United States Senate

COMMITTEE ON
HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS

WASHINGTON, DC 20510–6250

June 10, 2005

The Honorable Michael Chertoff
Secretary
Department of Homeland Security
Nebraska Avenue Center, NW
Washington, DC 20528

Dear Secretary Chertoff:

I am writing in response to your April 13th letter regarding the proposed establishment within the Department of Homeland Security (DHS) of a "jointly staffed national office," known as the Domestic Nuclear Detection Office (DNDO), composed of representatives from DHS and the Departments of Defense (DoD), Energy (DOE), State, and Justice. Your letter states that this new organization would be "the primary entity in the United States Government to develop a global nuclear detection architecture, and acquire and support the deployment of a domestic nuclear detection system to detect and report any attempt to import, possess, store, transport, develop or use an unauthorized nuclear explosive device, fissile material, or radiological material in the United States."[1]

On first impression, several aspects of this proposal have merit. To the extent that this proposal transfers into DHS functions of the White House Counter Proliferation Technology Coordination Committee, it is consistent with the goals of the Homeland Security Act of 2002 (HSA). [2] I applaud the effort to strengthen the Department's oversight of the Customs and Border Protection acquisition and use of radiation detection equipment.[3] Similarly, the Department would undoubtedly benefit from the acquisition of a second test-bed facility to evaluate the reliability of screening systems.[4] I look forward to helping the Department implement the positive aspects of the reorganization.

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[1] Correspondence, April 13, 2005, from DHS Secretary Michael Chertoff to Sen. Joseph I. Lieberman providing notification, pursuant to Section 872 of the Homeland Security Act of 2002 (P.L. 107-296) regarding a proposed reorganization or reallocation of functions among DHS officers.

[2] *National Strategy to Combat Weapons of Mass Destruction*, White House Counter Proliferation Technology Coordination Committee, December 2002, page 6: "...consisting of senior representatives from all concerned agencies...to improve interagency coordination of U.S. Government counterproliferation research and development...and in examining options for future investment strategies."

[3] U.S. Customs and Border Protection Presolicitation Notice, May 6, 2005, regarding procurement of "next generation" large scale non-intrusive inspection systems under "fast track source selection process."

[4] DHS FY 2006 Congressional Justification, (Hereafter, FY 2006 Justification) page S&T-23: DNDO would acquire the Radiological and Nuclear Countermeasures Test and Evaluation Complex in Nevada for testing and evaluation of prototype and deployed radiation detection systems (page S&T-48); Statement for the Record before the House Science Committee, Feb. 19, 2005,Under Secretary of S&T Dr. Charles E. McQueary Feb. 16, 2005, page 14: S&T Directorate would retain the Countermeasures Test Bed at the Port of New York/New Jersey for "operational testing and evaluation" of detection systems for radiological, nuclear and other threats.

However, I find other aspects of the proposal deeply troubling. The proposal's impact on the Directorate of Science and Technology (S&T) is extraordinarily far-reaching and raises serious doubts about the Department's representation that the DNDO "does not abolish any functions or interfere with the statutory obligations of any Federal agency." [5] I share the disappointment that senior members from both parties on the House Committee on Homeland Security expressed during hearings in April about the Department's lack of consultation on the proposed reorganization, the number of policy and funding issues it raises, and the potential that the DNDO has to produce unintended consequences. [6] Unfortunately, the Department's subsequent efforts to address such concerns have been unavailing.

Section 872 allows the DHS Secretary to "establish, consolidate, alter, or discontinue organizational units within the Department, but only....(2) after the expiration of 60 days after providing notice of such action to the appropriate congressional committees, which shall include an explanation of the rationale for the action." [7] The dual purpose of this provision is to give the Department flexibility to make needed changes while allowing for oversight in Congress that can flag potential problems and help the Department avoid serious missteps. However, such oversight depends on receipt of information regarding the Department's "rationale" that is timely, accurate and complete. In this instance, I do not believe the information provided by the Department is sufficient to enable the Committee to fulfill its responsibilities under Section 872. For this reason, I strongly urge you to provide the Committee with more information upon which to make an informed decision and to address the following concerns.

First, as proposed, the DNDO would undermine a critical part of the research, development, testing and evaluation structure for homeland security set forth in the HSA, which the Administration itself has strongly endorsed and promoted for the last three years.

The HSA could not be clearer: the Undersecretary for S&T is responsible under Title III, Section 302 for (2) ".... coordinating the Federal Government's civilian efforts to identify and develop countermeasures to chemical, biological, radiological, nuclear, and other emerging terrorist threats;" for (4) ".... conducting basic and applied research, development, demonstration, testing, and evaluation activities that are relevant to any or all elements of the Department;" for (5) "....directing funding and conducting national research, development, test and evaluation and procurement of technology and systems for-- (A) preventing the importation of chemical, biological, radiological, nuclear and related weapons and material...;" for (12) "...coordinating and integrating all research, development, demonstration, testing, and evaluation activities of the Department;" and for (13) "....coordinating with other appropriate executive agencies in

[5] Correspondence, April 13, 2005, from Sec. Chertoff to Sen. Lieberman regarding Sec. 872 notification.
[6] Transcript: House Homeland Security Subcommittee on Prevention of Nuclear and Biological Attacks Holds Hearing on Coordination of Nuclear Detection, April 19, 2005. Statement of Chairman Christopher Cox, page 22: "...we'd have to make some immediate budget choices about whether to buy a whole lot of today's technology in a hurry or whether to spend that money on developing something better."
[7] HSA Section 872. Reorganization.

developing and carrying out the science and technology agenda of the Department to reduce duplication and identify unmet needs." [8]

The new office's responsibilities, as set forth by the Administration, would directly impinge on these and other responsibilities of the S&T, thereby significantly diluting the role of the Directorate and the $2.5 billion effort through FY 2005 to "create enduring homeland security capabilities" within that Directorate.[9] This effort has included an estimated $330 million for research and development related to radiological and nuclear threats.[10]

The Administration has provided insufficient justification for a second research and development organization to coordinate, direct, and fund research and development related to radiological and nuclear detection and has not demonstrated that the existing offices of the S&T cannot continue to perform these tasks.[11]

To be clear, the DNDO reorganization would create a new state-of-the-art research and development agency with offices and capabilities that mirror those in the S&T. For example, the DNDO Office of Systems Engineering and Planning would handle "developing technology road maps and strategic planning" including ongoing efforts "...subsumed from the S&T Radiological and Nuclear Countermeasures Portfolio," according to the FY 2006 Congressional Justification.[12] The DNDO Office of Systems Development and Acquisition would "conduct research and development...and coordinate with...interagency R&D organizations on all advanced detection technologies.... develop and provide technical standards and ...will provide the mechanism for rapid prototyping for new and emerging technologies...;"[13] the DNDO Office of Transformational Research and Development would identify and fund research and development to "revolutionize detection systems;"[14]and the DNDO Interagency Coordination Council would "review and de-conflict" research and development among the participating Departments and coordinate "activities associated with transformational R&D and foundational science to ensure that the research community is aware of proposed initiatives."[15] In order to establish these offices, DNDO would retain a contractor to provide or enable technical, analytical, planning, procurement, and program management capabilities that exist in the S&T and provide DNDO with a "Systems Engineering Program Manager, Business Manager, Chief Systems Engineer, Chief

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[8] HSA Title III, Sec. 302. Responsibilities and Authorities of the Under Secretary for Science and Technology, respectively, subsections (2),(4), (5), (12) and (13).
[9] FY 2006 Justification, pages S&T-19-24, S&T 80-84.
[10] Government Accountability Office Report, GAO-04-653, *DHS Needs a Strategy to Use DOE's Laboratories for Research on Nuclear Biological, and Chemical Detection and Response Technologies*, page 11, DHS R&D Funding Distribution, FY 2003-2005.
[11] FY 2006 Justification, page S&T-1: S&T Directorate responsible for "research, development, testing, evaluation and transitioning of revolutionary and existing technologies to detect, prevent and mitigate chemical, biological, radiological and nuclear and explosive threats;" S&T-2: DNDO would conduct "research, development, demonstration, testing and evaluation...in both evolutionary and revolutionary capabilities" for detecting radiological and nuclear threats.
[12] DHS FY 2006 Justification, page S&T 20.
[13] FY 2006 Justification, page S&T-21.
[14] FY 2006, Justification, page S&T-23.
[15] FY 2006, Justification, page S&T-23.

Nuclear Scientist, Test and Evaluation Manager, and an Integrated Logistics Support Manager."[16]

Second, the mission and structure that the Administration proposes for the new office – isolating research and development efforts on radiological and nuclear detection–stands in sharp contradiction to the S&T's integrated or "cross-cutting" approach to managing its four major weapons of mass destruction research and development portfolios involving chemical, biological, radiological, nuclear, and high-explosive threats.

The S&T adopted an integrated "portfolio" approach to managing research on chemical, biological, radiological, nuclear and high-explosive threats that presented different or unique research challenges but also shared common elements, including the requirement that any new sensor technologies be incorporated into a fully interoperable and integrated detection system that is cost-effective and user-friendly. [17] This integrated approach supports the S&T's primary statutory mission of coordinating all forms of homeland security research and development. It also enables a systematic effort to harvest the results of other research and development programs in the federal government that take an integrated approach to developing new detection systems for chemical, biological, radiological, nuclear and high-explosive terrorist threats.

The importance of this integrated approach is well established. More specifically, William Schneider, the Chairman of the Defense Science Board, has cautioned against taking a single-focus approach to the research and development needed to build a global nuclear detection system of the type assigned to DNDO. In a June 2004 memorandum regarding a study that proposed a DoD program to build a global detection system, Schneider contended: "The nature of the problem of detecting clandestine weapons of mass destruction- nuclear, chemical, biological, or radiological-has many disparate characteristics, but they also share some common characteristics that suggest that the USG's ability to field an effective capability to detect WMD may benefit from an integrated institutional approach to WMD detection."[18]

The S&T Integrated Standards Process and Infrastructure portfolio, for example, focuses on development of standards for emerging chemical, biological, radiological, nuclear and high-explosive detectors. This holistic approach facilitates the S&T's collaboration with the National Institute of Standards and Technology, whose scientists have supported the S&T's development of uniform standards for homeland security technology, including four American National Standards Institute (ANSI) standards for

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[16]DNDO Request for Quotation, Engineering Services, April 28, 2005, regarding 5-year contract with $75 million ceiling to support DNDO strategic planning, systems engineering, testing, evaluation and acquisition of radiation detection systems and interaction with National Labs.

[17] FY 2006 Justification, S&T-2: S&T Directorate uses "focused portfolios that address biological, chemical, radiological, nuclear and explosive (CBRNE) threats...operational needs...crossing-cutting areas such as standards and interoperability."

[18] Memorandum for Acting Under Secretary of Defense (Acquisition, Technology and Logistics), Subject: Defense Science Board Task Force Report on Preventing and Defending Against Clandestine Nuclear Attack, June 2004.

radiological and nuclear detection systems.[19] In contrast, DNDO would develop its own process to "refine and improve the ANSI standards."[20]

The S&T's emphasis on integration of research and development related to chemical, biological, radiological, nuclear, and high-explosive threats is apparent in research portfolios that focus on the operational needs of DHS agencies. This includes research in the design and systems engineering of technology architectures that could incorporate different types of new detection sensors. The Border and Transportation Security Portfolio, for example, is developing a Border Detection Grid that can monitor "improved sensors" of various types and "smart portals at the (Ports of Entry) with improved capability to detect" chemical, biological, radiological, nuclear and high-explosive threats.[21]

The Administration has not documented the need or rationale for suddenly abandoning the S&T's cross-cutting, integrated approach. I fear losing the synergy that are the hallmarks of an integrated approach to the research and development program, an approach that is consistent with the S&T's statutory responsibility for "coordinating and integrating all research, development, demonstration, testing, and evaluation activities of the Department."[22]

Third, the proposal will drastically diminish the ability of the Homeland Security Advanced Research Projects Agency (HSARPA) to carry out the "basic and applied homeland security research to promote revolutionary changes in technologies that would promote homeland security" as required by HSA Section 307.

The legislative history of Title III makes clear that HSARPA was designed to serve as the "primary driver" of homeland security research and development.[23] The Administration has supported this mission for HSARPA in prior budget requests. Administration officials have testified in support of HSARPA as S&T's "external research-funding arm...to engage businesses, federally funded research and development centers, universities, and other government partners in performing.... basic, applied, and advanced homeland security research to promote revolutionary changes in technologies that would promote homeland security."[24]

The Administration has not made the case that HSARPA lacks the expertise, funding or statutory authority to foster research and development on radiological or

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[19] National Institute of Standards and Technology (NIST) briefing package, June 1, 2005: "NIST led the coalition that developed the first performance standards for radiation detectors of all sizes...DHS adopted the standards for all radiation detectors used at U.S. ports of entry and relies on NIST-led testing of commercially available instruments to guide procurement."

[20] FY 2006 DNDO Status Brief, Briefing to Staff of Sens. Collins and Lieberman, Mr. Vayl Oxford, Acting Director of DNDO, June 7, 2005, page 10.

[21] DHS FY 2006 Justification, S&T-101.

[22] HSA Title III, Sec. 302 (12).

[23] Congressional Record-Senate, S11412, Nov. 19, 2002

[24] Statement for the Record before the House Science Committee, Feb. 19, 2005,Under Secretary of S&T Dr. Charles E. McQueary, page 6

nuclear that would support the DNDO mission. However, individual advocates for the DNDO reorganization have implied that HSARPA has been ineffective. During testimony April 19, 2005 before the House, Dr. Fred Ikle of the Center for Security and International Studies contended it was necessary to establish DNDO because the S&T had "not moved ahead on a vigorous transformational research program." [25]An April 20, 2005 statement by Acting DNDO Director Vayl Oxford said DNDO would invest $82 million to launch a transformational research and development program.[26]

Credible evidence that HSARPA has neglected or mismanaged research and development related to radiological or nuclear threats or is hindered by institutional or bureaucratic barriers would raise management issues the Department should address or point to the need for oversight by the Committee. As far as I can determine, however, there is no basis to believe that HSARPA cannot be placed in a position to fund and soundly manage the research and development activities that would shift to DNDO. On the contrary, the record available to the Committee indicates that HSARPA was the prime mover behind the research and development to date that laid the foundation for the programs DNDO would pursue. [27] In January 2004, HSARPA announced a solicitation that called for research that provided a "systems-of-systems level analysis and understanding of the current and potential future international and national nuclear and radiological countermeasure infrastructures...in the context of a comprehensive layered homeland security strategy."[28] Simultaneously, HSARPA pursued a "parallel intramural effort through the Department of Energy Laboratories."[29]

Notably, in pursuing this effort, HSARPA stated that one goal of the research was to "develop and exercise an integrated framework for evaluating countermeasure systems in order to estimate the performance of system architectures and to develop specific sub-system requirements and concepts of operations."[30] Concurrent with sponsoring research designed to produce a strategic framework for a radiological and nuclear detection system, HSARPA launched a second program aimed at speeding the development of "next generation" radiological and nuclear detections sensors and encouraging scientists to focus on ways to hasten the use of new detection technologies in "deployed detector systems..." and "...near commercial offerings of radiological and nuclear detector systems for use in DHS operational environments."[31]

During a June 7, 2005 briefing with the Committee's Majority and Minority Staff, Mr. Oxford acknowledged that the reorganization would necessarily entail the transfer

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[25] Transcript: House Homeland Security Subcommittee on Prevention of Nuclear and Biological Attack Holds Hearing on Coordination of Nuclear Detection Efforts, April 19, 2005, page 51.

[26]Opening Statement of Mr. Vayl Oxford to House subcommittee, April 20, 2005, page 7: "an additional $82 million will allow for initiation of a major program on transformational research and development to potentially lead to revolutionary changes in detection capabilities."

[27] Defense Science Board June 2004 report, page 3: "DHS has recently begun a substantial R&D program" related to radiological and nuclear detection.

[28] HSARPA Broad Agency Announcement (BAA 04-01) Radiological and Nuclear Countermeasure System Architectures Analysis, Feb. 27, 2004, pgs. 2 and 3.

[29] HSARPA BAA 04-01, page 8.

[30] HSARPA BAA 04-01, page 2.

[31] HSARPA Broad Agency Announcement (BAA-04-02) Detection Systems for Radiological and Nuclear Countermeasure, Jan. 30, 2004, pgs. 1 and 3.

into DNDO of research and development programs that HSARPA and the S&T conduct pursuant to the statutory responsibilities as described in Title III of the HSA.[32] His briefing presentation stated that the DNDO Office of Transformational Research and Development would "coordinate DNDO's R&D with interagency R&D organizations....work with industry, national laboratories and academia" and establish Academic Centers of Excellence.[33]

Finally, I note that vesting DNDO with independent acquisition authority and a separate research and development budget would open a new corridor of funding and interaction with the National Labs that would bypass the S&T.[34] The National Labs, affiliated with DOE's National Nuclear Safety Administration, are critical partners in basic and applied research related to radiological or nuclear threats, but I caution that the advent of DNDO would add a new layer of complexity to the working relationship between DOE and DHS. [35] In May 2004, the Government Accountability Office (GAO) noted that DHS needed a strategy for its use of DOE laboratories. "Because both agencies may rely on the same capabilities of DOE's laboratories to conduct similar work, especially on radiological and nuclear countermeasures, the agencies need a stronger partnership in order to leverage resources and minimize the potential for duplication of research efforts." [36]

Fourth, while it appears that the DNDO would create a new intelligence gathering and analysis operation within the Department, DNDO's relationship with the Department's Information Analysis and Infrastructure Protection Directorate (IAIP) and the new Director of National Intelligence (DNI) is ambiguous and unclear.

In a statement made April 20, 2005 to the House Homeland Security Subcommittee on the Prevention of Nuclear or Biological Attack, Mr. Oxford said that because DNDO would be responsible for preventing radiological or nuclear terrorist attacks, DNDO would collect and analyze intelligence from domestic and foreign law intelligence sources. [37] In his testimony, he acknowledged that DNDO's relationship with the intelligence community is undefined. The FY 2006 Justification indicates that DNDO will collaborate with the Intelligence Community "as needed." [38]

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[32] Fact Sheet: Domestic Nuclear Detection Office, June 7, 2005: "The DNDO will conduct both evolutionary (near term, requirements-driven) and transformational (long-term, high payoff) research, development, test and evaluation RDT&E...."

[33] FY 2006 DNDO Status Brief, Briefing to Staff of Sens. Collins and Lieberman, Mr. Vayl Oxford, Acting Director of DNDO, June 7, 2005, page 21.

[34] Opening Statement of Mr. Vayl Oxford, April 20, 2005, pages 6 and 7: DNDO request includes use or oversight of funds appropriated for FY 2005, including $100 million provided to the S&T Directorate and $80 million provided to CBP; and additional funds sought for the FY 2006 budget, including $227 million requested for S&T; $125 million requested for CBP and an unspecified portion of $600 million requested under Targeted Infrastructure Protection Grants.

[35] FY 2006 Justification: S&T Directorate Office of Research and Development "executes...program with the national and Federal laboratories" (S&T-2); DNDO will "draw on expertise provided by the National Laboratories" (S&T-20).

[36] GAO Report (GAO-04-653), *DHS Needs a Strategy to Use DOE's Laboratories for Research on Nuclear Biological, and Chemical Detection and Response Technologies,* page 12.

[37] Opening Statement of Mr. Vayl Oxford, April 20, 2005, page 6..

[38] FY 2006 Justification, S&T-20.

More recently, during a June 7, 2005 briefing of the Committee's Majority and Minority Staff, Mr. Oxford provided a presentation claiming that DNDO's Office of Operations Support would "enhance sharing/use of information from the intelligence, law enforcement, and counterterrorism communities, other government agencies/foreign governments."[39] This aspect of the DNDO reorganization raises questions about the proposal's impact on the mission of the IAIP. I share the concerns expressed by my colleagues on the House Committee on Homeland Security on this point. During the hearing on April 20, Chairman Cox questioned why the DNDO intelligence function could not be lodged within the Department's Information Analysis branch.

Likewise, the DNDO proposal implicates provisions in the Intelligence Reform and Terrorism Prevention Act that authorized the creation of a National Counter Proliferation Center under the DNI. For example, the Intelligence Reform and Terrorism Prevention Act, Sec. 1022, gives the DNI authority to oversee a National Counter Proliferation Center, and to coordinate "counter proliferation plans and activities of the various departments and agencies of the United States Government to prevent and halt the proliferation of weapons of mass destruction, their delivery systems, and related materials and technologies."[40] During the April 19th hearing in the House, Rep. Norman Dicks questioned the value of establishing separate organizations with overlapping missions. "I think having two separate offices here doesn't make any sense."[41]

Fifth, the DNDO proposal would create the equivalent of a large new federal agency, a step that needs careful Congressional scrutiny and does not constitute a mere "reallocation of certain functions among Department officers."[42]

The strongest elements of the Administration's case for establishing the DNDO relate to creating a "single accountable organization" that would design, build, and operate a "global nuclear detection architecture;" manage a massive procurement program; operate a command center that monitors all sensors; dispatch nuclear assessment teams to investigate alerts; and integrate "crucial overseas programs" run by DOE and DoD with the "nuclear detection efforts of Federal, State, territorial, tribal and local governments and the private sector." [43]

Indeed, much of what the Administration says the DNDO would achieve entails creating the equivalent of a new agency. One estimate of the scale, cost, and complexity of the missions assigned to DNDO was included in a June 2004 report by the Defense Science Board entitled "Preventing and Defending Against Clandestine Nuclear Attacks," that laid out a blueprint for such a system of "geographically layered system of sensors and response capabilities" in the United States and overseas. "A very rough estimate for

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[39] FY 2006 DNDO Status Brief, June 7, 2005, page 23. Also see: DHS Fact Sheet: Domestic Nuclear Detection Office, page 1: DNDO mission includes "enhancement of effective sharing and use of nuclear detection-related information and intelligence."

[40] Intelligence Reform and Terrorism Prevention Act (P.L. 108-458), Sec. 1022 (6)

[41] Transcript: House Homeland Security Subcommittee on Prevention of Nuclear and Biological Attack Holds Hearing on Coordination of Nuclear Detection Efforts, April 19, 2005, page 34.

[42] Correspondence April 13, 2005 from Sec. Chertoff to Sen. Lieberman regarding HSA Sec 872 Notification.

[43] Fact Sheet: Domestic Nuclear Detection Office, June 7, 2005.

civil detector deployments for all layers in the United States and overseas—along roads, at ports and airports, around and within cities, etc.—is 100,000 to 400,000 detectors. Procurement of such a civil system might cost a few billion to a few tens of billions of dollars. (The ranges account for uncertainties in the architecture and in the extent to which R&D and competitive quantity production can reduce costs.)" [44]

The Defense Science Board task force contended that "to do these missions well will require a many-fold expansion of the number of personnel with the requisite skills" and said the Pentagon would likely need to establish a new military discipline in the Armed Forces or create a large organization dedicated to operating a global detection system. [45] Development of such a capability may be necessary to ensure our nation's safety and DHS should have a major role, but a careful review is needed to understand what the Administration's proposal would actually achieve.

Doing everything possible to deter and detect the threat of a nuclear or radiological terrorist attack is of extraordinary importance. Some have equated the DNDO proposal to a mini-Manhattan Project, but it is well understood that the Manhattan Project was a profoundly connected and well-coordinated effort that incorporated the contributions of numerous institutions in the nation's science and technology establishment. I fear the Administration's proposal falls far short of that historical model by failing to build on the assets we have, duplicating infrastructure, and taking a stove-piped approach to research and development. I am concerned that the DNDO would not tackle the problem but instead risk slowing down our ability to address this threat.

Sincerely,

Joseph I. Lieberman
Ranking Minority Member

Cc: The Honorable Susan M. Collins
The Honorable Robert C. Byrd

[44] *Report of the Defense Science Board Task Force on Preventing and Defending Against Clandestine Nuclear Attack*, June 2004, for Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics, page 23.
[45] Defense Science Board Report, page 43: "An example of an organizational structure that embodies a military discipline is the Army Chemical Corps. The Chemical Corps has highly specialized training, some of it highly technical in nature. It has a school. Many officers have advanced degrees in science. It is large enough to have general officers at the top of its structure. It has an organic intelligence function."