

Closed Sessions

U.S. DEPARTMENT OF HOMELAND SECURITY

Homeland Security Science and Technology

Advisory Committee (HSSTAC)

November 8, 2005

Arlington, VA

The HSSTAC convened its eighth meeting on Tuesday, November 8, 2005, in Arlington, Virginia. The Committee met in closed session pursuant to the provisions of 5 U.S.C. 552b(c)(9)(B).

The Designated Federal Official, Dr. Laurie Henrikson, called the meeting to order and, per the Committee's charter, turned the conduct of the meeting to the Chairman, General Larry D. Welch, USAF (Ret.). General Welch reviewed the objectives of the meeting as announced in the *Federal Register* (70 FR 61465): (1) review Homeland Security Institute (HSI) work on risk-based strategic planning; (2) receive Subcommittee reports; (3) provide the Under Secretary with preliminary recommendations; (4) address future Subcommittee activities; and (5) discuss the annual report to Congress and the Under Secretary.

General Welch opened by reminding the Committee members that the meeting would focus on determining the areas of concern to include in the Committee's annual report to Congress. General Welch also stated that it is acceptable to restate recommendations from the 2004 report if the Committee feels an issue has not yet been resolved. He asked members to keep in mind which recommendations apply to the Department and which recommendations apply to the Science & Technology (S&T) Directorate. One example General Welch gave was technology transfer since it presupposes an end-user, thus making it a Department-wide issue.

Under Secretary for Science & Technology

Dr. Charles McQueary, Under Secretary for Science and Technology (U/S S&T), began by thanking General Welch for his service in guiding the Committee from its formative stage to where it is today. Dr. McQueary then introduced Dr. Laurie Henrikson as the new Director of the Office of Studies and Analysis, Executive Director of the HSSTAC, and Executive Agent of HSI. Dr. McQueary noted that Dr. Henrikson has already become very involved since reporting in September and has been working closely with the Subcommittees.

Dr. McQueary then began his remarks by addressing Secretary Chertoff's three top priorities, the first being the Secure Border Initiative. The Secretary anticipates a weekly roll-out of events, development of metrics for gauging success in this area, enhancement of situational awareness at our borders, and expansion of our detention

capacity. The second priority is preparedness. The Secretary intends to substantially enhance our preparedness for threats that include the avian flu and other pandemics. Thus, a new Preparedness Directorate will be created in the Department. Dr. McQueary also noted that the Secretary is committed to reorganizing the Federal Emergency Management Agency (FEMA) by the beginning of the next hurricane season. The goal is to create a highly efficient distribution system. Committee members then discussed FEMA's reporting chain – directly to the Secretary and not to the new Preparedness Directorate.

Dr. McQueary acknowledged that chemical, biological, radiological, nuclear and explosives threats are scientific and that the Department has to communicate more effectively, as well as better educate the public about these threats. He noted that the Department is developing fact sheets relating to each of these threats and that Dr. Jeffrey Runge, the newly appointed Chief Medical Officer for the Department of Homeland Security (DHS), will have a key role in DHS activities relating to pandemics such as the avian flu.

Dr. McQueary then informed the Committee that he had recently traveled to the United Kingdom (UK) and visited Scotland Yard to receive briefings on the London Tube bombings. UK authorities were able to reconstruct the events of the bombings and DHS is in discussions with the UK to develop lessons learned. Dr. McQueary explained that the United States (U.S.) has also had to deal with natural disasters, so there are lessons to be learned from other than terrorist events. For example, communications between first responders is vitally important and has a role in both natural disasters and terrorist events.

Committee members then discussed possible solutions to communication resiliency as well as some vulnerabilities to communication systems. Dr. McQueary explained he recently attended a DHS-sponsored conference in San Diego on First Response. There were many vendors with only partial solutions – few, if any, had an overall systems approach to providing a solution.

He then explained the Regional Technology Integration Initiative (RTI), a DHS program to help transition innovative technologies and organizational concepts to regional, state and local jurisdictions. RTI has been working this past year with local leadership in Anaheim, Cincinnati, Memphis and Seattle to strengthen the security posture of these cities. At the DHS conference in San Diego, Dr. McQueary announced that S&T and the City of Anaheim are embarking on a pilot program that will implement and test protective technologies and systems at the Anaheim Convention Center. The pilot technology systems for this effort will focus on existing and emerging capabilities in four areas that include: (1) detection of airborne hazards inside and outside of the convention center, (2) the feasibility of persistent surveillance technologies, (3) explosives detection at events, and (4) enhanced incident command and decision support architecture.

Finally, Dr. McQueary recognized Committee members who will have completed their two-year terms on the Advisory Committee on February 5, 2006. They are: Dr. Russell Bessette (Chairman of the Outreach Subcommittee), Mr. Bran Ferren, Dr. David Franz, Dr. Lawrence Papay (Chairman of the Resources and Organization Subcommittee), Chief Joseph Polisar, Dr. Richard Roca (Chairman of the Mission and Operations Subcommittee), and General Larry Welch (Chairman of the Committee).

Homeland Security Institute

Mr. George Thompson of the HSI briefed the Committee on HSI's work to develop an analytical approach to risk assessment. Mr. Thompson discussed interim results, status, and plans. The purpose of this task is to help define and develop an analytic framework that integrates Homeland Security strategic planning with activities such as threat assessment, mission analysis, investment strategy development, resource allocation, program planning, performance-based assessment and system requirements analysis. The task must define the right balance for investments, identify what programs achieve the mission objectives, outline how the Department determines it has made the homeland any safer, and identify missing programs in order to fulfill the Department's strategy. Mr. Thompson then went on to explain the mission area analysis process, the Homeland Security taxonomy, analysis of unfunded requirements, and results and observations. Following discussion with the Committee members, Mr. Thompson outlined plans to handle strategic prioritization and program planning and assessment.

Outreach Subcommittee

Dr. Russell Bessette, Chairman of the Outreach Subcommittee, briefed the Committee on the Subcommittee's latest activities, findings, and recommendations. Dr. Bessette began by explaining that the Subcommittee met recently with representatives from S&T's Office of External Affairs, University Programs and the Department's Office of Public Affairs. The Subcommittee found there are many "publics" for S&T: legislative, business, academic, product developers, first responders and public communications for both preparing for and responding to a disaster.

The Subcommittee discussed at length the importance of the Department having behavioral science expertise. Dr. Fischhoff identified human behavior as being central to many aspects of the Department's mission, including the creation of trust in government, development of emergency communications, creation of usable technologies and establishment of realistic planning. The Subcommittee recommended that the Department develop methods to ensure that social and behavioral science needs are identified, that appropriate expertise is identified, and that the expertise be used in an effective and sustained manner. Dr. Fischhoff suggested that the Department establish a mechanism for recruiting relevant expertise with scientific credentials and use an interdisciplinary, problem-oriented approach. He went on to explain that the Department's communications should be scientifically sound in order to reflect the science of communications and be evaluated empirically before dissemination.

Programs Subcommittee

The Programs Subcommittee was unable to meet since the previous plenary session. Dr. Franz informed the Committee that the Subcommittee is planning to visit a national laboratory for their next meeting. Dr. Happer explained that the Subcommittee's goals are to understand the programs at these labs, to meet with those involved, and to understand their objectives.

Resources and Organization Subcommittee

While partaking of a working lunch, Dr. Alice Gast briefed the Committee on the Resources and Organization Subcommittee's activities, findings, and recommendations of the year. The Subcommittee investigated technology transition, the SAFETY Act, planned DHS laboratories and the status of the relationship between DHS and the national labs. During discussion of the relationship between the national labs and DHS, Dr. McQueary reminded the Committee that DHS only makes up three percent of the Department of Energy (DOE) national lab funding.

Dr. Gast went on to explain the Subcommittee's interaction with the technology transfer and transition entities within S&T. The Committee agreed that BioWatch was a good example of lack of technology transfer. Dr. Gast expressed the Subcommittee's concern that the current decentralized technology transfer and transition approach will provide less than optimal technology transfer, has the potential to lose the ultimate customer in the process, and does not involve the portfolio managers effectively. As a result, the Subcommittee members felt that the technology transfer process should be directed at a Directorate level.

Dr. Gast mentioned the Subcommittee's interaction with the S&T's Office of Research and Development (ORD) regarding future biological countermeasures labs. The Subcommittee received an update on the progress of both the National Biodefense Analysis and Countermeasures Center (NBACC) and the National Biological and Agro-defense Facility (NBAF). The Subcommittee noted that the NBACC needs to be fully integrated with other facilities and labs relating to biological countermeasures and that NBAF needs to be closely involved with the Department of Health and Human Services (HHS) and the Department of Agriculture (USDA).

Finally, Dr. Gast stated that the Subcommittee had received the HSI's assessment of the capabilities resident at the national labs. The Subcommittee is concerned that ORD's implementation strategy needs to more clearly articulate DHS' needs, and that metrics should be aligned with these needs.

Mission and Operations Subcommittee

Dr. Richard Roca, Chairman of the Mission and Operations Subcommittee, briefed the Subcommittee's activities since the previous plenary session. Dr. Roca began by explaining three classes of technology realization programs: classic mission

capability, time-critical mission capability, and advanced technology. Dr. Roca then explained a shared model for capability realization which places all the focus on the back end of the realization process and does not invest significantly in basic or applied research.

He then explained that the Subcommittee met with representatives of the Office of Systems Engineering and Development (SED), the Domestic Nuclear Detection Office and the United States Secret Service. Dr. Roca observed that different operational entities of the Department have varying opinions regarding centralizing technology realization within the S&T Directorate. The Subcommittee also found that the degree of technology centralization that is acceptable to an operational entity appears to depend on their particular environment (breadth of mission, repeatability of mission, time dependencies and scale of operations).

Subcommittee members recommended that the Directorate ensure interfaces with operational entities are defined and that there are no gaps for which there is no responsible party. Furthermore, the Subcommittee recommended that the S&T Directorate formally identify a surrogate for non-Federal operational users and that the S&T Directorate strengthen its skills and processes in client engagement. For instance, the skills necessary for this type of interaction are generally found in product managers, program managers and account managers as opposed to product developers, scientists or technologists.

The Committee discussed the role of the Directorate's Systems Requirements Council, which receives input and strategic planning advice from the operational entities. The Committee also discussed the appropriate role of SED and how the Directorate handles communications with the first responder community. Mr. Vitto suggested that SED could fill an apparent gap with the state and local entities. Dr. Roca concurred and stated that the Directorate needs a strategy that accommodates different solutions and methods by which to engage the non-Federal entities. Dr. Roca concluded that the S&T Directorate should not just develop technology, but technology for operational success.

Executive Session

Following a break, General Welch discussed the requirements of the 2005 annual report to Congress, due on or before January 31, 2006. General Welch welcomed including issues from the 2004 report if appropriate. He then outlined the issues he felt were important to include in this year's report: (1) strategic goals and output-oriented objectives, (2) public interface and resilience, and (3) transition of output to operators. In regards to strategic goals and output-oriented objectives, General Welch recognized that the Department's strategic goals are very general, and this does not provide the S&T Directorate much help with deciding which technologies to pursue. He followed by stating that the S&T Directorate's goals are not as general and explained that it is the Portfolio Manager's responsibility to develop output-oriented goals. He then asked, "What is the step that gets the product to the end user?"

General Welch discussed “vulnerabilities” versus “threats.” He prefers addressing “vulnerabilities” because it is something everyone can understand. He then asked, “If you were going to define the overarching strategic goal of the Department, what would it be – for the United States to be resilient in the event of an attack?” He believes that once this question is answered, the Department can then create supporting strategic goals. General Welch stated that to have realistic programs the Department must have realistic expectations.

Dr. Atlas commented that communications roles and channels must be well-defined in order to maintain the government’s credibility in the event of a biological attack. Dr. Fischhoff opined that the Department treats public communication as public affairs.

Discussion turned to the S&T Directorate’s role in transferring technology to the operators. General Welch was very interested in how to make the operational components of DHS think of S&T for research and development help. He felt that the Department’s organizational structure lacked the requirement for the operational directorates to work with S&T when developing technology. He reiterated that everything is driven by strategic objectives.

Mr. Vitto acknowledged that technology transfer gets some attention, but strategic objectives and public communications get little, if any, attention. General Welch replied that this is an assumption with threat-based planning, but you do not always know the threats, so you deal with a range of threats. He then discussed capability-based planning in which countermeasures programs are developed around programs and detector capabilities. General Welch concluded that it is difficult to stop someone who is willing to die, but you can try to mitigate the effects. This leads to an acceptance of particular threats, with the Department’s primary goal being to preserve the state.

Open Session

Following the Executive Session, the Committee convened in open session. The following is a transcript of the session.

GENERAL WELCH: Welcome to the open session of our fourth plenary of the year. I will take a few minutes to explain what we are about and what we have done in 2005. The main purpose of this session is to relate the area and kinds of recommendations we will be making to the Department.

This is the HSSTAC. Our mission is to advise the U/S S&T on the relevance, coherence, and progress of the S&T Directorate. We are required to submit an annual report to the Congress, which we will do.

I’m Larry Welch, the Chair of the Committee. The Committee at the present time consists of members organized into four subcommittees who do most of the actual work of the Committee: Outreach Subcommittee, Programs Subcommittee, Mission and Operations Subcommittee, and Resources and Organization Subcommittee. The full

Committee meets quarterly in plenary session and the subcommittees meet numerous times between plenary meetings.

We met in February in Arlington to hear from the Under Secretary, the Director of Comparative Studies, the Director of ORD, the Director of SED, and the Deputy Director of the Homeland Security Advanced Research Projects Agency (HSARPA). We then met in May in San Diego, California, where we focused mostly on border patrol and transportation security. We met in August in Atlanta, Georgia, in conjunction with a DHS HSARPA conference where the Committee received updates from the S&T Portfolio Managers. And, of course, our November meeting is the current one. At each Committee meeting, we also receive reports from the subcommittees.

In our 2004 report to the Secretary and to Congress, we made specific recommendations, and we now have the S&T Directorate's response to those recommendations. We are currently in the process of putting together our annual report for 2005.

There are three principal areas of focus that will characterize this year's recommendations. They are: (1) strategic goals and output-oriented objectives, (2) public interface and public resilience, and (3) the transition of S&T output to operating agencies.

The first area is to examine DHS strategic goals. We find those goals are highly relevant, but they're also quite general. Our concern is the need to connect strategic goals to output-oriented objectives to S&T deliverables. We had a lot to say about that last year. We have seen progress in 2005 in that we find there are now some output-oriented objectives. We also see some growing connectivity of those objectives to S&T deliverables, but the Department has a long way to go to be satisfied that there is an organized, structured process that relates S&T deliverables to output-oriented objectives to strategic goals of the Department.

A recurring theme, again one repeated from last year, which still requires work is expanding a "threat-based" analysis to a "risk-based" or "vulnerability-based" analysis. The difficulty with using only "threat-based" analysis is you will almost always be wrong. We are simply not good at predicting where the next threat will actually be or what the consequences will be.

So we need to look at a compilation of threats and at overall risk so we can close vulnerabilities to that set of risks in order to achieve the objectives of the Department. Although the Department is expanding from "threat-based" to "risk-based" analysis, that is a work in progress, and we will continue to urge the Department to work on that.

Turning to public interface and public resilience, we think it is enormously important because it is naive to think that you will prevent all damage or you will prevent all of the incidents that one seeks to prevent. While we would certainly give prevention a very high priority, the fact is that if the overall strategic objective is to preserve the American way of life (that is, to ensure that no set of threats can fundamentally change

the U.S. as we know it), then you need a very resilient public. We need a public that can react to a wide range of things that can happen, much of which we will never predict in advance, and to sustain that which we all believe in.

We give a very high importance to preparedness, realistic expectations and public understanding that lead to confidence. We will have some things to say about the responsibility to ensure that expectations are realistic. We will recommend that there be a major thrust to make DHS the “trusted source” for information in emergencies. That does not mean that all the expertise will come from DHS, but the public needs to know in an emergency that there’s one communication channel that they can use to get the information and help they require. It needs to be a consistent source; it needs to be trustworthy.

In order to provide that, S&T has a role to play in providing both physical and social science expertise because it is both a physical science and a social science issue. The “trusted source” has to deal with the content, the dissemination, and the result of providing the necessary information to contribute to recovery and to public resilience in general. That means DHS must have access to relevant expertise across a range of physical and social sciences. DHS must have very high credibility, which means they must have a close interface and collaboration with other agencies such as HHS. It means reliable communications that work anywhere, anytime, even in the face of extensive infrastructure losses, which will characterize some of the conditions that the nation will have to deal with – some natural, some man-made.

In the third area, the transition of S&T output to operating agencies is again a recurring theme. You would expect, when you put together a group of agencies that have their own S&T structure and their own acquisition structure, that focusing on a more centralized approach to providing the S&T support for future needs is an organizational challenge. It is also a cultural challenge. It is a social challenge.

We strongly suggest that the S&T Directorate lead the formulation of an S&T strategy as part of the direction given to the U/S S&T by the Secretary, because S&T has to provide the formulation of a strategy to support long-term needs. But the strategy has to be one that not only is formulated by the S&T Directorate, but also by the customers – the operating agencies that need the output from S&T efforts to meet their long-term needs.

It requires a fairly extensive effort on the part of the S&T Directorate to establish interfaces and relationships with operational customers and to convince the operational customers that the S&T Directorate is the go-to place to get technology advances required to improve operational capabilities. Associated with that, the S&T Directorate, in our view, continues to operate systems that consume extensive resources that need to be handed off to an operational entity within DHS. The challenge is that sometimes it is difficult to find that operational entity. That is, again, a part of developing the Department into a more unified, integrated Department which is beyond the charter of our advisory Committee.

So let me stop characterizing the thrust of our 2005 report recommendations. None of these are totally new to the Under Secretary or anybody else because we have discussed these at some length during our plenary sessions and Subcommittee presentations.

I am joined here by the U/S S&T, Dr. Charles McQueary, and the other members of the Committee. So with that, we are happy to respond to any questions or comments you might have.

MR. BROWN: Is it still a bit too early to begin evaluating the effectiveness of such programs as HSARPA?

GENERAL WELCH: No, it's not too early. I think we do that automatically. But it is intrinsic to our insistence that S&T deliverables be connected to output-oriented objectives. The entire S&T Directorate is involved in that, including HSARPA. Our recommendations will include HSARPA and SED and the other elements within the S&T Directorate.

UNDER SECRETARY McQUEARY: If you are asking the question in the context of HSARPA being like DARPA, I don't ever see it being like DARPA. HSARPA's primary function is to act as an interface with the private sector, although it does have a little bit of a university interface. HSARPA's job is to get contracts on the street through the private sector, whereas ORD primarily deals with the national and federal laboratories and the University Centers of Excellence.

GENERAL WELCH: Now, one of the subjects that I haven't mentioned is that the transition/transfer of technologies is a two-way street. We have had a good bit to say in the past about interfacing with the universities – how one actually goes out and solicits good ideas, how the system procures and how it is receptive to ideas on how to solve major challenges. It is a two-way street.

MR. BROWN: I appreciate your comments because it is very misleading. We in the electric utility industry assumed that it would be more of a DARPA model – the government would be doing research or developing something to a point at which it would then be handed over to the private sector for refinement, marketing or something along those lines – and that is not the case.

UNDER SECRETARY McQUEARY: That is not the model for HSARPA. Early on I concluded that we need to focus on current needs so that we could be responsive to the needs of those operational members that make up the Department. When we get to the point where we think we are doing a good job of protecting the country, then we can begin looking at, what I'll call, forward-looking research. We do spend a little bit of money in the forward-looking area, but it is probably less than 10 percent of the total budget.

MR. BROWN: Is the focus then solely on the needs of the Department? I thought I heard you say earlier that it was intended to be focused more on private sector.

UNDER SECRETARY McQUEARY: No. When I say the private sector, I mean the organizations that do the work. What we do is manage the contracts to get that work done. We decide what areas we want to have scientific work done in, and then we contract out to the private sector to do that work.

GENERAL WELCH: To broaden that a little bit, homeland security happens to be one of those areas where a great deal of what you're trying to secure is in the private sector.

UNDER SECRETARY McQUEARY: That is true.

GENERAL WELCH: The things that the Department of Homeland Security is trying to apply are, in many cases, primarily applied to the private sector. It is pretty hard to separate those two from that viewpoint. Critical infrastructure is, by and large, owned by the private sector. Part of the socialization is persuading the private sector that they need to be making these investments.

MR. AUGUSTINO: I am Steve Augustino from Kelley Drye & Warren. I came here because the *Federal Register* notice announcing this meeting indicated that the Committee would receive a briefing on the HSI's risk-based assessment. I wonder if you can give me an idea of what information you received, and the status of their work.

GENERAL WELCH: To make choices among the set of possible vulnerabilities, threats and solutions is an enormous job to sort out. It is an enormous job to set any kind of priorities. If you take something specific like critical infrastructure, for example, and try to make some coherent sense out of the vulnerabilities, the threats, the consequences, the opportunities to contribute to that security, programs available, etc., simply finding some kind of analytical method to bring all of them together and sort them out in a way that a decision maker can make sense of the choices is very difficult. First you must make sense out of all of the threats – all of the vulnerabilities and all of the consequences in terms of the economy, human life, the American way of life, or whatever. That is the task HSI has taken on.

DHS and HSI are trying to find a way to provide better insights for priority choices, and I would say they are making progress. We had a fairly spirited discussion during the briefing.

MR. COLLINS: I am Greg Collins from L3 Corporation. This is a follow-up to the previous question. Is there a certain area that HSI is focusing on, such as borders, immigration, or other things for this risk-based analysis?

GENERAL WELCH: Well, they picked an area for testing and development, but the methodology they are developing is supposed to handle any area you want to look at, and eventually any combination of areas. From a practical standpoint, it really doesn't have to do all of that. Part of our discussion today was that, if you look at all of the challenges and all of the opportunities, there is a set that the senior leadership knows are important, and will pursue. There is another set that may not make the cut and an "in-between set" where you just really need some help in differentiating and sorting out

priorities. Our advice to HSI was not to try to do something you don't need to do if you have a methodology that can handle a significant segment of the decision space, that is valuable, and that contributes to valuable insights.

UNDER SECRETARY McQUEARY: I think you described it very well. Your comments were very helpful.

MR. CHANDLER: I am Paul Chandler, Homeland Security Dialog Forum. You were talking about evaluating S&T in terms of working with the customer—working with all of the component agencies as customers. What impact did the Second Stage Review and the recently completed restructuring of some Department components have on your thinking, if any?

UNDER SECRETARY McQUEARY: I think it is important to note that some of the changes recommended by the Second Stage Review had to go through Congressional discussions and approval before we could implement them. The process of implementation is underway at this point. I think it is premature to notice any differences as a result of that, although I do think some key decisions were made in the Second Stage Review, including creating a Policy shop and the new Preparedness Directorate. The Secretary recently talked about his expectations to have FEMA operate more like a FedEx, a Wal-Mart, or something of that sort in order to be a high quality supplier of people and resources that are needed in times of a disaster.

Certainly the Secure Border Initiative is another change that will receive a lot of attention and interest. You have heard the Secretary talk about that and a lot has been written about what needs to be done there. In fact, one of the six items that came out of the Second Stage Review was the improvement of the situation at the border, including examination of immigration policy.

GENERAL WELCH: From our standpoint, the central issue is connecting S&T deliverables to an output-oriented customer with an oriented set of objectives. The Second Stage Review, as it stands today, doesn't have much impact on that. It has a lot of impact on other things, but not on that central relationship issue between the S&T effort and the operational entities within the Department of Homeland Security.

The reason is that it is a difficult subject and will take time to sort out. The agencies that came together to form DHS all have their own way of doing business, they have their own contractors, they have their own research and development, etc. Socializing and changing the culture to a more effective concentration of effort on progressing basic S&T needs that have both short-term and long-term effects are tremendously important. We understand it is very difficult. Our role is to keep pushing.

MR. CHANDLER: Very well. Thank you.

MR. BROWN: I have another question on organization and legacy. The existing relationship between DHS and the national labs and DOE and the national labs, from the electric utility industry's perspective, is murky, at best. Have you made any recommendation about that subject? Are you going to look at this? We would like to see

that relationship go a little bit more smoothly, because right now it is hard to tell who is on first and who is in charge. This is particularly so given that DOE is the sector-specific agency for our industry and yet DHS, through S&T, has a role with the labs. It is very, very murky to us.

GENERAL WELCH: We were asked to look at that relationship explicitly. We are doing so, and there will be things in the report referring to that.

MR. BROWN: You are not going to spill the beans right now?

GENERAL WELCH: Well, I really can't. Since I serve on advisory boards to two of the laboratories, I had to recuse myself. No, I'm not going to have any further comments.

UNDER SECRETARY McQUEARY: I would like to make sure that you fully understand how that relationship was established. The legislation that created the Department of Homeland Security authorized the Department access to the DOE labs. When we are doing work with the labs, we work through the DOE. If we want work done by a laboratory, it passes through there, but it's not a big deal. We fund all of our own work. The national labs do work based upon funding we provide, which this past year was approaching \$300 million.

Now, the thing to keep in mind is that DOE funds those labs to a tune of about \$8 billion in round numbers, and we are at \$300 million. So we are a very small percentage of their total capability. But there was a signed memorandum of agreement (MOA) between then-Secretary Ridge and then-Secretary Abraham as to how that would work, and it is working in accordance with that MOA.

GENERAL WELCH: We have insisted these are "national" labs, and that although they report to DOE they are "national" labs and have characteristics and things to offer. As you know, they do an enormous amount of work for the Department of Defense – some 30 percent of their budget. So it is important to keep that perspective.

MR. BROWN: Is there any advice that you would give to a member of the energy sector—at least one portion of the energy sector? Do we go to DOE with questions and issues regarding research, do we go to DHS if it is an infrastructure protection and Homeland Security focus, or do we go back to DOE – not because of the labs necessarily but because they are the sector-specific agency for our sector? Where do we start this process so that we don't end up bouncing back and forth endlessly?

GENERAL WELCH: DOE's charter says it is their job to promote the development of energy sources, not to protect the industry. So it seems to me to be pretty straightforward. When it comes to developing energy sources, that is DOE's responsibility. When it comes to protecting infrastructure, that is DHS' responsibility. I think it is fairly clear. DOE has no charter to protect critical infrastructure.

MR. BROWN: HSPD-7 calls DOE out as the sector-specific agency for our industry; other than that, I would wholeheartedly agree with your analysis. That throws a

little bit of murkiness in, which has caused some confusion at both DOE and DHS, as well as in our industry, as to where we go. But certainly you are clear on your position.

GENERAL WELCH: I think one way to test it is to ask who is going to get the blame if something goes wrong. It will not be DOE.

MR. COLLINS: I have a couple of comments. Listening to your key recommendations, I applaud the third one, the transition of S&T output to operating agencies. That is one of the things from industry that we see happening a lot; and in part, I think it is an awareness campaign to the agencies and industry so that we know what kind of results are coming out and so we can apply those results appropriately. In submitting proposals on bigger contracts, we are not finding out about some of the things that are coming out of S&T that we could have used as part of our tool kit. So if S&T Directorate were to transition its S&T output to operating agencies, contractors like ourselves might be more aware of what is going on and take advantage of it – or maybe help bring those into some of the solutions that they are providing. I think that would be a win/win for all involved. We never saw the outcome of some of the initiatives that were going on, and I'm sure there were a lot of successes.

UNDER SECRETARY McQUEARY: Well, two comments. One, you want to be sure that you are plugged into our website, particularly the HSARPA website. I would also encourage you to be an active participant in the various conferences that S&T sponsors. We put our very senior leadership out at those conferences for two reasons: (1) they can talk about what they are doing, and (2) they can interact with people. In fact, we had a conference last month in San Diego on critical infrastructure-related activities.

MR. COLLINS: Thank you.

GENERAL WELCH: That does raise the question of the formal process for S&T reaching out with information to the private sector. Those two things you mentioned are the primary means of doing this?

UNDER SECRETARY McQUEARY: Well, the conferences and certainly the web site are the two primary methods of reaching out to the private sector. Any work that we are interested in doing with the private sector is put on the website. In addition, any projects that we have funded or are interested in funding are listed there.

MR. COLLINS: I assume we can contact the points of contact to see what is applicable for use on other proposals?

UNDER SECRETARY McQUEARY: I'm sorry. I missed the beginning of what you said.

MR. COLLINS: For instance, I am going to use ASI in Dearborn, Michigan, as an example. There are things out there that have been going on that we can use to ask the points of contact questions. Are they going to turn us away if we ask too many questions? Are they given instructions to be open with the contract and what they are doing?

UNDER SECRETARY McQUEARY: I don't know whether there have been any explicit instructions one way or the other. The only sensitivity I can see is, if we were working with a particular company on a contract, it may include some proprietary information that that company brings to bear on a particular program. You understand that – being employed with a company yourself. Other than that, there's no reason why information would not be available to somebody who wanted to talk to us.

MR. BURKE: This is my first opportunity to attend one of your meetings, and I've always been interested in the interface between the government and the private sector on what the shortfalls are in terms of technology. I am with a technology company, and we are just starting to work with universities. You mentioned earlier that there is a University Center of Excellence. Has that been already established?

UNDER SECRETARY McQUEARY: We have already established and named four Department of Homeland Security University Centers of Excellence: one at the University of California that deals with the economic consequences of terrorist attacks and threats; one at Texas A&M University that deals with large animal diseases – think of that as zoonotic diseases (those diseases could be veterinary-related issues); one at the University of Minnesota that deals with food safety; and, we just recently named the University of Maryland to help answer the question of what causes a person to become a terrorist and what can be done to intervene earlier in life in order to steer them in a different direction. This last center gets more into psychological and behavioral issues.

We will be naming a fifth center within the next several days that will deal with emergency preparedness. We will also have a joint center with the Environmental Protection Agency that deals with the microbial aspects of water. So those are the University Centers of Excellence.

MR. BURKE: Those are what you have in mind now?

UNDER SECRETARY McQUEARY: We will probably have two more. I think the maximum number is going to be about seven, and that is going to be driven by a combination of looking at where we need to have a Center of Excellence and the budget to support those centers.

DR. HENRIKSON: The universities named as the Centers of Excellence are the key centers, but they may have up to three or four other universities around the country that are a part of that center.

MR. CHANDLER: Dr. McQueary, is that the EPA center you just referenced? Is that the EPA/Homeland Security Institute, or is it different?

UNDER SECRETARY McQUEARY: They are different. The EPA center is a joint center. I don't recall the precise name of it, but it is one that we just selected a couple of weeks ago – Michigan State, I believe it is. The Homeland Security Institute is not a University Center of Excellence; it is a federally funded research and development center.

MR. CHANDLER: Oh, okay. So that is different.

UNDER SECRETARY McQUEARY: The joint center is funded by DHS and EPA. We have an area that is of mutual interest, and so we decided to join with them to fund the center.

MR. CHANDLER: I see. Thank you.

GENERAL WELCH: There is a whole set of issues that may be unique to the Department of Homeland Security, and that is this interface with the private sector in various ways. I have already mentioned the fact that much of what we are trying to protect is in the private sector and that the technologies that are being developed in order to detect, protect, etc., will for the most part be deployed by other than the federal government, either by local or state governments or the private sector.

The whole business of how one develops an effective interface between the DHS contribution and the DHS interests, the state and local governments, and the private sector is a communications challenge that is probably unprecedented – a communications challenge in terms of what is available and what is going on. When something actually takes place and you have to deal with it from a consequence management standpoint, you have the same set of complexities – strong private sector players, mayors, governors, etc.

There probably is not a more complex set of relationships to deal with anywhere else in the federal government. This is a set of relationships for which there is no nice clean formula or model for how to develop them, but at the same time they are critical to the homeland security issue.

We would be delighted to receive advice on how to deal with the interface needs of private sector, local government, state government and federal, because I do think it is pretty unique.

MR. BROWN: Well, that raises the obvious question: Is S&T involved at all in the development of some of the Homeland Security Information Network (HSIN) products that are under development? Our industry is working on one model right now. Do you have any input into that?

UNDER SECRETARY McQUEARY: I wouldn't say that we have any input into it. We are a user of HSIN just like anyone else.

MR. BROWN: Just a user, right. Yes.

UNDER SECRETARY McQUEARY: I cannot for a moment tell you that I am absolutely sure that we have not had someone providing advice or being involved in discussions, etc. But in terms of having any kind of a lead role, the answer is no.

GENERAL WELCH: From the outset, this Committee believed that because public resilience is such a major issue, that S&T does not just apply to physical sciences.

It also has to apply to social sciences as they apply to public resilience and communications, and how people receive messages and what they do with them.

We are quite convinced that if we succeed to our highest expectations in terms of detection and protection, the public is still going to have to deal with some pretty cataclysmic possibilities, whether they are natural or manmade. We would simply be naive to believe that you can prevent all suffering and disturbance.

Social sciences do, indeed, play a significant role when it comes to preserving the way of life as we know it, which we presume is a fairly high order strategic objective. It is not what people normally think about when you say S&T.

MR. BROWN: No, it's not.

GENERAL WELCH: They normally think of S&T in terms of physical. They don't think in terms of social sciences and how you deal and contribute to public resilience. But there is not some other organization doing that – it is this organization.

MR. BROWN: Just a point of information: The private sector is involved in several efforts that deal with public outreach, not necessarily after an emergency. This also includes how to let people know what the true state, for instance, of cyber security or insecurity is today, to educate them, and not to alarm them.

There's a meeting going on as we speak of the cyber security partnership. That is on the private sector side. The information technology (IT) and telecommunications industries are meeting to discuss things, including public outreach.

I certainly had not been aware that S&T had an interest in public communications issues. If you are interested in those kinds of communications, maybe it would be useful to have a closer working relationship between various activities that the private sector is engaging in. It may help you get a grip on that particular issue. I am willing to admit that the private sector or a bunch of IT guys do not always know best how to do that, and it might be of benefit to all to discuss it.

So what mechanisms are there for making sure that S&T is more tightly integrated into the partnership for critical infrastructure security, etc.?

UNDER SECRETARY McQUEARY: While S&T has an interest in public outreach, we do not have the lead role for the Department on that issue. We have a Public Affairs organization that has the lead role.

The point the General was making is that as an S&T organization, we need to recognize that we do have a role to play with the Public Affairs people in helping craft the messages. I completely agree with that. In fact, we talked about it this morning. One area that is crucial is the language/terminology that is used to describe complex scientific issues – chemical, biological, radiological, and so forth. The average person on the street does not understand the technical language now nor will they ever. We have to find a

way to talk about things in a way that people can understand so that they can make decisions on their own.

I recently participated in the development of a document that deals with the question of how clean is clean; that is, how much do you have to clean up if you have some kind of an event. One of the issues that we looked at early on was the language that we are going to use to describe what needs to be done. The question I posed on the first day was: If we take what we have written now and pick 10 people off the street, how many do we think would understand what is being said? We all concluded that zero was the number. So we said, all right, let's go back and re-look at how we describe these things and try to do it in a way that would make more sense to an average person.

Whether we succeeded or not, time will tell. This document is going out for the general public to comment upon. We will find out then how much we missed the mark or how close we got to it.

GENERAL WELCH: Part of the issue, of course, is that Public Affairs plays a very important role. Their motivation usually is to deal with perceptions. We are talking about expectation control. We are talking about communicating to people the real truth, what they can expect, and what they might have to deal with without unduly alarming them. And then when something occurs, we need to get the facts out there to help individuals deal with the situation. But it would be an unnatural act for a Public Affairs organization to raise problems. They try to deal with problems; they don't want to raise problems. It is important though, in our view, that you have an expectation control in which people are made aware of issues with which they might have to deal. I think that if we get terribly nervous about that, then we have not paid very much attention to history. This nation went through a period where we thought the possibility of nuclear war was real, and we prepared this nation for that possibility. It became part of the possible expectations.

We are not sure who needs to deal with it, but somebody needs to deal with that issue. Somebody needs to deal with the expectation that if a city is destroyed there will be consequences, there will be dislocations, there will be discomfort; and it will take some time to deal with whatever the cause is. That is part of this expectation control, which would be an unnatural act for people who are trying to control problems instead of revealing them openly and with full realization of the consequences.

MR. AUGUSTINO: Is this something that either the Committee or the S&T Directorate is actively involved in? Earlier this month a new iteration of the National Infrastructure Protection Plan was released. It is open for comment; comments are due in early December. Also, what role does this Committee have, if any, in either evaluating the plan or reviewing comments that are submitted on the plan? What role does S&T have? Is S&T taking the lead within DHS in evaluating that plan; if not, who is the lead?

UNDER SECRETARY McQUEARY: The Infrastructure Protection organization has the lead on that, and we are a reviewer. There are pieces that deal with S&T, but we are simply a reviewer and contributor in those areas that are relevant to what we do. The

overall plan is being put together by Assistant Secretary Bob Stephan, his staff, and a client on the IT side.

GENERAL WELCH: From a Committee standpoint, the subcommittee chairs are welcome to look at anything they like. We are not constrained from doing it.

MR. AUGUSTINO: Thank you.

GENERAL WELCH: Are there any further questions? No. Thank you, Dr. McQueary, staff, Committee members, and members of the public for the discussion. This meeting is adjourned.

(The public session was adjourned at 5:00 p.m.)

A handwritten signature in cursive script, reading "Larry D. Welch".

Larry D. Welch
General, USAF (Ret.)
Chairman