Timber Wind program in violation of provisions within the Atomic Energy Act. On page 16, the report again states that SDIO may have unknowingly violated the Atomic Energy Act. The draft report then states an interpretation that the Act established a framework under which the Department of Energy solely is authorized to conduct research and development activities relating to nuclear technologies and systems for both commercial and military application.

The draft report acknowledges that Section 91b of the Act, (hereafter, "91b") allows DoD to manufacture, produce or acquire atomic (nuclear) weapons for military purposes, following specific presidential direction. However, the draft report then interprets the Act as limiting DoD's authority to manufacture, produce, or acquire atomic weapons only. The draft report concludes that because the Timber Wind project objective was a nuclear propulsion capability, and not an atomic weapon, DOE should have been developing the technology.

DOE DEPUTY SECRETARY LETTER

To support its conclusion, the draft report appears to rely in part on a January, 1992 letter from the Deputy Secretary of Energy to the Under Secretary of Defense (Acquisition) stating that further research and development of a propulsion system was DOE's responsibility. I have not seen this letter and am unable to determine whether the position stated by the Deputy Secretary of Energy is one of policy, or purports to be an interpretation of the Act. However, assuming it purports to be an interpretation of the Act, it is our understanding that further research and development of this technology may involve other than military applications. Therefore, any conclusion based on potential non-military applications would be irrelevant to a determination of whether SDIO initiation of research and development for a military application was permitted under the

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Act.

BACKGROUND - PREVIOUS SDIO GENERAL COUNSEL REVIEW

By memorandum dated April 30, 1992 I provided a review of 91b, focusing on subparagraph (2). My memorandum advised that an earlier working draft of the report's finding with respect to the Act was in error because the Timber Wind Program did not manufacture, produce, or acquire any atomic weapon or nuclear propulsion system, and that should a need arise to manufacture, acquire, or produce a utilization facility, there would be time to obtain any Atomic Energy Act authority not already granted. My focus on subparagraph (2) was intended to address what I perceived to be the audit report's focus on the planned construction of a reactor at the Nevada Test Facility. The memo demonstrated that the reactor would fall within the Act's broad definition of "utilization facility" and that the Act clearly allowed DoD to manufacture, produce or acquire a utilization facility.

BACKGROUND - REVIEW WITH DOD OFFICE OF GENERAL COUNSEL

In addition to providing the April 30, 1992 legal analysis, I requested an opportunity to review it with a representative of the Counsel for the DoD Inspector General. No meeting took place prior to release of the draft report. Subsequent to its release, I was able to meet with a member of the legal staff, and it's my understanding that we are in agreement on interpretation of 91b(2). However, because 91b implies that there will be some form of DOE acknowledgement of a DoD undertaking to manufacture, produce, or acquire a utilization facility and DOE did not provide a formal acknowledgement, attempts would be made to show the early and extensive DOE involvement in the program that would serve as de facto DOE acknowledgement within the requirements of 91b.

BACKGROUND - MEETING WITH DOD IG AUDIT REPRESENTATIVES

14 a Subsequent to release of the report, I attended an OSD meeting with representatives of the DoD IG, in which, while apparently acknowledging that there was not yet any manufacture or production of a reactor at the Nevada Test site, DoD IG representatives indicated that the intent of the draft finding is to state that initiation of design work and fabrication of component prototypes under contracts awarded by SDIO was not authorized under 91b.

SUMMARY OF ISSUES ADDRESSED

Based on my April 30, 1992 memorandum and the subsequent discussions described above, the following paragraphs address authorization of the initiation of Timber Wind research, fabrication of components containing special nuclear material obtained from DOE pursuant to 91b, elaboration of facts to show

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that manufacture of a utilization facility has not yet commenced, and, indicators showing that, if it is assumed that 91b contemplates DOE acknowledgement of a DoD intent to manufacture a utilization facility, DOE approval is clear.

INITIATION OF RESEARCH AUTHORIZED BY ACT

SDIO's initiation of research under the Timber Wind program was for the purpose of determining whether the particle bed reactor technology could be used in a rocket application. Under SDIO contracts and DOE sponsoring agreements, Grumman is responsible for overall rocket design, Babcock & Wilcox is responsible for design of the reactor along with DOE's Brookhaven Laboratory. Garrett is responsible for design of pumps and hydraulics. At an early stage, Aerojet was responsible for design of the nozzle, but that responsibility is now assigned to Hercules. Overall DOE interface and test planning is accomplished through DOE's Sandia Laboratory.

Section 91a of the Act authorizes DOE to conduct experiments and do research and development in the military application of atomic energy. It is not clear whether the draft report relies on the text of 91a for its conclusion that only DOE was authorized to initiate Timber Wind research and development. In any case, the draft report's conclusion that the Act allows only DOE to conduct research and development related to nuclear energy is in error. Reporting on the substantive original section on military applications, the original framers of the 1946 Act stated:

In military research, as distinguished from production of atomic weapons, the committee has adhered to the general principle of allowing great latitude and freedom. The armed services, as well as private individuals, are permitted to engage in independent military research and under the provisions of section 3 are to be assisted by the Commission in their activities. It is not the intent of the committee to restrict the existing powers of the military departments in entering into research and development contracts with nongovernmental organizations provided that all such contracts are in all their aspects subject to the provisions of this bill.
1946 U.S. Code Congressional Service 1332.

Thus, except for the furnishing of special nuclear material to B&W as discussed below, SDIO was not required to obtain DOE approval to award contracts for design and fabrication of prototype components. Moreover, as a matter of standard policy, Brookhaven and Sandia Laboratories' involvement in the SDIO contract effort required DOE approval of "work for others." Accordingly, to the extent the draft report's conclusion that SDIO may have initiated Timber Wind research in possible

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violation of the Act is based on an unstated finding of unauthorized award of contracts for design and fabrication of components, the draft report's conclusion is in error and should be withdrawn.

B&W FABRICATION OF COMPONENTS USING SPECIAL NUCLEAR MATERIAL WAS AUTHORIZED

This office conducted a comprehensive review of the Code of Federal Regulations (CFR) and did not locate any regulation implementing 91b. We supplemented our regulation review by telephone discussions with representatives of the DOE Office of General Counsel and with the Chief Counsel for the DOE Albuquerque Operations Office. Based on these reviews, it is my conclusion that, except for the Albuquerque operations Office "Operating Principles" document described below, there are no published DOE regulations implementing 91b.

Special nuclear material was furnished by the Government to B&W under contract SDIO84-89-C-001. Section H-14 of the contract, entitled, "Government-Furnished Uranium", states that only uranium furnished by DOE shall be used in the performance of the contract, and that shipments are governed by the DOE document entitled, "Operation Principles, Transportation Safeguards System for the Shipment of Strategic Quantities of Special Nuclear Material and Cargo of Opportunity by the Albuquerque Operations Office."

The Chief Counsel, DOE Albuquerque Operations office, advises that this clause incorporates standard policies and procedures, including the specifically identified "Operating Principles" document, pursuant to which DOE furnishes special nuclear materials to DoD under the authority of 91b(1). The Albuquerque Operations Office Chief Counsel states that, to the best of his knowledge, there is no other specific regulation governing DOE authority to furnish special nuclear material to DoD, and in his opinion, DOE's determination to provide special nuclear material under the clause demonstrates proper DOE exercise of its 91b(1) authority. Accordingly, to the extent the draft report's conclusion that SDIO initiated the Timber Wind program in possible violation of the Act is based on an unstated finding that SDIO furnished uranium to B&W without DOE authorization, the draft report's conclusion is erroneous and should be withdrawn.

MANUFACTURE OF A UTILIZATION FACILITY HAS NOT YET BEGUN

As a matter of law, the Act does not state a point in time at which DoD would need DOE approval to manufacture or produce a utilization facility. In FY 1990, Congress appropriated military construction funds for the construction of the reactor at the Nevada Test site. To date, for reasons discussed in the next

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(57-58) section, construction has not been initiated. Therefore, prior to termination of the Timber Wind program, SDIO had not, in fact manufactured, acquired, or produced a utilization facility, and as a matter of law, had not violated 91b(2). The Act seems to imply a requirement of some DOE acknowledgement of a DoD intent to manufacture, produce, or acquire a reactor, but the Act does not infringe on DoD's power to conduct preliminary research and development. In any case, there is ample evidence that DOE knew, participated in and gave its de facto approval of SDIO's intent to later build a utilization facility.

DOE'S APPROVAL OF SDIO'S INTENT TO BUILD A UTILIZATION FACILITY

SDIO records show that, prior to enactment of the FY 1990 military construction appropriation, senior DOE officials were fully briefed on the program. Records show a briefing scheduled for Mr. Troy Wade, DOE Assistant Secretary for Defense Programs, in November, 1987, the same month that SAP approval was authorized for Timber Wind. The former program manager advises that this briefing took place as scheduled. Records also show that DOE Assistant Secretary Bitz conducted a study of the program in 1988. DOE also played a significant role in development of the classified environmental assessment preceding planned initiation of manufacture of the utilization facility.

The environmental assessment resulted in recommendations to significantly modify the planned design of the utilization facility prior to operating it at significant power levels. Prior to authorizing initiation of construction the Deputy Director, SDIO, obtained certification from DOE, that the facility would, in fact, be a complete and useable facility without the additional modifications. In 1990, prior to SDIO authorizing initiation of construction, the entire program had been briefed to the Secretary of Energy. Thus, it is clear that to the extent 91b(2) may require some form of approval from DOE of a DoD intent to manufacture a utilization facility, that approval was given, before SDIO authorized initiation of construction. Despite SDIO authorization, construction has not been initiated, because the Air Force determined it necessary to prepare an unclassified environmental assessment.

SUMMARY OF 91b ANALYSIS

Review of the Atomic Energy Act, its legislative history, and historic implementation policies show that with respect to DOD activities, the Act places controls on DOE's furnishing of special nuclear material and authorization of DoD's manufacture, production, and acquisition of an atomic weapon or a utilization facility. The Act does not restrain DoD's independent power to initiate research and development in the field of atomic energy. While DOE does not appear to have promulgated regulations implementing the general controls outlined in 91b, SDIO obtained special nuclear material under proper DOE authorization.

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SDIO did not manufacture, produce or acquire a utilization facility under the Timber Wind program. While SDIO and DOE did not formally identify their interaction as an SDIO request for and DOE approval of an intent to build a utilization facility under 91b, in the process of obtaining funds from Congress for construction of a utilization facility, SDIO fully informed DOE officials at all levels of DOE authority, obtaining de facto DOE approval to manufacture a utilization facility under 91b.

Full examination of all its potentially relevant provisions, demonstrates that SDIO did not initiate the Timber Wind program in possible violation of the Atomic Energy Act. The draft report's opposite conclusions are in error and should be withdrawn.

ABM TREATY ISSUE - BACKGROUND

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On page 10, the draft report attributes to an OSD official a statement that when the Timber Wind program was reviewed for special access approval, some officials within OSD raised a concern about the program's potential for violating the ABM Treaty. The draft report further attributes to the OSD official a statement that these concerns helped justify the special access program.

SDIO would expect the OSD official to have an opportunity to address whether or not the draft report accurately reflects statements he may have made. SDIO rejects any assertion that the program potentially violates the ABM Treaty. Not only would the planned research and development effort be Treaty compliant, the "Arms Control" implications referred to in the SDIO Director's request for special access program approval, included an expectation that deployment of an ABM system based on Timber Wind technology would be ABM Treaty compliant.

TIMBER WIND PROGRAM DOES NOT VIOLATE THE ABM TREATY

The ABM Treaty primarily regulates deployment of ABM systems and components. To assure compliance with deployment rules, the Treaty limits, but does not prohibit, field testing of ABM systems and components. The Treaty does not place any limits on ballistic missile defense research that precedes field testing, and it does not, per se, regulate the use of nuclear energy as a source of rocket propulsion or space power.

Pursuant to DoD Directive 5100.70, January 9, 1973, the USD(A) ensures that all DoD programs are in compliance with U.S. strategic arms control obligations, including the ABM Treaty. Pursuant to internal SDIO instructions, the SDIO General Counsel is responsible within SDIO for assuring compliance of planned experiments and for assuring review of SDIO projects by the USD(A). SDIO responsibilities are executed by the Assistant

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General Counsel, Treaty Compliance and International Law.

Since 1985 SDIO's compliance official has met routinely with the USD(A)'s Director, Strategic Arms Control and Compliance, who chairs the Compliance Review Group, to review status of SDI programs. Formal presentations to the CRG are arranged for planned field tests. Research activities preceding field testing are reviewed informally. In addition all programs, including SAPs, are reviewed each year to insure that the annual SDI Report to Congress will be accurate and current.

SDIO's compliance official initially reviewed the Timber Wind program in 1987. After informal consultation with the CRG Chairman, he determined that the work planned for the next couple of years was research well in advance of field testing and required no formal USD(A) compliance certification. In 1990, details of the program were presented to the CRG Chairman who advised that work planned for the next several years was research well in advance of field testing and required no formal USD(A) compliance certification.

The record is clear that officials within DoD responsible for determining compliance of DoD programs with the ABM Treaty reviewed the Timber Wind program and found all planned expenditures by SDIO to be ABM Treaty compliant.

SDIO'S ARMS CONTROL JUSTIFICATION FOR SAP

In his memorandum seeking SAP approval, the Director, SDIO states as partial justification, potential Timber Wind program implications for U.S. arms control policies. These included ABM Treaty as well as other arms control implications. However, the ABM Treaty implications were not potential ABM Treaty violations, but rather, the fact that the ABM Treaty could allow the U.S. to deploy ground-based interceptors employing Timber Wind technologies.

The ABM Treaty specifically prohibits deployment of ABM systems and components which are sea-based, air-based, space-based, or mobile land-based. Available literature made it clear that Soviet Union strategy for countering SDI included attempts to force the United States to forego its ABM Treaty withdrawal rights. Among the purposes of this strategy was to delay the need to invest in expensive countermeasures to the ability of SDI technologies to intercept from space, a boosting ICBM, containing all its multiple independently targeted re-entry vehicles (MIRVs). U.S. ability to deploy a Treaty compliant fixed ground-based interceptor with the capability of reaching multiple warhead nuclear missiles in the boosting phase of flight was seen as a development that would fundamentally revise Soviet Union strategy for countering SDI.

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ABM TREATY DISCUSSIONS WITH OSD SAP OFFICIALS

It is not clear whether ABM Treaty discussions took place between representatives of SDIO and OSD officials. Thus, it is not clear that if such discussions took place, they accurately stated that the ABM Treaty issue for the Timber Wind program was not non-compliance, but compliance. In any case, the draft report's conclusion that potential ABM Treaty violations were an SDIO rationale for justifying Timber Wind as a SAP have no basis in fact or law. This conclusion should be withdrawn.

SUMMARY

For the reasons set forth above, the draft report's assertions that SDIO may have initiated the Timber Wind program in possible violation of the Atomic Energy Act and cited concerns about potential ABM Treaty violations as a basis for special access status are erroneous and should be withdrawn.


WILLIAM H. CARROLL
General Counsel



DEPARTMENT OF DEFENSE
STRATEGIC DEFENSE INITIATIVE ORGANIZATION
WASHINGTON, DC 20301-7100

AUG 28 1992

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MEMORANDUM FOR THE INSPECTOR GENERAL

SUBJECT: Audit of Timber Wind Program - No. 2AD-009

Strategic Defense Initiative Organization (SDIO) comments dated August 6, 1992, on the subject draft audit report included a legal opinion which, in relevant part, reviewed the draft report's statements about OSD discussions concerning the ABM Treaty. The opinion stated an expectation that the OSD official described in the report would have an opportunity to address comments attributed to him. The opinion demonstrated that the draft report's conclusion that potential ABM Treaty violations were an SDIO rationale for justifying Timber Wind as a SAP are incorrect and should be withdrawn.

We have since had an opportunity to review the OSD official's comments and recommended revision of the draft report's discussion on page 10. For the reasons set forth in this memo, we now recommend that the entire discussion be deleted from the report as irrelevant.

Both the draft report and the OSD recommended revision state that during the SAP approval process some officials within OSD raised a concern on the potential for violating the ABM Treaty. The draft report and OSD revision identify that concern as being "associated with the potential application of the technology in developing an anti-satellite weapon or a weapon that could destroy the Soviet's anti-satellite capabilities".

The draft report states that according to the OSD official, these concerns helped justify establishing a special access program. This assertion is denied by the OSD official, whose recommended revision states only that "these concerns were addressed in the process for justification of a special access program." The OSD official elaborates that there was no discussion of actual illegal acts regarding the ABM Treaty, but rather on the Soviet Union's perceptions if the technological developments in Timber Wind were inadvertently disclosed.

SDIO's legal opinion memorandum demonstrates that not only was the research and development planned under the Timber Wind program fully compliant with the ABM Treaty, it was likely that an interceptor system based on Timber Wind technology could be deployed in compliance with the ABM Treaty.

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The discussion recalled by the OSD official is not an ABM Treaty concern. The ABM Treaty only covers ABM systems, which are systems to counter strategic ballistic missiles or their elements in flight trajectory. The Treaty never has covered anti-satellite weapons. In fact, the United States is not a party to any anti-satellite treaties.

The gratuitousness of the draft report's observations is exacerbated in the context of the proposed OSD revision. The ABM Treaty and its ramifications for SDIO's mission have nothing to do with an OSD security policy official's mistaken concern about an anti-satellite capability not subject to the ABM Treaty. No purpose is served by citing E.O. 12356's prohibition on classifying information in order to conceal violations of the law, where there is no basis to infer that even irrelevant issues (i.e. anti-satellite capability being regulated by the ABM Treaty) were relied on as a basis for special access approval.

The Timber Wind program was reviewed by SDIO and USD(A) officials responsible for ABM Treaty compliance and determined to be fully treaty compliant. The OSD official misidentifies an anti-satellite capability as an ABM Treaty concern. He denies that this concern helped justify special access approval. Based on the OSD official's position, an accurate statement of what was stated with respect to the ABM Treaty is as follows:

"According to the Assistant for Special Programs, ODUSD(SP), when the program was reviewed for special access program approval, some officials within OSD raised a concern on the potential for Timber Wind being interpreted as violating the Anti-Ballistic Missile (ABM) Treaty. That concern was associated with the potential application of the technology in developing an anti-satellite weapon, or a weapon that could destroy the Soviet Union's anti-satellite capabilities. However, the ABM Treaty only covers ABM systems, which are systems to counter strategic ballistic missiles or their elements in flight trajectory. The ABM Treaty never has covered anti-satellite weapons. In fact, the United States is not a party to any anti-satellite treaties.

Officials within SDIO and the Office of the Under Secretary of Defense (Acquisition) responsible for treaty compliance determinations in DoD had reviewed Timber Wind and determined it to be fully compliant with the ABM Treaty. Based on those reviews, the Director, SDIO, did not consider that there were any potential conflicts with the ABM Treaty in the planned Timber Wind program and did not cite potential ABM Treaty violations in his request for special access approval. In any case, according to the Assistant for Special Programs, ODUSD(SP), the mistaken anti-satellite issue was only addressed during the process for justification of a special access program and did not help justify approval."

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SDIO would consider the above description as more accurate than the draft report narrative on page 10 and the suggested ODUSD (SP) revision. However, this accurate description demonstrates that the mistaken OSD anti-satellite capability discussion has no significance to the audit's specific objective of evaluating the justification for protecting the program using special access measures. Therefore, the logical resolution is to delete the entire draft report discussion related to the ABM Treaty.



MALCOLM R. O'NEILL
Major General, USA
Deputy Director

Audit Response

1. Air Force reviewed the draft report and concluded that it contained no classified information. This is contained on page 70 of this report.
2. We revised the report to include a discussion on page 18 of this report about the Air Force's provisional special access program.
3. When a special access program is established, DoD 5200.1-R requires a written rationale on why normal management and safeguarding procedures for classified information are inadequate. In the case of TIMBER WIND, we could not locate any written documentation supporting why normal management and safeguarding procedures were inadequate.
4. There is no evidence to support the allegation that by protecting the program under special access measures that DoD obtained a technological lead-time of more than 3 years. The technology is still a decade or more from maturity.
5. The point of the audit report was that protecting the link between the technology and SDIO's mission did not seem reasonable, since nuclear propulsion technology as a power source for a missile has been in the open for years. We also found that SDIO and DOE studied this concept in an unclassified setting prior to establishing TIMBER WIND.
6. Initiating a program in secrecy does not provide for "normal" planning and sharing of information. However, in the final report, we eliminated reference to a Government-wide strategy. Instead we noted that neither DOE nor NASA have committed funds to pursue the particle bed reactor technology.
7. We eliminated this conclusion from the report.
8. The DoD/NASA/DOE Security Classification Guide provides guidance on protecting nuclear technology using the Restricted Data control system, not a special access control system. This remains the issue in Finding A. that there was no justification as to why normal control systems to include Restricted Data were inadequate. The Classification Guide referenced in SDIO's comments provides no guidance on classification for application of the technology, lead-time for development, or development of the technology by other countries.
9. SDIO had made this request of the Air Force in May 1991. Part of the confusion was that the Air Force was not sure how it wanted to protect the information. It approved the provisional special access program on November 12, 1991, which protected the technical aspects of the program. After this expired in May 1992, the Air Force decided not to protect the information under a special access program.

10. This wording was dropped from the final audit report.
11. There is no guidance within DoD 5200.1-R or DoD Directive 5205.7 on what it means to terminate a special access program and how to do it. We also do not agree that the procedures should be handled on a case-by-case basis. This allows DoD Components to establish the rules as it goes along, as appears to be the case with TIMBER WIND. We revised the final report to show more clearly the events that occurred with the termination of TIMBER WIND.
12. A copy of a working draft of this report had been coordinated with SDIO before issuing the formal draft. SDIO did not make this point when the working draft was protected under special access measures.
13. Additional information presented in the final report.
14. In the draft report we had concluded that TIMBER WIND may have been initiated in possible violation of the Atomic Energy Act of 1954. We had incorrectly focused on Section 91(b) of the Act, which related to the manufacture and production of nuclear weapons. Since TIMBER WIND has only been a research and development effort, we should have focused on Section 91(a) of the Act. We revised the final report to focus more on coordination of research and development efforts.
 - 14.a. This meeting focused on Section 91(b), which we have concluded was inappropriate.
15. We had never concluded that TIMBER WIND violated the ABM Treaty. We revised the language in the final report, based on comments received from DUSD(SP). The link between the ABM Treaty and the potential of using the TIMBER WIND technology as an anti-satellite capability was presented as an underlying reason the program was approved as special access. The DUSD(SP)'s comments showed that this was discussed when the special access program was approved.

Director, Strategic and Space Systems, Comments and Audit Response

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OFFICE OF THE UNDER SECRETARY OF DEFENSE

WASHINGTON, DC 20301-3000

August 14, 1992

MEMORANDUM FOR DIRECTOR ACQUISITION MANAGEMENT (DOD/IG)

SUBJECT: Draft Audit Report on the TIMBER WIND Special Access Program (Project No. 2AD-0009)

I appreciate the opportunity to comment on the subject draft report. Our review of the draft report reveals a number of inconsistencies, factual errors, and misstatements. Accordingly, I cannot concur with the draft, and recommend that it be rewritten substantially. Inasmuch as both the Air Force and SDIO are providing you with detailed comments, I will focus principally on the report organization and major findings.

1 The report is poorly organized and does not clearly track the audit's three objectives, namely, to evaluate (1) the justification for protecting the program using special access measures, (2) the adequacy of the program's test plans, and (3) the process used to select a system design from competing alternatives. The Findings and Recommendations section of the report deals only with the first objective, justification as a special access program (SAP); the third objective is not discussed explicitly, but is embedded within the discussion of the first objective. The second objective was dismissed after no finding could be made regarding Mr. Aftergood's allegation of inadequate test plans; a brief analysis is contained in an appendix. A separate section of the report is devoted to SAP termination, not a specific objective. For completeness and clarity, I recommend the report be revised to provide a separate section for each of the objectives, with all classification-declassification related matters combined in a single section.

2 With regard to the question of the justification for a special access program, the report does not substantiate improprieties or inadequacies in regulatory procedures followed for creating a SAP program. Rather, the primary result of the audit--that the special access program status was not justified--appears to be based on the assertion that "the justification for not using normal security channels to safeguard information should stand on its own". We dispute this finding and especially its basis.

3 The report further concludes from this that the special access status limited discussion on a "government-wide strategy for nuclear propulsion technologies." Your auditors truly missed the point here. Nowhere in the report is there any recognition of why the particle bed reactor (PBR) technology was selected, of

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the potentially revolutionary aspects of PBR for high thrust-to-weight rocket propulsion, that the intent was to mature the PBR technology to where its potential could be practically compared with other more established nuclear approaches (such as NERVA), and that the participation of DOE and NASA assured the awareness of key members of the broader nuclear rocket community.

4

The report asserts that "when SDIO determined it was no longer interested in pursuing the particle bed reactor technology, it stopped funding the project and terminated the ...special access program protective measures." This is a misrepresentation of fact and process. The Air Force, at the direction of the Office of the Secretary of Defense, assumed responsibility for this technology program; as part of this reassignment of responsibility, SDIO terminated all classified work in this area. The statement that "SDIO continued to safeguard its association with the program's technology, although it terminated the TIMBER WIND special access protective measures," may have been valid at the time the report was written, but clearly is no longer the case. Further, the report is silent on the fact that when this technology effort was assumed by the Air Force, the effort was reduced in scope to a technology demonstration of the PBR concept.

5

The discussion relative to a possible violation of the Atomic Energy Act of 1954, is factually incorrect and the finding questionable. The report does not consider the broader interpretation of Section 91B, or the fact that documentation exists which demonstrates significant involvement on the part of DOE. I understand that the SDIO General Counsel is preparing a separate input relative to this finding.

6

7

Finally, I strongly urge you to include some statement to the effect that the audit failed to substantiate any of Mr. Aftergood's specific allegations.

8

Because of the broad DoD interests involved, the Deputy Secretary should approve release of the final report. Pending classification review by the Air Force, this memorandum should be protected as secret. Specific questions regarding this response can be referred to Mr. Dennis J. Granato, Strategic and Space Systems, 695-9292.


 George R. Schneider
 Director
 Strategic and Space Systems

Audit Response

1. Within the Objectives section of Part I, we outlined how the findings related to the audit objectives to facilitate the reader's understanding of the issues.
2. We revised the finding to delineate clearly the requirements in DoD 5200.1-R, which states that there must be a written rationale for establishing a special access program, including reasons why normal management and safeguarding procedures for classified information are inadequate. SDIO did not explain why the Restricted Data control system could not protect the technology. Also a reason was not given as to why DoD's classification system could not be used to protect the system.
3. Within the introduction we mentioned that particle bed technology was selected based on its compact design and the promise of high thrust-to-weight ratio not achievable by other designs. This was SDIO's primary interest in the technology. When the program was initiated, NASA was not read on to the program, and the Deputy Secretary of Defense approved 12 billets for DOE employees. The DOE headquarters personnel initially read on were the Assistant Secretary for Defense Programs and the Director, Advanced Concepts Division for Defense Programs.
4. We revised the final report to reflect more accurately the transfer of the program from SDIO to the Air Force.
5. Although the Director suggests that the Air Force is doing less than what SDIO had planned, we found that there was no change in the contract scope when the program transferred to the Air Force. In fact, the contractors are still working under SDIO contracts. Although SDIO had hoped that it might use the technology in a weapon system, it also had to demonstrate that the technology was mature, as the Director so clearly stated in his comments.
6. We eliminated discussion of Section 91(b) of the Atomic Energy Act of 1954 from the final audit report.
7. We addressed Mr. Aftergood's allegations in Appendix A.
8. The Air Force concluded that the report contained no classified information; therefore, the classification markings on the Director's comments were removed.

Deputy Under Secretary of Defense (Security Policy) Comments and Audit Response

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POLICY

THE UNDER SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301-2000

07 AUG 1992

MEMORANDUM FOR DIRECTOR, ACQUISITION MANAGEMENT, OFFICE OF THE
INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJECT: Comments on Draft Audit Report

Reference: "Draft Audit Report on the TIMBER WIND Special Access Program",
29 May 1992, Project Nr. 2AD-0009

This is in reply to your memorandum of 29 May 1992 which requested comments on the referenced draft audit report.

Audits by your office comprise a significant element of the Department's overall effort to provide oversight and improve the management of our special access programs, and, in this regard, are of substantial benefit to the Department. In the instant case, however, there are inaccuracies and inconsistencies which I believe should be remedied if the final report is to be of use to your and my offices, the manager of the program at hand, and the special access program community as a whole.

To this end, I have prepared my comments in two formats. Enclosure 1 provides comments specifically on the two principal findings and four recommendations in the draft report. Enclosure 2 addresses the draft audit report as a whole, and provides both comments and, where appropriate, recommended changes to the report.

I trust these comments and recommendations will be carefully considered and adopted. If any matters require expansion, clarification, or further discussion, please do not hesitate to contact me or my office. My staff point of contact for special access program policy is Mr. Richard F. Williams, my Assistant for Special Programs. He can be contacted at (703) 614-0578 (STU III).


Craig Alderman, Jr.
Deputy (Security Policy)

2 Enclosures
a/s

cc:
SecAF
USD(A)
Dir, SDIO

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DUSD(SP) COMMENTS ON DRAFT FINDINGS AND RECOMMENDATIONS,
AUDIT OF A SPECIAL ACCESS PROGRAM, PROJECT NUMBER 2AD-0009 (U)

AUDIT
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A. TIMBER WIND'S JUSTIFICATION AS A SPECIAL ACCESS PROGRAM

FOLLOW Finding :

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(U) The decision to protect SDIO's development of a nuclear propulsion system within a special access program was questionable. SDIO did not adequately address why the existing control system was not sufficient to protect the development of the technology, as required by DoD 5200.1-R, nor did the approving official raise any questions concerning this specific requirement to justify special access measures. As a result, DoD pursued the program in extreme secrecy, limiting discussion on a Government-wide strategy for developing nuclear propulsion technology, and possibly initiating a program in violation of provisions within the Atomic Energy Act. [Paragraph classification marking added.]

DUSD(SP) Response:

Nonconcur.

10

a. (U) The establishment of a special access program to protect this development was justified sufficiently according to DoD policies in effect at that time. The SDIO Director's rationale essentially was as summarized on page 9 of the draft report. It was the Director's judgement that this information was of such sensitivity that "normal management and reporting procedures are not sufficient to limit 'need to know' or access" [as extracted from DoD 5200.1-R in the draft report]. The DUSD(P) subsequently met with, received a briefing from, and asked questions of experts from SDIO; and thereafter concurred in the Director's judgement and approved the establishment of the special access program. It should be noted also that this specific program subsequently was briefed as a special access program by the Director, SDIO, to the SecDef, who endorsed the sensitivity of the program.

1

b. The draft finding correctly asserts that there is much information on the theory of particle bed reactors available in open sources, but apparently does not fully appreciate the sensitivities associated both with the fact that DoD was developing capabilities to employ that technology operationally in an SDI program, and with the technology developments themselves. This program was being executed at a time when the United States was locked in strategic confrontation with the Soviet Union, and SDI was one of the highest priority targets for Soviet espionage. In sum, the finding in the draft report, like the recommendation for and approval of the special access program, essentially is a judgement -- one which pits the auditor's judgement in 1992 against that of the DoD officials in 1987. I do not agree that the decision in 1987 was questionable.

2

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c. (U) The second portion of the draft finding draws linkage between the establishment of the special access program, and the pursuit of a SECRET and possibly unlawful program.

(1) The decision by SDIO to classify the program at the SECRET level was an independent decision made prior to the establishment of the special access program, and one which would have been continued regardless of whether a special access program were created.

(2) Similarly, there is no causal relationship between the establishment of the special access program and the legality of the program. Moreover, the reference in the draft finding, and elsewhere in the draft report, to the program being "possibly...in violation of provisions within the Atomic Energy Act" are vague and unsubstantiated. No such violation was identified by SDIO Legal counsel during approval review in 1987, nor subsequent to that event by either DoD or DoE.

Recommendation 1:

(U) We recommend that the Under Secretary of Defense Acquisition request the Office of the General Counsel to perform a legal review of the Air Force's continued self-directed involvement in nuclear propulsion development.

DUSD(SP) Response:

(U) DUSD(SP) has no comment on this recommendation.

Recommendation 2:

(U) We recommend the Deputy Under Secretary of (Security Policy) add a procedure to DoD 5200.1-R to require certification to the Deputy Secretary of Defense that normal classification controls are inadequate before a special access program is approved.

DUSD(SP) Response:

(U) Partially concur.

a. New procedures for approval, management, and oversight of all DoD special access programs, developed by the DUSD(SP) and the General Counsel, and approved by the DepSecDef in February of this year, require that the DepSecDef personally approve the establishment, and annually the continuation, of all DoD special access programs. Interim guidance, which requires that each request for approval be justified in the written recommendation to the DepSecDef, has been promulgated to the DoD Components and is now being implemented by them. Currently, both DoD Directive 0-5205.7 and DoD 5200.1-R are being revised to incorporate these procedures.

b. Certification connotes a legal exactitude, however, that is not considered necessary or appropriate for this process. The procedures now require internal review by the establishing component and written approval by the head of the component before forwarding to the DepSecDef for final approval.

Deleted

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Revised

B. TIMBER WIND'S TERMINATION AS A SPECIAL ACCESS PROGRAM

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Finding:

SDIO continues to safeguard its association with the program's technology, although it terminated the TIMBER WIND special access protective measures. This occurred because there is little guidance concerning what is required when a special access program is terminated or transferred. As a result, DoD is not protecting information in accordance with E.O. 12356.

DUSD(SP) Comment:

(U) Nonconcur.

a. It is correct that SDIO continues to safeguard its association with the program's technology. The termination of special access protective measures does not automatically declassify the information in the program. Declassification occurs only on the conscious determination of an original classification authority. Until that event occurs, the information in the program remains classified and should be properly protected. In this instance, DoD is in full accordance with E.O. 12356 -- exactly the opposite of the ultimate sentence in the finding.

b. Although we agree that there is little guidance concerning termination or transfer of special access programs, that deficiency had no bearing on this funding which, of itself, is incorrect in its conclusions.

Recommendation 1:

(U) We recommend the Deputy Under Secretary of Defense (Security Policy) add procedures to DoD 5200.1-R on how to terminate a special access program and how to transfer classified programs between DoD organizations.

DUSD(SP) Comment:

(U) Concur in principle. Although we have not noted significant problems in this area, we will develop policy and procedural guidance and incorporate it in future revisions of appropriate DoD publications.

Recommendation 2:

SDIO We recommend the Director, Strategic Defense Initiative Organization declassify the existence of TIMBER WIND, the Strategic Defense Initiative Organizations's association with the technology and all assorted documents

DUSD(SP) Comment:

(U) DUSD(SP) has no comment on this recommendation.

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**DUSD(SP) COMMENTS ON DRAFT REPORT,
AUDIT OF A SPECIAL ACCESS PROGRAM, PROJECT NUMBER 2AD-0009 (U)**

(U) Executive Summary, pages i and ii.

(71)

Although we do not agree with several statements in the Executive Summary, comments on these areas will be developed as they are raised in the body of the draft report.

3, 4, 5

(U) Pages 1 and 2, Background, Paragraphs 1, 2, and 3.

4

(U) Comment: These paragraphs are marked UNCLASSIFIED. Although the classification of the information in these paragraphs currently is under review by the appropriate classification authority, the report should protect the information at its present classification until a formal declassification determination is made.

(U) Recommendation: That these three paragraphs be marked [REDACTED].

4

(U) Page 3, Objectives, Paragraph 2.

(U) Comment: Same as preceding comment.

(U) Recommendation: That this paragraph be marked [REDACTED].

(U) Page 5, Internal Control Weaknesses.

(U) Comments:

5

a. We do not agree with that portion of the second sentence which states that internal control weaknesses "...include not adequately implementing DoD 5200.1-R when approving special access programs..." The procedures specified in DoD 5200.1-R in effect at the time were followed precisely. As discussed in detail in our comments on Finding A of the draft report, this statement appears to stem from the report's judgement that there was insufficient justification for creating the TIMBER WIND special access program. We do not agree.

b. We agree factually with the statement that there was a "...lack of definitive guidance on how to terminate a special access program when it is no longer necessary to protect the information...", and we will include guidance on the process for terminating a special access program in future revisions of DoD special access program policy documents. We do not agree, however, that there is any nexus between this lack of guidance and either the objectives or the results of the instant audit.

(U) Recommendation: That this paragraph be revised to conclude that although the audit disclosed that there was a lack of definitive guidance on how to terminate a special access program, there was no nexus between this deficiency and the objectives or the substantive conclusions of the audit.

Enclosure 2

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AUDIT NOTES FOLLOW ON PAGE (71)

(U) Page 6, Prior Audits and Other Reviews.

(U) Comment: Although this paragraph is marked [REDACTED], it does not contain any classified information.

(U) Recommendation: That the paragraph classification marking be changed to (U).

9

(U) Page 7, Timber Wind's Justification as a Special Access Program.

(U) Comments:

- a. Although the title of this paragraph is marked [REDACTED], it does not contain any classified information.
- b. Detailed comments on the substance of this paragraph are contained in the DUSD(SP)'s comments on the findings and recommendations of the draft audit report (Enclosure 1 to the basic memorandum).

(U) Recommendations:

- a. That the classification marking for the title of the paragraph be changed to (U).
- b. That the paragraph be rewritten to reflect the DUSD(SP)'s comments in Enclosure 1.

10

(U) Page 9, Technology Link.

(U) Comment: We do not agree with that portion of the first sentence of this paragraph which reads "...was not clear in 1987..." The link may not be clear to the authors of this report today; it was clear to the senior Defense officials involved in 1987. (Please see enclosure 1 for specific details.)

(U) Recommendation: That the first sentence of this paragraph be deleted.

11

(U) Page 10, First paragraph.

(U) Comment: The correct title of the official mentioned in the first sentence of this paragraph is Assistant for Special Programs, ODUSD(SP).

(U) Recommendation: That the correct title be shown in this paragraph, and wherever else it appears in the report.

(U) Page 10, First paragraph.

(U) Comment: The recollections of the Assistant for Special Programs, as summarized in this paragraph, require expansion and amplification to reflect correctly the considerations at the time.

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Recommendation: That the entire first paragraph be replaced by the following two paragraphs:

"According to the Assistant for Special Programs, ODUSD(SP), when the program was reviewed for special access program approval, some officials within the Office of the Secretary of Defense raised a concern on the potential for TIMBER WIND being interpreted as violating the Anti-Ballistic Missile (ABM) Treaty. That concern was associated with the potential application of the technology in developing an anti-satellite weapon, or a weapon that could destroy the Soviet Union's anti-satellite capabilities. According to the Assistant for Special Programs, these concerns were addressed in the process for justification of a special access program."

6

"However, the ABM Treaty and its ramifications for SDIO's mission remain an issue that has been open since the organization began. Furthermore, concealing a program that could be in violation of a treaty is not consistent with E.O. 12356, which states "[i]n no case shall information be classified in order to conceal violations of law..." However, diplomatic information is classifiable under E.O. 12356. This includes information regarding treaties, negotiations, and matters which are sensitive to other countries, though perfectly legal. In the instant case, the discussion at the time of approval of the special access program was not focused on any actual illegal acts regarding the ABM Treaty, but rather on the Soviet Union's perceptions if the technological developments in TIMBER WIND were inadvertently disclosed."

(U) Pages 11 & 12, Normal Management and Safeguarding Procedures.

(U) Comment: The first sentence of this paragraph is not correct. In a briefing provided by SDIO during the approval process, the DUSD(SP) discussed the justification for the program to include the reasoning that normal security procedures were inadequate to protect the information in the program. As noted elsewhere in our comments, it is apparent that the conclusions in the draft report reflect a judgement that differs from the judgements of Defense officials at the time the special access program was approved. To make assertions that have no basis in fact, however, significantly diminishes the credibility of the current judgements and consequently the report as a whole.

7

(U) Recommendation: That this paragraph be deleted from the report.

(U) Page 12, Review and Approval, First Paragraph.

(U) Comment: The ultimate sentence in this paragraph is not correct. (See the discussion in the preceding comment.)

(U) Recommendation: That the ultimate sentence in this paragraph be deleted.

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(U) Page 17, Conclusion.

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(U) Comment: Information in this paragraph is classified.

(U) Recommendation: That the classification marking on this paragraph be changed to **[REDACTED]**.

13

(U) Page 17, Conclusion.

(U) Comment: The first four sentences of this paragraph read well, but reflect incomplete understanding of the issues involved.

a. Although we are not certain what is meant by "stand on its own" in this context, we assume the intent of the sentence is that there should be adequate justification for not using normal security and safeguarding procedures before establishing a special access program. We agree.

b. Although we disagree that the "fact of" was the only information to be protected by the special access program, information, by and of itself, is never adequate justification for establishment of special access program. In determining whether to establish a special access program, both the sensitivity of the information to be protected, and the threat against that information, are considered in reaching a conclusion that "normal management and security procedures are not sufficient to limit 'need to know' or access."

8 c. We agree that questions should be raised and answered, and the results documented. In the instant case, specific questions and answers were not documented, at least externally to SDIO. Present day procedures for the review and approval of special access programs include justification and documentation at OSD level.

(U) Recommendation: That this paragraph be revised to reflect the foregoing discussion.

14

(U) Page 18, Recommendations for Corrective Action.

(U) Comment: Comments on these two recommendations are contained in the DUSD(SP)'s comments on the findings and recommendations of the draft audit report (Enclosure 1 to the basic memorandum).

(U) Recommendation: N/A

17

(U) Page 19, TIMBER WIND Termination and Transfer to the Air Force.

(U) Comment: As noted in DUSD(SP)'s comments on the findings and recommendations of the draft audit report (Enclosure 1 to the basic memorandum), the first sentence of this paragraph is correct, the second sentence is correct but has no bearing on the issue, and the third sentence is totally incorrect.

(U) Recommendation: That this finding be deleted from the draft audit report.

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18	<p>AUDIT NOTES FOLLOW ON PAGE (71)</p>	<p><u>(U) Page 21, TIMBER WIND and E.O. 12356, First Paragraph.</u></p> <p>(U) Comment: We do not agree with the second and third sentences of this paragraph. Under the procedures in DoD 5200.1-R, the audit team (or anyone else) may challenge a classification decision by an Original Classification Authority (OCA) by requesting a review of the information and its classification by that OCA. The draft report, however, appears to preempt the authority of the OCA in this instance. Further, there is no supporting information which demonstrates that information currently being protected does not warrant protection as SECRET under E.O. 12356.</p> <p>(U) Recommendation: That the second and third sentences of this paragraph be deleted, and the first sentence thereof be folded into the following paragraph.</p>
18		<p><u>(U) Pages 21 & 22, TIMBER WIND and E.O. 12356, Second Paragraph.</u></p> <p>(U) Comment: We do not agree with the ultimate sentence of this paragraph. There is nothing in the draft report which supports a conclusion that either SDIO or the Air Force is classifying information in order to "...prevent or delay the release of information that does not require protection in the interest of national security."</p> <p>(U) Recommendation: That the ultimate sentence of this paragraph be deleted.</p>
19		<p><u>(U) Page 22, Recommendations for Corrective Action.</u></p> <p>(U) Comment: Comments on these two recommendations are contained in the DUSD(SP)'s comments on the findings and recommendations of the draft audit report (Enclosure 1 to the basic memorandum).</p> <p>(U) Recommendation: N/A</p>
23		<p><u>(U) Page 24, Program Classification.</u></p> <p>(U) Comments:</p> <p>a. We do not agree with so much of the first sentence of this paragraph as reads, "<i>Although we substantiated the allegation that the program was over classified,...</i>" We do not believe that the report substantiates such a statement. Moreover, as discussed in earlier comments, the determination of level of classification rests with the Original Classification Authority.</p> <p>b. We do not agree with the ultimate sentence of this paragraph. Nothing in the draft report substantiates the statement that the classification of the program is being maintained "<i>only to avoid embarrassment.</i>"</p> <p>(U) Recommendation: That the leading clause in the first sentence of this paragraph, and the ultimate sentence in the paragraph, be deleted</p>

Audit Response

1. We revised the final report to reflect clearly what DoD 5200.1-R required in 1987. DUSD(SP) stated in his response that "it was the SDIO Director's judgment that this information was of such sensitivity that normal management and reporting procedures are not sufficient to limit 'need to know' or access." This did not comply with DoD 5200.1-R. This guidance specifically requires a written rationale addressing "why" normal management and safeguarding procedures for classified information are inadequate.
2. We added information to the report that shows that before TIMBER WIND was approved as a special access program, there were unclassified studies and reports available that tied the technology with potential strategic defense applications.
3. The draft report did not use the expression "unlawful" program. We had suggested that initiating the program within DoD may have violated provisions within the Atomic Energy Act of 1954. We have revised the report to reflect more clearly what the Act covered in the area of research and development.
4. The Air Force reviewed the report and determined there was no classified information in the report.
5. See Note 1. above.
6. Much of this rewrite was incorporated into the final report.
7. We have no basis to substantiate or question what was discussed between SDIO and DUSD(SP); however, DoD 5200.1-R clearly states that the reasoning should be in writing.
8. The requirement to document the rationale has been in effect at least since 1986.

Deputy Director, Space Programs, Comments



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC



OFFICE OF THE ASSISTANT SECRETARY

August 14, 1992

SAF/AQS
Pentagon Room 4D330
Washington, DC 20330-1000

MEMORANDUM FOR DIRECTOR, ACQUISITION MANAGEMENT
ASSISTANT INSPECTOR GENERAL (AUDITING)
DEPARTMENT OF DEFENSE INSPECTOR GENERAL

SUBJECT: Draft Audit Report on the TIMBER WIND Special Access Program
(Project No# 2AD-0009) - ACTION MEMORANDUM

We appreciate the opportunity to respond to the subject draft report. Before addressing specifics in the report, the Air Force would like to emphasize that TIMBER WIND (TW) was never transferred to the Air Force as indicated in the report. TW was an unacknowledged SDIO Special Access Program (SAP). When SDIO terminated that SAP, the Air Force decided to conduct further research using some TIMBER WIND technology. These technologies formed the basis for the work currently in progress in the Space Nuclear Thermal Propulsion (SNTF) Program. Although some specifics of the detailed technology are classified, SNTF has been publicly acknowledged by the Air Force and is not run under SAP controls. Secondly, TW, while not an active, funded SDIO SAP still contains classified information. For example, detailed technology efforts transferred to the SNTF program will remain appropriately classified. After studying the document, from the Air Force perspective and using our current classification guide, ~~the~~ ^{classified} ~~pages of the report~~ ^{pages of 68-69,} with the exception of ~~the~~ ^{the} ~~unclassified~~ ^{unclassified} ~~pages~~ ^{pages} ~~of the document~~ ^{of the document} is unclassified and for official use only.

Note 1

Specific concerns and comments are addressed below, referenced by page number and paragraph number as appropriate.

Page i, para 4. "The TIMBER WIND program recently transferred to the Air Force..." Comment: See general comment above.

[Page 57 is classified "Enabling Technology". This page is classified SECRET.]

Note 1: In a follow-up discussion with the Program Element Monitor, we were told that no information within the report was FOR OFFICIAL USE ONLY.

Page 15, para 1. "The Air Force is preparing a Memorandum of Agreement and Understanding with both NASA and DOE for joint development and funding." Comment: Actually, OSD has been pursuing such an agreement. "Neither DOE or NASA..." Comment: It is the Air Force's understanding that both NASA and DOE budget for Nuclear Thermal research and the DOE has specifically identified funding in fiscal year 1994 for the program.

Page 18, para 2, "...the Air Force's continued self-directed involvement in nuclear propulsion development." Comment: There was no deficiency noted in the report concerning Air Force involvement in the SNTP program. Consequently, this "corrective action" seems unsubstantiated and unwarranted.

Page 19, para 2. "The TIMBER WIND project transferred to the Air Force." Comment: TIMBER WIND never transferred to the Air Force as previously explained.

Page 20, para 3, "Since the program transferred to the Air Force..." Comment: See general comment on non-transfer to the Air Force. Additionally, it should be noted that technology transferred to the Air Force had to be protected at the appropriate AF classification level. SDIO alone could not declassify the technology without the coordination process and interaction that occurred with the Air Force.

Page 21, para 3. "We asked officials of SDIO why it was still safeguarding the association and we were told that this was a request from the Air Force." Comment: The Air Force never requested to classify the association between TW and SNTP. The fact that the SNTP program inherited technologies from TW is unclassified.

If you require any further assistance from the Air Force please contact Maj Perkins at (703) 614-8574.



BRENT R. COLLINS, Colonel, USAF
Deputy Director, Space Programs
Assistant Secretary (Acquisition)

1 Atch
DoD IG Draft Report, Project No. 2AD-0009