

[ERRATA]
DEPARTMENT OF DEFENSE MUSTARD GAS TESTING

HEARING
BEFORE THE
SUBCOMMITTEE ON
COMPENSATION, PENSION, AND INSURANCE
OF THE
COMMITTEE ON VETERANS' AFFAIRS
HOUSE OF REPRESENTATIVES
ONE HUNDRED SECOND CONGRESS
SECOND SESSION

—————
MARCH 10, 1993
—————

Printed for the use of the Committee on Veterans' Affairs

Serial No. 103-3



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Amend the front cover by deleting "One Hundred Second Congress, Second Session" and insert in lieu thereof "One Hundred Third Congress, First Session".

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DEPARTMENT OF DEFENSE MUSTARD GAS TESTING

WEDNESDAY, MARCH 10, 1993

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COMPENSATION,
PENSION, AND INSURANCE,
COMMITTEE ON VETERANS' AFFAIRS,
Washington, DC.

The subcommittee met, pursuant to call, at 9 a.m., in room 334, Cannon House Office Building, Hon. Jim Slattery, chairman of the subcommittee, presiding.

Present: Representatives Slattery, Bilirakis, Tejada and Montgomery.

OPENING STATEMENT OF CHAIRMAN SLATTERY

Mr. SLATTERY. Good morning, ladies and gentlemen, and welcome to the subcommittee hearing this morning. It is a pleasure to welcome all of you.

This is our first meeting of the 103rd Congress and my first as the subcommittee's chairman, and I want to first welcome my friend from Florida, Mike Bilirakis, who is the Ranking Minority Member of the committee. Mike, I'm really looking forward to working with you as we plunge ahead to deal with the challenging issues facing this committee.

I also want to especially welcome our new member from Texas, Frank Tejada. It is good to see you this morning, Frank, and great to have you on the subcommittee.

We are here today to learn more about the circumstances and effects of the testing of mustard gas and other agents during and following World War II on servicemembers who either volunteered or were volunteered to participate in these tests.

According to the Institute of Medicine, some 60,000 veterans were used as human experimental subjects and were exposed to mustard gas and Lewisite agents while participating in militarily supervised tests. We have been advised that numerous veterans are now coming forward seeking treatment and assistance from the VA for disabilities linked to high-level exposures to mustard agents.

In conducting this hearing, we hope to accomplish at least three things. First, we want to be fully briefed by the Institute of Medicine on its findings and recommendations regarding the long-term health effects of high-level mustard gas exposures.

Second, we expect to hear from the Department of Defense in detail about their reactions to the Institute of Medicine report and

to learn what they are doing to respond to its recommendations, particularly those relating to the identification of victims and outreach efforts to advise these veterans that they may and should now come forward.

Finally, we want to hear from the VA about their experiences and activities in handling benefit claims from the victims of the various tests, as well as those involved in other incidents or military occupations involving similar exposure possibilities.

It appears that VA is on the right track, but it is somewhat hamstrung due to problems relating to records availability.

Although the formal testimony of the Department of Defense does not provide us with the detailed information we had hoped for, late yesterday we received a letter from the new Deputy Secretary of Defense, Mr. William Perry, responding to our inquiries, and Chairman Montgomery's January 22 letter asking the Secretary to specifically address several areas of concern to the committee and the VA, as well as the recommendations set forth in the IOM report.

Without objection, both letters will be entered as part of this hearing record.

(See pp. 39-44.)

I am pleased to report that the new Deputy Secretary's letter provides major new policy statements on the issues of removing secrecy oaths, declassification of weapons research testing, and the location and provision to the VA of information that will identify test participants. I hope General Alexander will elaborate on these new policies during his testimony.

I would like to read at this time a couple of excerpts from the letter and its accompanying memorandum, and again, this is in response to our inquiries and the Chairman's letter of January 22. The new Deputy Secretary states:

"I have enclosed a copy of the memorandum to the Secretaries of the military departments, my staff, and other Department of Defense agencies addressing the issues outlined in your letter and directing them to cooperate to the fullest in making this information accessible to the Department of Veterans Affairs."

"I have also directed the Assistant Secretary of Defense for Force Management and Personnel to head a task force to monitor the performance and completion of these actions. I have directed that information be provided to the ASD by July 31, 1993. We plan to forward information to the Department of Veterans Affairs as soon as possible."

And in the memorandum that the Deputy Secretary referred to he said, "I am releasing"—and this is very important—"I am releasing any individuals who participated in testing, production, transportation or storage associated with any chemical weapons research conducted prior to 1968 from any nondisclosure restrictions or written or oral prohibitions, like oaths of secrecy, that may have been placed on them concerning their possible exposure to any chemical weapons agents. I am also declassifying documents for all chemical weapons research studies conducted prior to 1968 with respect to the issues of personnel health and safety as specified below." He then goes on to be very specific regarding the location of each U.S. chemical weapons research program, the identification

of each military unit, and the personnel that were involved in those units. All of this information is declassified and made public.

The memorandum also addresses identification of all facilities at which individuals participated in the production, transportation or storage of these chemical agents, and directs the Secretaries of military departments to assist in completing this task.

This memorandum will be made available as will the response to our inquiries and the Chairman's inquiries.

The bottom line is this. From this date forward, any veteran who participated in any military supervised mustard gas test is free to come forward and seek health care and provide information about his experience. The secrecy oaths are terminated as of today, and I think that is very important news for the 60,000 veterans that participated in these tests during the World War II era.

Obviously, this is the type of response we have all hoped for from DOD, and I welcome it, and I look forward to learning more about it from General Alexander during his testimony.

I want to express my appreciation also to our noncongressional witnesses, including Dr. Constance Pechura of the Institute of Medicine, Lt. General Robert Alexander from the Department of Defense, and Mr. John Vogel of the Department of Veterans Affairs. I look forward to hearing from them in their testimony.

Before we begin, I am pleased to recognize our Ranking Minority Member, Mr. Bilirakis, if he has any comments or opening statement that he might want to make at this time.

OPENING STATEMENT OF HON. MICHAEL BILIRAKIS

Mr. BILIRAKIS. Well, thank you, Mr. Chairman.

There are many important issues facing our subcommittee, and as the new Ranking Minority Member, I'm looking forward to working with you in this Congress. It has been good working with you throughout the years on this committee and also on the Energy and Commerce Committee. We seem to be on the same two committees.

I commend you for scheduling this morning's hearing on mustard gas, Lewisite and other substances.

I would also like to take a moment to welcome our colleagues, Barney Frank, Porter Goss and Glen Browder to this morning's hearing. I know that Porter has worked extremely hard to bring this issue to Congress' attention.

I am an original co-sponsor of his legislation, H.R. 1055, which directs the Secretary of Defense to issue a commendation to individuals exposed to mustard gas during World War II, and there is a long chronology of Porter's efforts in this regard.

I know all of the men who were exposed to this experience many years ago over the years certainly commend you Porter and thank you.

In addition, Mr. Chairman, as you mentioned, John Vogel, the Deputy Under Secretary for Benefits, is an old friend to all of us. Before becoming the Deputy Under Secretary, he served as the Medical Director for the VA Medical Center in Bay Pines, St. Petersburg, Florida.

I heard just yesterday that John was being apparently moved or transferred, and whether temporarily or permanently I do not know, up to this area. Even though it might be good for him, I found it to be bad for the veterans in our area because I have heard some good stories of the job that John was doing down there, and, John, I welcome you back. Hopefully you want to be back.

Prior to his work at Bay Pines, John was the Chief Benefits Director at the Veterans' Administration, and we all became acquainted with him during our hearings because he testified at virtually every one of them.

As you indicated, Mr. Chairman, we are going to be examining an extremely disturbing issue. I underline "disturbing." And that, of course, was the use of American military personnel in experiments, and I endorse your comments and will not go into the entire part of my opening statement, but I did want to say that what is really more disturbing to me than maybe even the experiments is the lack of follow-up medical care or monitoring of the long-term health effects on many of the World War II military personnel, and in addition those personnel who were involved in experiments even after World War II.

This is especially troubling in light of the fact that it was already known, as I understand it at the time, that certain long-term health problems resulted from sulfur mustard exposure. Now the evidence clearly indicates that the long-term effects of mustard gas can be debilitating, and we can talk about emphysema, respiratory tract cancers, immune system disorders, such as leukemia, recurrent skin cancers, et cetera.

Since the Armed Forces did not maintain records for all the personnel involved in mustard gas testing, it has been extremely difficult for many veterans to prove their illnesses are service connected.

The Department of Veterans Affairs in 1991 acknowledged that veterans exposed to mustard agents during secret tests were severely disadvantaged when filing claims for service-connected conditions. Where were the records? That is how they were disadvantaged.

The VA should be commended now for having modified their rules for adjudicating compensation claims for mustard gas exposure.

The IOM study that the chairman referred to was a VA initiative, and we should commend them for that, and the VA has responded quickly to the study's recommendations.

Mr. Chairman, I, too, along with you and other members of the committee, are anxious to hear the testimony of our witnesses. The time has come to make sure we keep our promises to those who have shouldered the burden of our Nation's defense, and hopefully the result of this hearing will be to accelerate the keeping of those promises.

Thank you very much, Mr. Chairman.

Mr. SLATTERY. Thank you, Mike.

I will figure out where the switches are here in a few minutes. Thank you, Mike, for the remarks.

At this time, I would like to welcome three of our colleagues who have really played a special role of leadership in bringing this issue

to our attention. I am advised that Barney Frank will be here shortly. He is apparently on his way.

Mr. BILIRAKIS. He is over listening to Nixon.

Mr. SLATTERY. Oh, he is?

Mike just advised me he is over listening to former President Nixon speak to the Republican Caucus. Just a joke, I suppose, right?

But, anyway, it is a pleasure to welcome Porter Goss and Glen Browder. Each of them have really played a key role of leadership in bringing this matter to our attention.

Porter Goss, our colleague from Florida, has authored private relief legislation during the last Congress, and he has continued his efforts this year with legislation that he has introduced, and Barney Frank, of course, is chairing the Judiciary Subcommittee and has held hearings on this matter, and Glen Browder has been actively involved in getting assurances from the VA and the President to address this issue.

So it is a pleasure to welcome both of you, and we ill look forward to hearing from Barney when he arrives. So in order of seniority, we will proceed with our colleague, Porter Goss, from Florida.

Porter, welcome.

STATEMENTS OF HON. PORTER GOSS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. Goss. Thank you, Mr. Chairman, very much. I think it is the first time I have ever witnessed seniority rights in Congress.

Mr. SLATTERY. That happens when you are around here for a while.

Mr. Goss. I want to ask that my statement be included in the record, including the chronology.

Mr. SLATTERY. Without objection.

[The prepared statement of Congressman Goss appears on p. 46.]

Mr. Goss. And I will abbreviate my remarks in the interest of time so that you can get on with the other witnesses.

But I have a few things I want to say. They really come from the heart, and the first is to thank you very much for having this set of hearings and proceeding down this road. I know that there is a GAO report out there that says there are things to be done, and I know that this subcommittee has oversight.

But the fact that you are here and have put the work and energy into it and that things are beginning to fall together means a great deal to the people who have put their faith in the United States Congress to right a wrong. So you are very much on the front line of doing what is right in their eyes and in their hearts, and I think that matters.

I think we are in the process here of building the credibility of this institution again, and I thank you for that, and I congratulate you.

I also thank my colleague from Florida, the distinguished Ranking Member, for the generous remarks and assure him that while I appreciate them, I think that I would be remiss if I did not point out that really the people who are the heroes in this are the people

who came forward and persisted, the victims, and explained what their problems were.

As incredible as they seemed at the time, they persisted in ways that worked to get attention of people and to get the support to move this process forward, and I was a part of it, but they were the real motivation of it, and now you all are a part of it, and I suspect there are so many of us now that actually good things are going to happen.

You have mentioned the letter from the Department of Defense, which cheers me greatly and is a wonderful way to start this hearing, and I know that is in your record.

I would like to take a moment, if I may, to review just a little bit of the history that has gone on because I think it is important that people understand just how long and how difficult and what a Catch-22 this has been.

In the room today are Mr. Nat Schnurman and his wife, Joy. He is one of the victims, and he is one of the ones who was part of the private bill and one of the ones who dared come forward and went to incredible lengths to provide incredible information so that we could start gathering a team of people and begin the process that eventually ended up with our first hearing before Barney Frank's subcommittee a few years ago, which then as you will notice from the chronology led into finally the cooperation, the willing cooperation, and action of the Department of Veterans Affairs, which led to the National Academy of Science's study which looked at the change in the criteria for the thresholds, all of this going forward, getting us to the point where we are today.

Without those people and without them being courageous and sticking with it, coming to Washington in inclement weather and coming to these kinds of hearings and taking the time to do the research, again, none of this would have come forward.

I think it is very important that we understand that all of these victims, and you have mentioned several thousands; we do not know really how many there are, but when we read that report, we discover that it may be in the tens of thousands. That is an astonishing number of people to have gone through a process which we have, as a government, officially denied ever happened.

I think that we, in righting that wrong hopefully will not have to be dealing with tens of thousands, but we will be dealing with many real people who are here with real problems, who are looking for real relief, and I think if we can accomplish that, we will have done a great deal.

There are a number of benefit questions that are still in doubt. We have read that there are several hundred cases that have already been processed because of the attentions that have come forward, many successfully.

There are still reports coming in of some denials and some things happening that cause me to be a little bit disturbed, but I do know that now those things will be resolved because we have shifted the burden.

While the DVA stressed originally that the benefit of doubt would always go to the veteran where there was an adjudication question, the problem was that these veterans who participated in these gruesome tests, who were seriously harmed, had absolutely

no standard to go forward with. They would not meet the standard of what a victim of long-term effects of Lewisite and mustard gas testing were because there were simply no standards, and they were caught in that Catch-22. Of course, they were not allowed to talk to it at all because of the oath of secrecy.

Now that we have overcome that and shifted the burden around so that it is now the government that is going to take the action, it appears to me that the oversight of this committee is going to be particularly relevant to make sure that that happens, that people are notified; they understand what their benefits are, and there are ways to process those benefits which are what I hopefully would suggest would be workable rather than some of the ways we go about doing things in the government.

I also hope that the timeliness of this is understood because if we deal with this as a business as usual, we have been asked for better than 4 years, and the people who came before us, the victims who brought this to our attention, have been at it for much longer than 4 years.

So if we go at a business as usual pace, I am afraid that the bureaucratic train will not get to the station to provide relief before many of the victims actually will die, and they will never get the benefits that we are setting out to present.

Mr. Bilirakis mentioned the legislation, H.R. 1055. I felt that it was appropriate to put this legislation in. It is not going to bring a lot of relief in the sense of remuneration or medical attention, but I hope it is going to bring a sense of recognition that we now, belatedly, as a country are officially recognizing the special service, the extraordinary loyalty, and the unique contributions that these people have made so that others in service do not become victims.

I think that if you refer to the specifics of my record, that all becomes clear, and I thank you very much for the opportunity to say those things. They mean a lot to me, and I know they mean a lot to the others involved.

And, again, I will finish by saying I am truly, genuinely grateful that you are undertaking this and pursuing it because it has been a long road.

Thank you, sir.

Mr. SLATTERY. Porter, thank you very much, and all of us are in your debt, too, for having really followed up on the constituent inquiry. You know, a lot of people do not realize that we respond to our constituents and follow up, and we learn a lot from talking to our constituents, and in this case obviously, you learned something and followed it up, and we commend you for that.

I would like to take the liberty to introduce Mr. Schnurman if he is in the room today. I assume that he is. Would you stand up, Mr. Schnurman?

Mr. GOSS. He is wheelchair-bound.

Mr. SLATTERY. He is wheelchair-bound. I am sorry. Well, he is leaning up. Let's give him a round of applause. Welcome

(Applause.)

Mr. SLATTERY. Thank you very much for making the effort to be with us today, Mr. Schnurman, and if there are other veterans in the room today who have participated in these tests or have been victims, I would like for you to stand and be recognized also.

I have already been notified in my district office in Kansas that a constituent has in just the last couple of days come forward and indicated that he also participated in these tests. So I have a feeling that members of Congress and the VA will be hearing from these veterans in the days and week ahead.

Mr. Browder, welcome, and we would be happy to hear from you at this time, Glen.

**STATEMENT OF HON. GLEN BROWDER, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF ALABAMA**

Mr. BROWDER. Thank you, Mr. Chairman.

Mr. Chairman, I would like to thank you and the members of the committee for addressing this issue. It is a very important issue, and I would like for you to convey our appreciation to Chairman Montgomery also for taking a lead on this.

But I would be remiss if I did not acknowledge my colleague, Porter Goss, in his leadership. When this was first developing, I think many of us probably had been contacted by veterans who had participated in these programs, but we were unaware of the program, and we were trying to work with them and running into brick walls.

But he is the one who doggedly pursued this for the veterans, and it is very important that we acknowledge his leadership and the work of Barney Frank on this, and I hope Mr. Frank gets to appear today and gets here in time.

Mr. Chairman, today's documented revelations of abuse of our own soldiers has tarnished the significant value of that wartime research program, but as has been said, the most outrageous part is that our own government's subsequent denial of the 1940's program has subjected countless veterans to almost a half century of silent suffering.

We cannot undo what happened during World War II or decades of official denial and neglect, but we need to do more than just approaching this as business as usual, and I would like to remind the committee that we are not simply talking about a number that has been suggested in the report, 60,000 military personnel. The report indicates that many thousands of civilian workers at defense installations in Maryland, Arkansas, Colorado, and Alabama may have been exposed to the dangerous chemicals.

I would like to share just a couple of examples of people in Alabama who have come forward to me. These are people who were not included in the study by the NIH, but they have come forward to me about this problem.

I have had about ten or 12, most of them from Alabama, who have approached me since this story has broken and they realized that we were becoming active in this area. For example, a Graysville, Alabama man underwent testing at Camp Sibert, which is probably 30 miles from my home town, for mustard gas, Lewisite, and chlorine gas. He once refused to enter the gas chamber in his regular clothing and was punished with a half hour of calisthenics.

By the 1950's, he was suffering pain in his back, shoulders, and hips. He was diagnosed with cancer in his left eye in 1973, and his eye was removed.

A Scottsboro woman's grandmother cleaned pipelines at Redstone, was never instructed to wear protective clothing, was exposed to mustard gas while disconnecting a sump pump, causing severe burns to her upper body. She became permanently disabled, and she had to quit work and was never compensated.

And I would like to quote from a letter that I received from a gentleman in Eufaula, Alabama. "We had to wear impregnated clothing 24 hours a day, 7 days a week. The uniform we wore during this time consisted of chemically treated combat pants and jacket, long-john bottoms, and long-sleeved shirt and knee length socks. At the end of this training, we were offensive smelling; between our legs and in the pit of our underarms and around our waist we were literally raw that blood would just continue to ooze out. We wore this uniform for 6 weeks in June, July and August. I spent a total of 22 hours in the gas chamber test the Army was conducting. According to the Army, they say we volunteered for these tests. The only reason we did was due to the fact that we were told we would be punished and court martialed if we refused to partake in these experiments."

I offer these not to just pile on accounts of what is in the report, but to make sure that the people who are here today understand the personal stories that go along with this, and that these are stories beyond what was reported in that study.

As you are aware, I wrote to the President about this situation, and I have received from him, which I would like to submit for the record.

(See pp. 50-53).

Mr. SLATTERY. Without objection, it will be made part of the record.

Mr. BROWDER. And I will submit my letter and the response from him for the record, but I would like to quote briefly from him.

He said, "VA has requested the Department of Defense to cooperate and assist in its effort to locate and provide benefits to affected veterans by providing the names, service numbers, type of tests, and type of agent used during these experiments. They have also asked DOD to release the affected personnel from their oath of secrecy so that they are free to come forward and file a claim.

"Further, the Secretary of Veterans Affairs, Jesse Brown, has expressed his personal commitment to ensure that the servicemen and women included in these experiments are identified and receive the care that they deserve."

And I will close, Mr. Chairman, with the President's last statement. "Be assured that this will not be treated as business as usual. I have directed both Secretaries to expedite the process of locating, treating, and providing other benefits that these loyal citizens have earned."

Mr. Chairman, six words jump out at me today as we hold these hearings and as we acknowledge our government's responsibility to address this problem. The two words that my colleague, Mr. Goss, stated on the floor one night when we were discussing this, I believe, so passionately express not only the sympathy, but the policy, the proper policy of this country: never again.

And the four words that you uttered just a few minutes ago: from this day forward.

Mr. Chairman, I appreciate the opportunity to address the panel and look forward to working with this committee on this problem.

Thank you.

Mr. SLATTERY. Glen, thank you very much.

I forgot how to turn on the speaker here again. There you go.

Thank you very much, Glen and Porter. We appreciate it, and again, I commend both of you for your leadership on this matter, and if you have the time, I would like to give my colleagues on the committee an opportunity to ask any questions that they might have.

Mr. GOSS. Of course.

Mr. SLATTERY. Mike.

Mr. BILIRAKIS. Thank you, Mr. Chairman.

Thanks for your willingness to wait, gentlemen, and for your willingness to come here and testify. Porter, particularly, it is a sacrifice for you because I am sure you would rather be on the floor right now.

Porter, I will ask you though, and Barney is apparently not here, when your Subcommittee on Administrative Law and Governmental Relations held hearings in 1990 and 1991 on this issue, was the Defense Department invited to testify?

Mr. Goss. Mr. Bilirakis, I cannot tell you with certainty. I am getting an affirmative nod from my staff. My recollection was they were, but I do not know if it was formally or by word of mouth.

I do know that in that hearing Mr. Frank did an excellent job in picking up. It started with the Agent Orange question on the floor, and it was at that time that I acquainted Mr. Frank with this problem of mustard and Lewisite, and he agreed to have the hearing, and it was at that point we notified all the interested parties, and that included the Defense Department.

The specifics of an invitation to the them I can research and provide to you.

Mr. BILIRAKIS. Would you do that, please?

Mr. GOSS. Yes, sir.

Mr. BILIRAKIS. And with the chairman's consent, do that and also maybe any other scenario surrounding that invitation and what responses, if any, were received and that sort of thing. I think it is important that it be a part of the record.

Mr. GOSS. I will be happy to do that.

Let me tell you initially that the response we got from the bureaucracy was bureaucratic, to put it in a word. It took some time to break through, and I think that once the credibility of the claims had been established, we got wonderful cooperation, but it was not easy to do that.

Frankly, the press was a great asset in this. They brought attention to these situations in a way that they no longer could be denied, and when we started getting that kind of attention, we started getting less bureaucratic response. So that was part of it, too, and the press does deserve some credit and people like my colleague, Glen, here who really grabbed the bull by the horns and contacted the President, and since that time his support has been invaluable and has brought this thing to the point now where proper things are happening.

Mr. BILIRAKIS. Well, Glen and Porter, shifting over maybe now to these men, I guess they were all men. I think that has been decided. I guess I will just put it that way. I suppose they violated their pledges. They have now been released, but at that point in time, I suppose we could say they violated their pledges.

And I personally am curious, and I know that the report goes into all of this, and maybe it goes into it adequately, but I just wondered maybe the conversations you may have had with your people, what they may have told you, whether any intimidation, any pressures, maybe some of the steps that they had to go through to prove participation.

We know that there is a real problem with records regarding many of them, anything at all that you may have to add in that regard.

Mr. Goss. Mr. Bilirakis, I can submit you a great deal of anecdotal evidence from the victims. We have files of that matter. We have passed that, of course, on to the appropriate executive branches as this process has gone on.

I can tell you that there was very sincere, genuine concern about going to Leavenworth, being imprisoned, if there were any violation of this oath to the point that these folks were more afraid in some instances of going to Leavenworth than they were of the pain and suffering that they had at that time, and they did not even get medical attention.

I know of one case where an individual shortly after these tests was clearly impaired and needed medical attention, went to the doctor, refused to tell the doctor how he had had these problems he was having, how he had come by them to preserve the secrecy question, and never did tell, and then the long-term effects began to set in, and never did reveal those even though he knew perhaps his life was threatened and his own well-being was at stake, but he was sufficiently concerned about his oath and sufficiently patriotic to this country.

Those, I cannot explain which combination of each, but that kind of loyalty to our Nation is what makes it great, and it cannot tolerate abuse of this time.

I am informed that the Defense Department did submit testimony for those hearings that our colleague, Barney Frank, held, and I will get a copy of that.

Mr. BILIRAKIS. They submitted testimony?

Mr. GOSS. Yes, they did, but not in person.

Mr. BILIRAKIS. Not in person?

Mr. GOSS. Correct.

Mr. BILIRAKIS. Mr. Chairman, I do not know whether Glen has anything more to add.

Mr. SLATTERY. I think Porter has expressed it very well, and the report has documented testimony from the veterans. Too, if you are interested, we will certainly provide you with a copy of a letter we received last night from the Deputy Secretary of Defense, which is not bureaucratic, but it is a specific response and a very good response to our concerns, and if you would like a copy of that, we will be happy to provide it.

Mr. Goss. We would be pleased to have it, and I know that those who contact us, and I think you have hit on a very valuable point,

Mr. Chairman; other members of Congress are receiving questions and inquiries because of what is going on here, and others will continue, and to the degree that we all are together giving the proper instruction on what to do next, it is helpful.

I would love to have that letter, and I hope we will get some dissemination.

Mr. SLATTERY. Okay. Very good.

Does my colleague from Texas wish to be recognized for any questions?

Mr. TEJEDA. No.

Mr. SLATTERY. Okay. Thanks again.

Mr. GOSS. Thank you, Mr. Chairman.

Mr. BROWDER. Thank you, Mr. Chairman.

Mr. SLATTERY. At this time I would like to welcome the next panel of experts: Dr. Constance Pechura, who is the Senior Program Officer and Study Director at the Institute of Medicine with the National Academy of Sciences.

Why don't we just have the other witnesses come to the table also? Lt. General Robert Alexander, who is Deputy Assistant Secretary of Defense for Military Manpower and Personnel Policy, Force Management and Personnel, Department of Defense. General Alexander, welcome.

Dr. Pechura, welcome to you also.

I would also like to welcome John Vogel, who is Deputy Under Secretary for Benefits of the Department of Veterans Affairs. So, Mr. Vogel, if all of you would come to the table, we would be happy to hear from you.

I hope that all of you can limit your testimony to no more than 10 minutes. Dr. Pechura, are you ready?

Dr. PECHURA. Yes, I am.

STATEMENT OF CONSTANCE M. PECHURA, PH.D., SENIOR PROGRAM OFFICER AND STUDY DIRECTOR, INSTITUTE OF MEDICINE, NATIONAL ACADEMY OF SCIENCES

Dr. PECHURA. Good morning, Mr. Chairman and members of the subcommittee, and thank you very much for inviting us today.

I am Dr. Constance Pechura, the Study Director for the Institute of Medicine Committee to Survey the Health Effects of Mustard Gas and Lewisite. I was also co-editor of its final report.

The chairman of the committee, Dr. David Rall, could not be here today and has asked me to describe our study to you.

When the Department of Veterans Affairs asked the Institute of Medicine to survey the literature on the health effects of mustard gas and Lewisite, few people really understood how challenging this study would be.

When the study began in September 1991, the VA had already identified seven health conditions as causally related to mustard agent exposure, including chronic bronchitis, asthma, laryngitis, emphysema, corneal opacities, keratitis, and chronic conjunctivitis.

When finished, our committee had reviewed over 2,000 scientific reports revealing several new health conditions associated with exposure to these agents. The committee had also determined very importantly that the level of exposure in the chamber and field

tests were equal in some cases to those experienced on the battlefields of World War I.

The study, however, was one in which discoveries and revelations built upon each other in a very complex way. It was clear at the first meeting in January 1992 of this committee that the state of the literature was going to be a problem. There was a great deal of literature on the acute effects of these agents and very little on the long-term effects.

To reduce these gaps, the committee focused on several aspects. One, they began to look to assess exactly what the exposure levels may have been in these tests. That was very important.

They also looked at second cancers as produced by the use of nitrogen mustard as a cancer chemotherapy agent.

They looked at other lung irritants in order to assess whether or not acute effect had to be tied with long-term damage.

In addition, the committee paid special attention to long-term follow-up studies of chemical munitions workers and World War I mustard gas casualties.

This analysis was guided by principles of risk assessment that have been well established. Between January and April of 1992, the committee sought to obtain as much detail as possible about the experimental protocols.

In addition to this, the committee solicited as part of their public hearing process written, oral and public statements from veterans who had been affected in these tests. I want to emphasize that although 22 people came to our hearing in April, actually came to Washington and met with the committee, we heard from over 250 other veterans in these tests, in either written letter form or calls to my office. All of these data were shared with the committee, and we have files on these statements, in addition.

Of course, the Naval Research Laboratory was tremendously helpful. Their records allowed us to document that the end point of these experiments was tissue injury, was skin burns to the men. These documents also corroborated veterans' reports.

Now, I was going to outline the experiments, but I think that everybody has read enough about these experiments to not go into the details again. Suffice it to say—

Mr. SLATTERY. If you can, go into a little bit of detail.

Dr. PECHURA. Okay.

Mr. SLATTERY. I mean do not assume that everybody is familiar.

Dr. PECHURA. I will describe the chamber tests. Young men in Navy boot camps were offered extra leave and a change of scenery if they would agree to test summer uniforms. Once they had gotten to the test site, however, the men were dressed in various amounts of protective clothing, that is, impregnated with various chemicals to retard the penetration of gas.

They were given gas masks—

Mr. BILIRAKIS. Excuse me, Doctor. Did you say that they initially were told or asked to agree to test summer uniforms?

Dr. PECHURA. Yes.

Mr. BILIRAKIS. And that is what led into their being a part of this experiment?

Dr. PECHURA. Yes. Official documentation, descriptions and summaries of these experiments oftentimes document the fact of what

they were told at the time, and that was to test various kinds of uniforms. They were never told in the beginning about any gas.

Mr. SLATTERY. Were these DOD documents that you were referring to?

Dr. PECHURA. Yes. Some of them are included in the appendix to the report.

Mr. SLATTERY. Okay.

Dr. PECHURA. So then at the test site, they were given gas masks and put into gas chambers. They were actually locked into these gas chambers. The chambers themselves locked from the outside.

Because there was interest in tropical conditions, the gas chambers were held at 90 degrees, 65 percent humidity. So they were hot and humid, and in some cases the concentration of sulfur mustard in these gas chambers would have been lethal without the gas masks.

The men remained in the chamber for an hour, after which they remained in their protective clothing for various lengths of time. This scenario was repeated daily or every other day until the men's skin burned. That was the end point of the experiment, indicating that the protective clothing had failed.

Now, four aspects of this testing is notable. First of all, the men were deliberately misled about what they were being exposed to. Documents actually state that they really should not be told until after they had been in the chamber once, and that is in the appendix to the report.

Those conducting the tests were warned not to mistake symptoms, such as laryngitis and conjunctivitis, as symptoms of gas poisoning when, in fact, these had been published as symptoms of gas poisoning.

Third, official documents guided those in charge to, quote, dress down, unquote, anyone who did not want to continue in these experiments. According to the veterans' reports, many times this dressing down took the form of overt threats.

Finally, the men were told never to reveal their participation to anyone.

Now, the field testing, during the study we knew less about it. Toward the end of the study, we received a lot of documentation on the field testing. It is known that the concentrations in the field testing were often just as high as in the gas chambers, and that in some cases men in field tests were not provided with either protective clothing or gas masks.

After the subjects from the chamber tests were released from the test sites, they were sent home and on to their various wartime posts. No attempts were made to follow their health status at all, and in some cases mustard agent related illnesses were not recorded as such in infirmary or hospital records.

The IOM committee concluded that this lack of follow-up was not justified by a lack of knowledge about the long-term health effects of these agents because military physicians had published in the open literature by 1933 that certain conditions, such as chronic bronchitis and emphysema, were long-term effects.

In addition to the skin burns, the chamber subjects also experienced inhalation exposures. Now, the way the committee assessed this is if you look at the protection factor afforded by the most

modern respirators and you applied that in the situations in the gas chambers for an hour at those conditions, significant amounts of those agents would have leaked through the mask's filter.

In addition to this, the specific type of gas mask used in these experiments, the Navy Mark III or Mark IV diaphragm type masks, was rejected by the Chemical Warfare Service by around 1945 to 1946 because it was unacceptably leaky.

At the second meeting in April, we added a psychologist to the committee and heard from experts in bioethics and risk communication.

It is important to emphasize that in addition to those who participated in the testing program, there are many other civilians and veterans who may have health conditions related to exposure to these agents. You have heard about some of them, the people who worked in production facilities.

Another incident is the bombing, the German bombing of the harbor at Bari, Italy, where there were literally thousands of people injured by mustard gas that was either in the water or vaporized over the town of Bari, estimated to be 1,000 deaths in that incident alone.

Now, let me turn to the health conditions identified by our committee as causally related to these agents, and I want to emphasize here, too, that our findings and recommendations were subject to a rigorous review process so that in addition to the committee members, there were ten outside experts that reviewed the draft report and commented upon that. These people were not known to the committee. It was an anonymous review. They were appointed and supervised by the National Research Council Report Review Committee.

I would also like to point out that the recently released GAO report in its characterization of the list that we identify as causally related, that list in the GAO report is not complete.

The committee's evaluation agreed with the original determination of the VA assigning a causal relationship chronic bronchitis, asthma, laryngitis, emphysema, and the eye diseases. In addition to these, the committee found that exposure was also causally related to respiratory cancers and cancer of the nasopharyngeal tract and lung; skin cancer, as well as pigmentation abnormalities of the skin; chronic skin ulceration and scar formation.

We also found a causal relationship between exposure to nitrogen mustard and acute nonlymphocytic leukemia.

An acute effect of bone marrow depression and a decrease in the competency of the immune system could have resulted in some cases of people being more susceptible to infectious diseases that have long-term effects. For example, rheumatic fever can often times have long-term cardiovascular effects.

Psychological disorders were found to be causally related to the gas chamber and field tests, and this was due to the combination—and it is very important—the combination of repeated threatening circumstances outside the range of normal human experience and toxic exposures.

Only general classifications of psychiatric diagnostic categories were outlined, but that is because little is known about untreated post-traumatic stress disorder over a long period of time.

The final health condition was dysfunction of sexual performance as a result of the scrotal scarring that many of the men experienced in gas chamber and field tests.

All of the other health conditions fell into one of two remaining categories. The second category is quite small, and in this category there are very suggestive data, but not enough to prove a causal relationship. It includes leukemia as a result of sulfur mustard exposure, as well as reproductivity toxicity.

All the other health conditions that were reported to us by the veterans and that we looked at fell into the last category for which there are few data to argue for or against a causal relationship. These include the cardiovascular problems, neurological, hematological, and gastrointestinal diseases. This category further includes any reproductive effects from Lewisite.

Now, the recommendations that the committee made were that the VA try to identify the subjects in the gas chamber and field tests and evaluate their health status and treat any causally related health problems found, and in addition, to reduce the gaps, initiate morbidity and mortality studies.

The committee also made a further recommendation to the VA to pay careful attention to the special problems of these veterans. These problems come from years of denial, from the burden of secrecy, and the decades of silent worry about their health problems and their possible cause.

Many of the affected veterans understandably feel betrayed and over time have come to believe that all of their health problems are caused by their exposure. On the basis of the scientific literature alone, nobody can be sure that they are not right about that.

The system, however, operates on the basis of scientific proof, and that is a very difficult concept to explain to people who have been secretly living with serious health concerns for five decades or, in some cases, have been telling the truth only to be told that no such thing ever happened to them.

The recommendations made to the Department of Defense include the identification and notification of military and civilian workers who may have been exposed, turning over of those records to the Department of Veterans Affairs, and to advertise that any oaths of secrecy are no longer binding, which happily occurred today.

In the preface to their report, the committee asked that each veteran who served as a human subject in these testing programs be honored for his sacrifice, and that any continuing military research with human subjects be held to the same guidelines and the same code of ethics that is applied in our civilian research.

Thanks very much for the time you have given me.

[The prepared statement of Dr. Pechura appears on p. 54.]

Mr. SLATTERY. Thank you, Dr. Pechura.

Now we will hear from Mr. Vogel.

STATEMENT OF JOHN VOGEL, DEPUTY UNDER SECRETARY FOR BENEFITS, DEPARTMENT OF VETERANS AFFAIRS; ACCOMPANIED BY GARY HICKMAN, DIRECTOR, COMPENSATION AND PENSION SERVICES; DR. SUSAN MATHER, ASSISTANT CHIEF MEDICAL DIRECTOR FOR ENVIRONMENTAL MEDICINE AND PUBLIC HEALTH; AND DARRYL KEHRER, DIRECTOR, BENEFITS/MANAGEMENT POLICY SERVICES

Mr. VOGEL. Thank you, Mr. Chairman.

I have a brief summary statement I would like to read and ask that the full statement be made a part of the record.

Mr. SLATTERY. Without objection.

[The prepared statement of Mr. Vogel appears on p. 85.]

Mr. VOGEL. I am pleased to be here with you today to discuss what the VA has done, Mr. Chairman, to assist veterans who were exposed to mustard agents and Lewisite during their military service.

Accompanying me are Dr. Susan Mather, Assistant Chief Medical Director for Environmental Medicine and Public Health; Mr. Gary Hickman, the Director of Compensation and Pension Service; and not at the table, but with us today, Mr. Darryl Kehrer, the Director of the Benefits/Management Policy Service.

Mr. SLATTERY. Welcome to all of you.

Mr. VOGEL. Thank you, Mr. Chairman.

Adjudicating claims for benefits associated with disabilities resulting from exposure to mustard agents and Lewisite has been a challenge. Before July 1992, veterans had to prove that their medical problems resulted from participation in mustard agent tests, which was nearly impossible.

On July 31, 1992, VA published a regulation which established a presumption of service connection based on mustard gas exposure. This presumption exists if the veteran was subjected to full body exposure in field or chamber experiments to test protective clothing or equipment during World War II and subsequently developed a chronic form of laryngitis, bronchitis, emphysema, asthma, conjunctivitis, keratitis, or corneal opacities.

Recognizing the need to enhance our knowledge of this subject, VA contracted with the Institute of Medicine of the National Academy of Sciences for a study of the worldwide medical and scientific literature to determine the long-term health effects of exposure to mustard agents and Lewisite.

On January 6th, 1993, the Institute of Medicine issued a report, which we are all familiar with, entitled "Veterans at Risk, the Health Effects of Mustard Gas and Lewisite."

After reviewing the report, we are in the process of amending our regulation to remove the restriction that full body exposure must have occurred during field or chamber experiments. In addition, the presumption will be extended to those who were exposed to mustard gas on the battlefield in World War I; in the Bari, Italy, incident in World War II; or while manufacturing or transporting chemical warfare agents during military service.

VA will also expand the list of recognized conditions to permit service connection for nasopharyngeal cancer, laryngeal cancer, lung cancer (except for mesothelioma) and squamous cell carcino-

ma of the skin as a result of verified full-body exposure to mustard gas, and for acute nonlymphocytic leukemia as a result of exposure to nitrogen mustard.

Further, we will permit grants of service connection for chronic forms of laryngitis, bronchitis, emphysema, asthma or chronic obstructive pulmonary diseases that are a result of verified full-body exposures to Lewisite, as well as to mustard gas.

We will publish the proposed regulatory amendments next month and the final amendments by the fall.

VA is grateful to the Navy for its cooperation in providing records concerning its testing of chemical warfare agents. At this time VA has received from the Navy a list of approximately 2,500 participants of the testing at the Naval Research Laboratory between August 1943 and October 1945. We also appreciate the literature searches on mustard gas testing in the 1940's and the historical information on the testing provided by the Army.

Unfortunately, we still lack information, such as the names and service numbers of participants, the specific agent used, and the amount used in each of the tests, particularly those conducted by the Army. We welcome the opportunity to explore initiatives that will give us this information.

Finally, Mr. Chairman, I will discuss our responses to the Institute of Medicine's report. First, in order to address the veterans' medical concerns, we plan to conduct a mortality study of veterans who were exposed to mustard gas during laboratory and field experiments during World War II. We have already begun efforts to identify each veteran who participated in the testing program at the Naval Research Laboratory.

Once the study and control groups have been established and identified, the study will take approximately 18 months to complete.

In addition, we have asked the Secretary of Defense to provide a list of military personnel who participated in all of the tests. When we receive this information, the National Institute for Occupational Safety and Health will be asked to obtain current addresses so that we can attempt to notify participants of the potential health effects of their exposure.

We will also consider the feasibility of a morbidity study.

Secondly, Secretary Brown has convened a special task force on stress disorders to make recommendations to assist VA in helping those veterans who were experiencing continuing psychological trauma as a result of their serving as subjects in these chemical experiments.

Third, VA is disseminating the Institute's report and preparing a nationwide satellite video conference to educate both medical and adjudication personnel on the issue.

In conclusion, I reemphasize VA's commitment to these veterans. We have taken, and will continue to take, all steps necessary to respond to the unusual circumstances under which they served.

Thank you, Mr. Chairman, and we will be happy to answer any questions you or members of the subcommittee may have.

Mr. SLATTERY. Thank you, Mr. Vogel.

And now we will hear from Lt. General Robert Alexander. General Alexander, welcome.

General ALEXANDER. Thank you.

Mr. SLATTERY. We appreciated the opportunity to visit with you and your team the other day in the Pentagon, and I appreciate the efforts you made over there to brief us all on compensation programs, pension programs, and retirement programs, and I appreciate your being here today, too.

STATEMENT OF LT. GEN. ROBERT M. ALEXANDER, DEPUTY ASSISTANT SECRETARY OF DEFENSE, MILITARY MANPOWER AND PERSONNEL POLICY, FORCE MANAGEMENT AND PERSONNEL, DEPARTMENT OF DEFENSE

General ALEXANDER. Well, you are welcome, and thank you, Mr. Chairman.

Mr. Chairman and members of the subcommittee, I appreciate the opportunity to appear today to discuss the actions the Department of Defense is taking to respond to the questions and issues raised by information that has surfaced concerning chemical weapons programs conducted during or following World War II by the Department of Defense.

My staff has reviewed the National Academy of Sciences report and the GAO report. That is the draft report. We are initiating a department-wide effort to locate, declassify and provide information that will help us identify individuals at risk.

The Department of Defense is committed to identifying all military members, civilian employees, and contractors of the department who were exposed to chemical agents through chemical weapons testing programs conducted by or for the Department of Defense.

We share the concerns of this committee that many of the individuals exposed may not even know they were exposed.

We are also aware that others may feel constrained to speak out because of written or oral oaths they may have taken or because of guidance they may have received at the time.

The Department of Defense has taken the first steps toward obtaining information you have asked for today. Yesterday the Department of Defense officially released, and of course announced today, individuals from any oaths of secrecy or nondisclosure statements they may have made with respect to participation in chemical weapons testing programs conducted prior to 1968.

We invite individuals to come forward if they believe they may have been exposed. Former military members may call the Department of Veterans Affairs at their toll free number, 1-800-827-1000.

Also the Department of Defense is declassifying documents for all chemical weapons research studies conducted prior to 1968 with respect to the issues of personal health and safety.

Further, the Secretaries of the military departments have been tasked to initiate procedures to declassify documents with respect to personal health and safety for chemical weapons research studies conducted after 1968 and release participants from any nondisclosure restrictions that may have been placed on them concerning their possible exposure to any chemical weapon agent during testing, production or transportation of such chemicals.

We are establishing a task force to monitor and oversee the effort to locate and provide the information you have requested. We will create and maintain a central database of individuals that are identified. Our goal is to provide the information to the Department of Veterans Affairs as soon as possible.

The department is committed to honoring the service and sacrifice made by the men and women who are serving and have served the Department of Defense. We will continue to make every effort to cooperate with the Department of Veterans Affairs in responding to the needs and providing entitlements to those who have served.

I have three additional witnesses who are accompanying me today to assist in answering questions. Sitting to my left is Dr. William Richardson. He is the Deputy Assistant to the Secretary of Defense for chemical matters, Office of the Assistant to the Secretary, Atomic Energy.

Not at the table, but with me is Dr. John Jemionek, Director of Scientific Activities, Office of the Assistant Secretary of Defense, Health Affairs.

And finally, Mr. David Whitman, Deputy Director for Security Classification and Safeguards, Office of the Assistant Secretary of Defense, Command, Control, Communications and Intelligence.

That concludes my comment.

[The prepared statement of General Alexander appears on p. 93.]

Mr. SLATTERY. Thank you, General Alexander.

General Alexander, I would like to chat with you a little bit about some of the time lines that we are looking at on some of these disclosures, and I would observe in the memorandum that we have been provided from the Deputy Secretary of Defense that they are talking about moving forward as quickly as possible in terms of making some of these determinations for tests prior to 1968, and then in the memorandum it says you will initiate procedures to declassify documents with respect to the issues listed above for chemical weapons research studies conducted after 1968.

Then later in the memorandum it says personnel information should be provided to the Assistant Secretary by July 31, 1993, and what I want to know is does that relate to all of the information regarding the tests conducted prior to 1968 and after 1968. What does that relate to? I just wanted to understand what kind of a time line we are under or we are agreeing to, shall I say.

General ALEXANDER. First of all, the date that is in there is really a goal. We are not going to have all of the names by 31 July.

Mr. SLATTERY. Right.

General ALEXANDER. But please do not look at that date as a date we will have the names. We want those names tomorrow. We want those names immediately. You know we are going after those names immediately.

The date of 1968 was a date of 25 years ago for picking a date for making a broad, blanket removal of classification. We felt comfortable doing that. It included all of the mustard gas experiments that we know of, and also it was a sufficient length of time that the information, we do not think, would be at risk to our national security.

But that does not mean we are slowing down on declassifying anything after 1968. We are moving now quickly, and we want that information declassified as soon as possible. We mean that.

Mr. SLATTERY. Okay. Can we assume that we will have that done by when? When will that actual declassification be completed? You know, the letter is rather vague. It says, "We will initiate procedures to declassify."

General ALEXANDER. The procedure is we have directed the military departments to do it with that letter yesterday that was delivered.

Mr. SLATTERY. Now, this is for post-1968 tests also.

General ALEXANDER. Exactly.

Mr. SLATTERY. Okay. So what you are telling me then is that when you use the term "initiate procedures," are you telling me that the documents relating to post-1968 tests are declassified as of yesterday or today? Is that what you are telling me or are you saying they are initiating procedures?

General ALEXANDER. No, they are not. They will release the information. They will clear the information we need that pertains to personal health and safety. They will release that for the test sites and the locations.

Mr. SLATTERY. Okay.

General ALEXANDER. We have one of our experts here on release of classified information, David Whitman—you have anything to add to that.

Mr. WHITMAN. Well, Mr. Chairman, if I might, the review of the information from 1968 on to the present time will take a little extra care. I cannot be certain when that might conclude. As soon as possible, however, and we understand further that there is very little of that information that, indeed, is classified.

Mr. SLATTERY. Okay. Now, the termination of the secrecy oaths—I cannot think of a better way to describe them—is effective today for those involved in tests prior to 1968. So you are not releasing as of today people involved in such tests after 1968.

General ALEXANDER. Yes.

Mr. SLATTERY. Is that correct?

General ALEXANDER. Now, I am going to allow Dr. Richardson to comment on that because I think that there were different circumstances generally after 1968. People were identified, but I will let Dr. Richardson address that.

Dr. RICHARDSON. I watch over our efforts in chemical and biological defense in the Department of Defense. We recently have become involve in this issue. I think a couple of things might be added.

First, as General Alexander mentioned, the last test that I know of that was done using intentional exposure of human subjects to mustard agents was in 1966. So the tests that we know of this sort are covered by the 1968 date.

A significant point is that very little of the testing we do and the information we have in the chemical and biological defense efforts is classified. That is the first point. Extremely little, and what little there is relates to the possibility of revealing vulnerabilities to nations that might use chemical weapons against our people.

When one begins the process of going through this data on recent information, post-1968 information, at the moment I can see no reason why the subjects involved, the purpose of the study, the nature of the study, in general the conditions of the study would be classified. There may be such things, but with long experience in the area, I can say that I do not see any reason why it would be classified.

In some cases, results of the studies, which do not seem to be directly relevant to the interests of this problem, may be in the sense of how much protection does our protective equipment provide. I would say, of the kinds of things that many of these old studies seem to be oriented toward, we simply do nothing like that today. We use simulants. We use non-man systems, that kind of thing.

So I think on the question, first, of experiments of this sort since 1968, I do not think there are any that are very comparable. On release of secrecy things, if there is such a thing, we'll get into it as quickly as possible, but I think of the sort you're thinking of here, I don't think there are any.

Mr. SLATTERY. Okay. Thank you.

At this time I will recognize the Chairman of the full committee, and I will have some additional questions for the panel in a few minutes.

Chairman Montgomery.

Mr. MONTGOMERY. Thank you, Jim Slattery.

It is such an important subcommittee hearing, and I usually do not come to other subcommittee hearings other than mine, but you know, when you are talking about mustard gas and human beings being involved, I appreciate you having this hearing and Mr. Bilirakis for attending today and also our witnesses for being here and trying to help us out on this matter.

Where do we go from here, and who is eligible for compensation?

Mr. Chairman, I guess you put the letter that I received from William Perry, the Deputy Secretary of Defense in the record.

Mr. SLATTERY. Yes.

Mr. MONTGOMERY. Again, I thought it was a good letter. He is not ducking the issue, and he wants us to get to the bottom of it and see if we can help out these veterans that might be hurt in this testing that was done years back.

Thank you for letting me make some comments.

Mr. SLATTERY. Okay. Thank you, Mr. Chairman.

And I now recognize Mr. Bilirakis.

Mr. BILIRAKIS. Well, thank you, Mr. Chairman, and our overall Chairman, Mr. Montgomery, thank you for showing your interest in this subject.

And you said it, sir. Where do we go from here? We are concerned about current experiments, if any. We are concerned about how human beings are being treated insofar as those experiments are concerned, if there are any, and all of those things, and we should be concerned about those, and hopefully we have all learned some valuable lessons.

We hear about a mortality and morbidity study that is going to take 18 months and cost so many dollars. I am far from an expert on this subject. I do not quite understand what the significance of that is. I mean we have people out there who are hurting, who

need some help, and a mortality and morbidity study that is going to come up with certain results, I am not sure how that is going to help those people.

What we have got to do, in my opinion, is to get word to every one of those men, General, who were involved in these experiments.

You know, I talk back home to veterans' posts all the time and talk about something like 85 to 90 percent of the veterans are not members of any of the posts, which means they do not receive any of the magazines, the VFW, American Legion, et cetera, et cetera. I do not know what kind of communications are taking place with those people.

The first thing, John, you have got to receive a list. The VA has to receive a list from the DOD. Now, you cannot do anything regarding contacting any of these people until you receive that list; is that right?

Mr. VOGEL. Yes. What we want to do, Mr. Bilirakis, is when we get the list and can identify these people, with some help from other federal entities who might have addresses, we will outreach to all of these individuals and invite claims for compensation. Also, one cannot lose sight of the fact that medical care may be needed for these people.

Mr. BILIRAKIS. Well, that is right. We have talked about it and the General has talked about your getting the word out and things of that nature. Yes, all of that can be done and should be done. I do not know in what form that is going to take place, that communication is going to take place, but I will wager that you are not going to hit a very high percentage of all these affected people in doing that.

I think there has got to be, and I know there has to be, direct communication with them, which means getting these names. I am not sure how DOD is going to furnish all of these names anyway because, as I understand it, the records were not being kept for many of these people. So whatever list they give you is not going to be that complete.

Mr. VOGEL. Well, I have a great deal of confidence in the Department of Defense and the respective military departments to be able to use alternative sources of information such as scientific logs, morning reports, the presence of a unit, a number of things, to help us piece together the identity, the location, and the experiment.

Frankly, I think that value will be placed on statements made by individuals who were affected and they will be given weight in adjudicating those claims.

Mr. BILIRAKIS. Are we going to place a time line on this?

Mr. VOGEL. I am not sure I—

Mr. BILIRAKIS. A time line, a deadline, a date or dates.

Mr. VOGEL. We—

Mr. BILIRAKIS. General Alexander used the words "as soon as possible," and that sort of thing, but, General, you and I know how that can work sometimes. "As soon as possible" is in the eyes of the beholder, I guess.

Mr. VOGEL. I do not see that personally as a problem. I have had conversations with Secretary Brown, and we understand that our partners in this, in fact, will be the Department of Defense and the

respective service departments. The veterans' service organizations will help us with our outreach and information dissemination, and it will be done expeditiously. I think it is safe to say we will put special projects on to handle this. We will establish a task force within the VA so that we can understand when we do get information how best to assemble it and use it so that we get the best and fairest and most compassionate outcome to the veterans who are sick.

Mr. BILIRAKIS. Well, is the plan that when this information is received, the VA will then take the initiative to contact all of these people and to advise them because your understanding is they were involved in the experience and they may have some problems that need to be taken care of?

Mr. VOGEL. Yes, sir.

Mr. BILIRAKIS. And take the initiative? You are not waiting; you are not sitting back, basically, and waiting for claims to be filed by them?

Mr. VOGEL. Oh, no, not at all. Dr. Mather may wish to comment on that.

Dr. MATHER. We are already taking action on the 2,000 names the Naval Research Lab has provided us. Unfortunately they only have last names, no first names, no C numbers. Most of those volunteers came from Bainbridge, and we have obtained the rosters from Bainbridge and are attempting to mesh the names at the Naval Research Lab with the names from Bainbridge.

Unfortunately there are some very common names. For instance, the name Adams appeared in the gas chambers on one day. At that time there were 35 Adams from Bainbridge that could have been that one Adams. So what we have to do then is contact St. Louis and have them search all of those Adamases. If we are lucky, the fifth or sixth chart they search turns out to be the right Adams. If we are unlucky, it could be the 35th chart.

But we are working on that. We have unfortunately about a year, we think, worth of work looking into these records for the whole list, but our plan is once we have identified them, we will go to OSHA who has the authority to get their current names and addresses, once we have the social security number, from the Internal Revenue Service.

Mr. BILIRAKIS. To whom, OSHA?

Dr. MATHER. Yes. Based on the fact that they have had an dangerous occupational exposure, and there is no doubt that this is a dangerous occupational exposure. So we will get their current names and addresses from IRS and then we will notify them directly of their exposure and ask them to come in.

Mr. BILIRAKIS. Well, all right. Thank you.

Dr. MATHER. That is the Naval Research Lab plan.

Mr. BILIRAKIS. Thank you, Doctor.

Mr. Chairman, I do not know. I really commend both the VA and the DOD for picking up on this. You know, what is past is past, and it is just horrible. I know we all feel badly about it, but you have picked up real well, but I am concerned that bureaucracy being what it is, and I see what takes place up here in these ten-plus years that I have been here, and I am concerned that there be all diligence applied.

I do not know. We may want to get a report back in a certain period of time, Mr. Chairman, or what the situation may be. It is up to you.

Mr. SLATTERY. Well, I certainly intend to get a report back, and one of the things I want to get back to us how much time is it going to take to really complete the declassification procedures for the post-1968 information.

Is this a process that is going to take 30 days, 60 days, 90 days? I would like for you to let me know now or let me know in the next couple of days as to what kind of a time frame you are looking at.

I think we all work under deadlines pretty efficiently, and I would just like for us not to leave that hanging. So, General Alexander, can either you tell me now or tell me in a few days how much time you need to complete the declassification procedure for the past-1968 tests?

General ALEXANDER. We will provide you that for the record.
(The information follows:)

As far as we have been able to determine, no such classified information exists for programs conducted after 1968. We are currently researching this information and will be able to verify the existence of any classified information by next month. At that time, we will also provide an answer on how long it will take to declassify such information.

Mr. SLATTERY. Okay. Thank you, General.

I have some additional questions that I want to ask General Alexander and several of the other panelists also.

I am just curious. It appears from the testimony today that the Naval Research Laboratory was able to provide reports and summaries of gas chamber tests, but other test sites and facilities have apparently not been able to provide that information.

What is the problem? What is the prospect for getting that additional information? And can you tell us the location of all the test sites now? Do we have that information, General Alexander?

General ALEXANDER. I will have to provide that for the record.
(The information follows:)

To date we have identified the following sites. We are continuing to research our records to determine if there are any other test sites and will apprise your office accordingly should any more be discovered.

Naval Research Laboratory, Washington, D.C.
Naval Training Center, Great Lakes, IL
Camp LeJeune, NC
Edgewood Arsenal, MD
Bushnell Field, FL
Fort Pierce, FL
San Jose Island, Panama Canal Zone
Camp Sibert, AL
Dugway Proving Ground, UT
Camp Polk, LA
Gulfport, MS
El Centro, CA
Fort Richardson, AK

Mr. SLATTERY. I would like to know the location as quickly as possible of all the sites where this sort of activity occurred.

Dr. RICHARDSON. We do know the locations, and we will provide you a list of that for the record as quickly as possible.

Mr. SLATTERY. Okay. Thank you.
The next couple of days?

Dr. RICHARDSON. Yes.

Mr. SLATTERY. Thank you.

Dr. Pechura, do you have any additional information about the actual sites or locations of these tests?

Dr. PECHURA. We have some information that was in the report that we got early on from especially histories. There are other sites that I heard from veterans had occurred, but could not find any record of, and I have seen some of those sites in the GAO reports. So I am encouraged that some of that information has come out.

Mr. SLATTERY. So what you are telling me, General Alexander, is that you do know where these tests were actually conducted; is that correct?

Dr. RICHARDSON. As I say, I have gotten into this recently, and my understanding is, yes, we do have a list of those sites where actual experiments were conducted. There may have been training operations at other sites where there were small exposures or drop-lets on an arm or that sort of thing that we have not tracked yet. Certainly on the experimentation sites we will get you that list as quickly as possible, and we will try to do the best we can on any of the others.

Mr. SLATTERY. Okay. Thank you, Dr. Richardson.

That leads me to another question I have for Mr. Vogel about rulemaking to expand the list of seven conditions VA currently recognizes in order to permit grants of service connection in regard to this whole problem. In your testimony you used the term, and I quote, "as a result of verified full-body exposure to mustard gas." Then you will recognize service connection for the following conditions, and you listed all sorts of conditions.

Be more specific about what "verified full-body exposure to mustard gas" means. If you are a veteran who has participated in these tests, what do they have to do to verify that they are there? Can you help me understand this? I mean do they have to verify that they were at the installation, and then if there are not any military records or if they have been conveniently destroyed, then where is that veteran?

Mr. VOGEL. I am going to ask that Dr. Mather and Mr. Hickman give me assistance in responding to you, Mr. Chairman.

Mr. SLATTERY. Okay. Mr. Hickman, Dr. Mather.

Mr. HICKMAN. Mr. Chairman, let me begin by saying that certainly from the Naval Research Lab there was indication of full-body exposure.

Mr. SLATTERY. Now, when you say full-body exposure?

Mr. HICKMAN. By somebody being in the chamber bodily exposed. This could occur either in the chamber or it also could have occurred on the battlefield, as for example World War I, or during testing in World War II on some field exercise.

Mr. SLATTERY. Okay.

Mr. HICKMAN. That is the type of information we would like to have based on what Dr. Pechura has indicated would be a causal relationship. We are hoping to get this information from DOD. That is information we have asked for: who was exposed and the amount of exposure and the type of gas to which he was exposed?

We need that information. Failing to receive that information, then we are going to look for an alternative means, and certainly

medical statements and other information would help us in trying to reach an equitable decision, but certainly we do need that information from DOD, and failing that, it causes serious concern for us in making an equitable decision.

Mr. SLATTERY. Do we know now, General Alexander, or you are telling me we know where the sites were, but do you know as you come here today whether you have information about the names of people who participated in these tests? Do you know whether you have that information or not?

General ALEXANDER. I will have to get an answer for that one.

Dr. RICHARDSON. One, I do not know that information today or the names. We do know the sites.

Mr. SLATTERY. What is involved? I mean I am just curious. This hearing has been planned for a month. I would think that, you know, in coming over here to get ready for this that you would have anticipated that this was a logical question. I am just curious.

Dr. RICHARDSON. I agree.

Mr. SLATTERY. Does this mean that you have to pick up the phone and call St. Louis and find out what they have or, you know, why don't you have that information? Is it more complicated than that? Obviously it maybe is.

Dr. RICHARDSON. It is more complicated than that. One must link up the records of the experiments, what was done, where it was done, name of the subjects. You get into piecing those records together.

There were things like some years ago records at St. Louis, where those records are kept. That sort of record keeping is an area different from my end, and it will have to be worked.

Mr. SLATTERY. Okay. So you can give me the sites very quickly. What you are telling me though is that you do not know as you sit here today whether you have the names of the people who actually participated in these tests, but you are going to check that out and you will be able to tell me relatively quickly whether that is in any central location or whether you are going to have to go back and sort of piece it together.

Dr. RICHARDSON. That is my impression of the situation, and I promise you that commitment both on my own part and on the part of the department.

Mr. SLATTERY. Okay. Mr. Vogel, you indicated in your statement that you have adjudicated 346 claims and had made 82 grants of service connection, and I am just curious. Of the 264 remaining claims, are these denials of service connection or are some being held pending promulgation of new regulations?

What is the status of the 264 claims that have not been resolved in favor of a grant of service connection?

Mr. VOGEL. Most of those claims were disallowed are based on the absence of any indication of exposure, and that is the sort of information we are looking for from the Department of Defense. All of the claims that have been disallowed to date will be reviewed and rereviewed as more evidence becomes available and when those revised regulations are put into effect.

Mr. SLATTERY. Well, Mr. Vogel, I am curious now. In making this determination, did you have a veteran that came in and, in effect,

said, sworn statement, I assume, that they were or did you use a sworn statement?

Mr. VOGEL. Well, I think any time a veteran makes a claim with us, when he signs his name to it, he says, "I am telling you that what I am saying is true." So we consider it in the same vein as a sworn statement when he makes a claim.

Now, we have had individuals come forward in a few instances who described the training experience I think virtually every member of the uniformed services has where they teach them how to use the gas mask, protective mask, by putting them through a tear gas chamber, and they are confused. They think that might be mustard gas, but most of these claims that have not been allowed to date are because we have no evidence at all of exposure.

Mr. SLATTERY. Okay. Now, in these instances, are these World War II era veterans or do you know what age veterans we are dealing with here?

Mr. VOGEL. Most of them, yes, are World War II veterans.

Mr. SLATTERY. And they have come forward and, in effect, made a sworn statement saying that they were exposed to mustard gas. Now, did you go as far as attempting to match up where they were with the sites of the tests?

In other words, if tests were being conducted at Fort Riley, Kansas, and if that troop was there at a time when those tests were being conducted there, I mean, were you that detailed in your analysis of these cases or do you know?

Mr. VOGEL. I think it is safe to say that what you are describing is what is going to happen here soon when we have some more information. When the initial claims came in and the claim was made, there was no record of it whatsoever, virtually nothing to go on. We had the veteran's claim; we had a statement, but virtually nothing else.

Mr. Hickman.

Mr. HICKMAN. Just a couple of things, Mr. Chairman. If a claim does come in with a location, we do have specific points which we are going to based upon information provided by Army and Navy.

Mr. SLATTERY. Do you have that information right now?

Mr. HICKMAN. No. We have a contact point which we go to and ask if the veteran reported, that he was exposed at a particular location and what information can you provide us because that information is not available in the normal military service clinical records?

Mr. SLATTERY. Now, General Alexander has just said that within 48 hours they are going to be able to provide us with the sites of all of the tests, and so he can provide you, I assume, with that information. So you can go back quickly and make a fast determination within the next week about these people that have been told that they are not service connected, can't you?

Mr. HICKMAN. We need to know the sites, and if an individual was there and had exposure, et cetera.

Mr. SLATTERY. That is at the time. You know what time they were there, I assume, based on their military records, right?

Mr. HICKMAN. The records which we have received do not always have the date that they were in an experiment situation.

Mr. SLATTERY. That they were what?

Mr. HICKMAN. That they were not in an experimental situation. Mr. SLATTERY. I understand, but you can certainly determine from their military records if they were at Fort Lewis, Washington, on 4 May 1944, can't you?

Mr. HICKMAN. Not always, sir, but that is the point of trying to go back and get this information. The records we normally receive, service medical records, et cetera, do not always come with that information. That is why we have to go out to try to obtain this elsewhere within the DOD system.

Mr. SLATTERY. Okay. Well, at least very soon you will know the sites of the tests, and then we can press on with trying to find out if the troops were actually at that site at the time the tests were being conducted.

Now, what are they going to have to prove beyond that? I do not want to get too hypothetical here, but I am just curious. If we can make a determination that the testing was being conducted at Fort Riley, Kansas, and if the troop can prove that they were there at the time that the test was being conducted, but if we do not have any further documentation about the individual soldier participating in that particular test, unlike what we have with the Naval facility, then where does that leave that particular veteran who is claiming that on that day at Fort Riley, Kansas, they were in the gas chamber for an hour or whatever it was? Where do we go from there?

I am just curious. I do not want to get too hypothetical, but I mean this is exactly the kind of problem you are going to be probably confronted with here very soon. What then?

Mr. HICKMAN. I think certainly if that is all of the information we have, then we are going to have to make a decision on available information, and I cannot tell you exactly what that decision will be.

I think what we are seeing today is a lot of claims coming in with disabilities other than those we are talking about this morning. We are seeing individuals who were not in full-body tests, but had a drop patch on their arm. Those situations are also coming in. So we have to make a decision on each individual one.

But getting to the point you are trying to make, if the veteran claims he was in a chamber test and we cannot prove that, then we are going to have to make a decision based upon his statement and try to make an equitable decision.

Mr. SLATTERY. Okay. Are there any further questions? I do not want to hog the time here.

Mr. BILIRAKIS. I do not know that I do, Mr. Chairman. I know that oftentimes in records they should locate the morning reports, and I do not know how far back those things go, the location of people on a temporary basis which is quite often not a part of too many records.

The tear gas tests that you mentioned, Mr. Vogel, would just take place during basic training.

Mr. VOGEL. Yes.

Mr. BILIRAKIS. I went through that. I oftentimes wonder what might have been in those.

Mr. VOGEL. I just wanted to make a comment. We from time to time talk about a bureaucratic response, used pejoratively, as

though it is, perhaps, not fully responsive, but there is one characteristic of bureaucracy which may, in fact, help us in this. We bureaucrats keep records and I have a lot of faith and confidence that whatever records are there will be found, and they will be pieced together. In determinations made by the Department of Veterans Affairs, an error made will be an error on the side of liberality.

Mr. SLATTERY. Any other questions?

Mr. BILIRAKIS. No, thank you.

Mr. MONTGOMERY. If I may.

Mr. SLATTERY. Certainly, Mr. Chairman.

Mr. MONTGOMERY. What are some of the disabilities that these veterans are coming in saying are caused by mustard gas or testing tear gas? What are some of the disabilities, John?

Mr. VOGEL. Mr. Chairman, there are a number of conditions that we have concluded are presumptively service connected for exposure, and a lot of them are pulmonary conditions, some skin conditions, some cancers, some skin cancers. Most of it has to do with their respiratory systems.

Mr. MONTGOMERY. What type of cancers?

Mr. VOGEL. Most of them are cancer of the larynx, nasopharyngeal cancer, some lung cancers, except for mesothelioma (the kind of cancer usually caused by asbestos), and some cancers of the skin, chronic forms of asthma, bronchitis, emphysema and chronic obstructive pulmonary diseases.

We are also seeing conditions claimed that do not fit into any of those categories that we now have listed as being causally related to exposure to mustard gas.

Mr. MONTGOMERY. I served in World War II and also in the Korean War. Of course, I remember—I do not believe I want to refer to them as gas chambers—but we did go in a room and when you come out you had the stinging sensation. What other type of testing did we do to people like Bilirakis and myself? What type of gas was there both in World War II and in the Korean War that all the soldiers took part in those tests?

Mr. VOGEL. I will speak just as a veteran. They taught me how to use a protective mask by making me go into a chamber. They put some tear gas into it and then said, "Clear your mask and put it on." If you did not, you would run out of the chamber feeling pretty darned uncomfortable. I am sure the Department of Defense can comment more scientifically than that.

I think all of us learned how to wear protective masks by being given a little dose of tear gas.

Dr. RICHARDSON. That is exactly right, Congressman. Your experience was either universal or certainly very wide in that most of us went through that kind of thing with tear gas. Years ago there used to be a material called CN, more recently CS. So far as I know at least since the mid-1970's, that has been what has been done and, I think, widely done before that for recruit training.

Mr. MONTGOMERY. Are we still doing the—it has been tear gas is what you are telling me universally?

Dr. RICHARDSON. Tear gas for recruit training.

Mr. MONTGOMERY. There may be 20 million of us.

Dr. RICHARDSON. For chemical officers, that sort of thing, we have a special training operation that we do in Fort McClellan,

Alabama, which does not involve exposure, but does involve working in fully protective clothing in an organophosphate agent environment, in which we use a very dilute agent in a large chamber called the Chemical Defense Training Facility, and one milliliter, which is a very small amount of material, is used in a chamber on surfaces of material, and this is where people learn if their detectors work, learn that they can decontaminate.

We have had that capability since 1987, which is also used by some personnel from other countries, as well as our own. We have had 25,000 people go through that and not an exposure yet.

Mr. MONTGOMERY. We were concerned for our troops that Hussein might use gas in Kuwait. We stayed with the tear gas? We did not do any other exposure to our troops there? I know that was a concern.

Dr. RICHARDSON. Now, we did not do any exposure. We have done, as I mentioned earlier, we have done nothing that I have been able to find on exposure of people to mustard, for example, or vesicating agents, since 1966.

In the Desert Storm situation, we were quite concerned. Hussein had, of course, used mustard and other agents in his conflicts with Iran, a great matter of concern and a great matter of preparedness.

The training, certainly the broadest training, most effective training, is using the equipment, gaining confidence in using the equipment, practice in using the equipment, and you do not need exposure to chemical agents to do that.

Mr. MONTGOMERY. Was nerve gas considered in the equipment we have now, which has certainly changed? The gas masks have changed tremendously. Can you comment on that?

Dr. RICHARDSON. Yes, certainly. Nerve agents or organophosphate agents, the same thing, is a matter of great concern. There are a number of nations around the world that have nerve agent capability.

Mustard is interesting, and it is a very old agent that is still a current agent. Nerve agents, of course, came into play in the mid-1930's and have unfortunately been improved over the years, a great concern to us. Our masks do protect against all known chemical agents, and we have detectors for nerve agents, as well, that sort of thing.

Mr. MONTGOMERY. I have gotten off of the subject here. I was concerned that we were trying to eliminate all chemical agents and gas being used around the world, and I think in our military we fell back some in the 1970's and 1980's of moving ahead to counteract gas problems.

Are we kind of up to date now? Do you feel pretty comfortable about the equipment we give these young men and women that were in Desert Storm?

Dr. RICHARDSON. We are certainly in better shape than we were in the 1970's. As you say, we did go through a period of disinterest, if you would, in that period. Those of us in the business called it a decade of neglect.

We got concerned around the end of the 1970's with the build-up in the Soviet Union, particularly at that time, and in more recent years proliferation around the world has been much greater, I think.

We have over the last few years been investing between \$500 and \$600 million a year in chemical defense equipment, research, procurement, and that sort of thing. So we are in far better shape than we were.

Our greatest concern these days is biological warfare agents because those, too, are dangerous. A mask, for example, protects you against both things, but you need special detectors for biological agents, and one of our greatest interests is sealed in equipment to protect our forces against biologicals.

While we still have the threat out there of chemical agents, it is an objective to eliminate these things from the world. We still have a way to go before we do that.

Mr. MONTGOMERY. Thank you, Mr. Chairman.

Mr. SLATTERY. Any further questions, Mr. Chairman.

Mr. MONTGOMERY. No.

Mr. SLATTERY. Several things. Now, it is your testimony, General Alexander, today, and Dr. Richardson, that there have not been any tests involving military personnel in mustard gas since 1966; is that correct? Did I understand you correctly?

Dr. RICHARDSON. To the best of my knowledge, it is. I know of none, and that is the information I can give to you.

Mr. SLATTERY. So when we have picked this 1968 date, we can safely say then that to the best of your knowledge, all veterans who have participated in mustard gas tests are released from their secrecy oaths; is that correct?

General ALEXANDER. That is correct.

Mr. SLATTERY. Okay. Dealing with this secrecy oath thing, as we have referred to it, explain to me what was the procedure used in releasing these people from these test sites. Maybe, Dr. Pechura, you can add to this, and I would like to know what the military SOP was.

I mean, what exactly did this secrecy oath involve? Did they sign a statement saying that they would never talk about this? Did they take an oath? What actually was involved in this procedurally?

General ALEXANDER. Unless Dr. Richardson can add something, we will have to provide you a written answer on that because I have no idea.

Mr. SLATTERY. Dr. Richardson.

Dr. RICHARDSON. At this stage, the information I have gotten is strictly anecdotal, and on the possibilities you have raised the anecdotal information I would have said all of the above, that it was handled in various ways.

Mr. SLATTERY. I mean so there may be a paper trail where people signed oaths, in effect, right?

Dr. RICHARDSON. There may be.

Mr. SLATTERY. Or secrecy agreements, but you do not know for sure?

Dr. RICHARDSON. I do not.

Mr. SLATTERY. Can you provide me with a written response to this question?

Dr. RICHARDSON. We will do the best we can.

(The information follows:)

As the GAO has indicated in its report, individual health and personnel records dating back to the World War II period have been difficult to locate. We have asked

various test sites and agencies to research their archives to try to locate test reports which may have individual oaths or other information on testing protocol attached. We will provide information as to the type of oath (oral or written) and the extent to which these oaths may have been administered.

Mr. SLATTERY. Within the next week or so, yes, I would like to know what information you have on it.

Dr. Pechura, do you have any anecdotal information or other information about exactly what procedure was employed to obtain what we refer to as the secrecy oaths?

Dr. PECHURA. I do have anecdotal information also, many veteran reports that say that they were told, just told verbally. I also have one or two who sent me a form that they signed, but it would not strike you as a terribly threatening form because at the very top it has sort of the camp rules, you know, when you can go out and when you can come back, and then at the bottom it has something about not revealing participation.

Mr. SLATTERY. And they had the actual signed document?

Dr. PECHURA. Yes, this is one form. There was one person who sent me this form. It might still be in my files, but all of the rest have been anecdotal reports of verbal.

Mr. SLATTERY. I am sort of amazed that the troops were given a copy of their signed agreement, their secrecy agreement. I mean that is sort of a strange thing to have floating around out among 50 or 60,000 people.

Dr. PECHURA. Well, like I say, it is a very strange form. It gives the rules of the camp and at the bottom saying not to talk about what you are doing here.

Mr. SLATTERY. Dr. Richardson, you look anxious to add something to this.

Dr. RICHARDSON. Anxious may be overstating it. If there are such forms, our best hope of finding them, I think, would be on experimental records of the tests, and that is where I would encourage people to look, but I have no indication that such forms exist, and you know, we will do our best to find them. I just do not know what we will find.

Mr. SLATTERY. Okay. Do you have any knowledge of any similar tests that were conducted during the World War II time frame like these mustard gas tests that involved experiments on military personnel that are currently classified that should be declassified for the same reason that the mustard gas test information is being declassified?

This is sort of a catch-all question.

Dr. RICHARDSON. Dealing with chemical materials?

Mr. SLATTERY. Anything that would have a profound or would have a health consequence for the participants, anything that these veterans should know about? You know, maybe there are other veterans out there that have been involved in similar tests, been told similar things. "Do not go talk about this. Don't ever tell anybody about this," and yet it could have a very serious health effect, and those veterans should be told about this just like the veterans participating in the mustard gas tests are now being told, belatedly.

Are there other victims of similar tests that should be identified and looked at?

Dr. RICHARDSON. I know of none.

Mr. SLATTERY. You know of none. Has there been any effort on your part, Dr. Richardson, or others to find out if there were similar classified tests conducted that should now be maybe declassified? Have you looked beyond the mustard gas test for examples?

Dr. RICHARDSON. I would defer to General Alexander on the broad scale because my expertise is fairly narrow. I am in the chemical environment.

Mr. SLATTERY. Okay. General Alexander, are you aware of any other tests that would have an adverse effect on a person's health that has been classified?

General ALEXANDER. Mr. Chairman, no, I do not, but that is not my field.

Mr. SLATTERY. Pardon me.

General ALEXANDER. That is not my area. So I will get you a written answer to that question.

(The information follows:)

We do not know that other chemical agents have been investigated by components of DOD. We do not know to what extent human subject participation, or the documentation of adverse health effects, are currently classified. It is our intention to identify all individuals, to the extent possible from existing records, who may have been exposed to chemical weapons agents either before or after 1968.

Mr. SLATTERY. You will get me a written answer to that. Okay. Thank you.

One last question I have in this regard. We are assuming that only men participated in these tests, but is that a safe assumption? Dr. Pechura, I mean do we have evidence of women who were in the military or working for civilian manufacturers that were victims?

Dr. PECHURA. In terms of the gas chamber and field tests, they were all men.

Mr. SLATTERY. They were all men?

Dr. PECHURA. Yes, but there were women that were civilian workers in chemical production facilities, as well as—I do not know too much about military women—but some of those worked in impregnating clothing and things like that, but there were lots of women in the production end.

Mr. SLATTERY. General Alexander, do you know anything about whether there were women involved?

General ALEXANDER. Only what I have read about the young lady who was exposed when one of the pipes broke. This incident was cited a story in the report, but, no, we do not, but where possible we will certainly collect information on the civilians and the contractors who were employed by the department.

Mr. SLATTERY. Okay. Mr. Vogel, do you have any information on that question?

Mr. VOGEL. No, I am sorry, Mr. Chairman. I do not.

Mr. SLATTERY. Okay. I would like to know a little bit more about the Bari. How do you pronounce it? Bari, Italy, incident. Who can provide me some information on that, the number of people involved?

I read the report last night, and it indicated that there were 1,000 people that were killed as a result of this bombing incident. I mean were those Italians or American troops? Who were the victims of that tragedy?

Dr. PECHURA. According to Alexander's report, Alexander was a military physician who was in North Africa at the time and was sent to Bari when it became clear what was going on. In his report, I think he lists 83 U.S. servicemen killed in that incident. The 1,000 really relates to a lot of civilians and some of the other people, some of the other military from other countries who were in that town at the time.

Basically what happened is that a U.S. merchant ship was actually loaded with sulfur mustard in Baltimore and was in the harbor when it was bombed. The problem was that the mustard gas, which is very soluble in oil, mixed with the oil slick, and in addition, vaporized into the air, and the people who tried to help these people, since they did not know that the victims were contaminated with mustard gas, were also contaminated. So there was a sort of self-perpetuating contamination going on.

Mr. SLATTERY. Do we have any information about how many other like American military personnel were exposed at that time to very dangerous levels of mustard gas and how the VA is handling those people? I mean was that classified? In other words, I assume it was not, that this was a mustard gas problem at Bari. How was that handled from the standpoint of VA? I mean does the VA have any documentation dealing with this Bari incident that would enable you to verify service connection with regard to some of the disabilities that we have talked about that are causally related to exposure?

Dr. MATHER. As far as I know, there has been one merchant seaman who has made a claim based on the Bari experience. A lot of the Americans that were in the harbor at the time were, as I understand it, Merchant Marines. Obviously these were merchant ships, and as their ships exploded, they dove into the water which was filled with mustard gas. Then they were brought to hospitals where people did not recognize their situation because the mustard gas has a delayed action as far as the vesicant action goes. So they were wrapped in blankets and just sort of set aside because they did not seem to be injured. They had just been floating around in the harbor, and of course, as they were wrapped up in these blankets, then they began to blister and develop laryngitis and eye problems.

We have only had one claim that I am personally aware of. There probably have been others.

Mr. SLATTERY. Do we have any evidence as to, you know, whether there were 50 military personnel in that harbor at the time or thousands of military personnel? I mean what was the status of the harbor when this happened?

Dr. MATHER. We know how many ships and which ships they were at the time because, as I understand it—

Mr. SLATTERY. You say you do know which ships were there?

Dr. MATHER. We know which ships were there. Reading the history, there was a book published in the 1950's called "The Disaster at Bari," and at the time the disaster happened, as I understand reading the history, Winston Churchill himself made the decision not to release information that this was mustard gas because it was not his desire for the enemy to know that the Allies were shipping mustard gas to Europe to use in case the Germans used it.

Mr. SLATTERY. I guess my question is very specifically to this case: if a veteran that was at Bari came forward today or yesterday with a claim——

Dr. MATHER. There would be no problem.

Mr. SLATTERY (continuing). Would we deny that there was mustard gas there officially?

Dr. MATHER. There would be no problem.

Mr. SLATTERY. There would be no problem. Okay. Has that been the way this has been treated for the last 5 years or 10 years? When did we quit denying that there was mustard gas there?

Dr. MATHER. In modern history, I do not think it has been a problem.

Mr. SLATTERY. Okay.

Dr. MATHER. That has not been an issue.

Mr. BILIRAKIS. Would the Chairman yield?

Mr. SLATTERY. Sure.

Mr. BILIRAKIS. I am just wondering. These were merchant seamen, and until recently we——

Dr. MATHER. 1979.

Mr. BILIRAKIS (continuing). Did not recognize them as veterans to participate as far as benefits are concerned. Are we going to put them in the same category, Mr. Vogel, where we will find the whereabouts or who these people were and maybe take the initiative as far as they are concerned, too?

Mr. VOGEL. Yes, sir, if we have information that casts light on that, we will make the same outreach to those individuals.

Mr. BILIRAKIS. Well, I mean in the progress of getting this other information from DOD, are we also trying to get them added to the list so that we can take the initiative as far as they are concerned?

Mr. VOGEL. Yes, Mr. Chairman.

Mr. BILIRAKIS. I have always thought they were very much as much a veteran as, you know, you and I, maybe more so.

Mr. VOGEL. Yes, sir. The answer to that is yes.

Mr. BILIRAKIS. The answer is yes. So your initiative then is intended to include those merchant seamen?

Mr. VOGEL. Yes, sir.

Mr. BILIRAKIS. All right. Thank you.

Mr. SLATTERY. Dr. Pechura, I am just curious. In your third category of conditions, you indicate there was insufficient evidence found to demonstrate a causal relationship between exposure and the development of the condition. Elaborate on that a little bit, would you? And help me understand that a little more completely. There just is not adequate evidence to document a causal relationship?

Dr. PECHURA. Right.

Mr. SLATTERY. Is that what you are saying?

Dr. PECHURA. In some cases there is no evidence. I mean in many cases there is not a single study that speaks to that issue in terms of long-term effects, or the study is very anecdotal, or it is not clear whether or not there were multiple exposures.

For example, there is German data that was published by the Stockholm International Peace Research Institute. The Peace Research Institute looks at some of the German data on gastrointestinal and neurological effects. The problem is that there was no doc-

umentation. There was simultaneous production of mustard gas and nerve agents, and the people worked with them together.

Whereas in the Japanese information, they had carefully separated groups of people who worked with mustard gas as opposed to people who worked with phosgene.

We had to have, number one, some long-term data and, number two, that data had to be tied to sulphur mustard or nitrogen mustard or the agents at question.

Mr. SLATTERY. In reading the material in preparation for this hearing, I was reading about how the Japanese had really maintained much better documentation apparently than we have with regard to the long-term effects, and I am just curious. Do you have access to those Japanese studies and have they proved helpful?

Dr. PECHURA. Oh, yes. We reviewed many of those Japanese studies. In fact, it was a kind of a translation problem. We had to really evaluate. Some of them were doubly published in English and Japanese. So we had to assess that before we went and spent a lot of money translating things that we already knew.

The committee looked a great deal at those studies, and the real value in those studies is that they were able to separate those occupational groups.

Mr. SLATTERY. Did those studies sort of corroborate the information you were putting together?

Dr. PECHURA. Oh, absolutely.

Mr. SLATTERY. Okay.

Mr. BILIRAKIS. Would you yield while you are looking through your questions?

Mr. SLATTERY. Sure, yes.

Mr. BILIRAKIS. Is that going to be a problem, Mr. Vogel, the causal relationship? Are we basically going to—if we are satisfied that the individual was a part of the experiment and then has a health problem, particularly in one of those seven categories, is that going to be a problem, the fact that the causal relationship has not been proven from a legal standpoint?

Mr. VOGEL. No, it will not be a problem with the service.

Mr. BILIRAKIS. It will not be a problem.

Mr. VOGEL. The only issue then is the degree of residual disablement, which we can determine based upon a good medical examination.

Mr. BILIRAKIS. Okay. So that is not going to be a problem then?

Mr. VOGEL. No, sir.

Mr. BILIRAKIS. We will treat it like we do Agent Orange?

Mr. VOGEL. That is right, sir.

Mr. SLATTERY. We are fast approaching the end of this hearing. So bear with us just a few more minutes.

With presumptive disabilities, the law provides, as I understand it, for denial of service connection where there is shown to be I guess the term that is used is intercurrent cause. Have you made a similar provision or determination with regard to the mustard gas question, Mr. Vogel?

Mr. VOGEL. I think the principle remains the same for that as it is for other conditions. If there is clear evidence that it was an intercausal agent which caused the disability we are looking at today, then it perhaps is not service connected. A case in point, an

individual who had a 40 year, two pack a day history of smoking; cancer and bronchitis may not be service connected, especially if exposure that was minimal, to some other thing that causes the illness was minimal.

Mr. SLATTERY. Okay. Do you have any further questions?

Mr. BILIRAKIS. No.

Mr. SLATTERY. Thank you all. This has been helpful for me, and more important, I hope that it is a help to get the word out to the 60,000 American military personnel who have participated in these tests, and as of this date, I hope they all will soon learn that they can feel free to come forward, talk about what happened to them, and to claim the benefits that they are entitled to.

So I thank you for your information today, General Alexander, Dr. Richardson. I look forward to hearing from you in response to some of the questions we asked that you were unable to answer today, and, Mr. Vogel, thank you. Dr. Pechura, thank you. Dr. Mather, thank you, and, Mr. Hickman, thank you also. It was good to see you all.

[Whereupon, at 11:06 a.m., the subcommittee was adjourned, subject to the call of the chair.]

APPENDIX



THE DEPUTY SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

9 MAR 1993

Honorable G. V. (Sonny) Montgomery
Chairman, Committee on Veterans' Affairs
House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

Thank you for your letter regarding the report "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite," issued by the National Academy of Sciences Institute of Medicine. I read your letter, and Mr. Principi's, with great concern. As a result, I have taken action to respond to these critical issues affecting the health and entitlements of past service members, and to initiate full cooperation with the Department of Veterans' Affairs.

I have enclosed a copy of a memorandum to the Secretaries of the Military Departments, my staff, and other Department of Defense agencies, addressing the issues outlined in your letter and directing them to cooperate to the fullest in making this information accessible to the Department of Veterans' Affairs. I have also directed the Assistant Secretary of Defense (Force Management & Personnel) (ASD(FM&P)) to head a task force to monitor the performance and completion of these actions. I have directed that information be provided to the ASD(FM&P) by July 31, 1993. We plan to forward information to the Department of Veterans' Affairs as soon as possible. In addition, I am taking action to have this information made public so that past service members that have been hesitant to seek assistance will no longer be constrained by non-disclosure restrictions, such as written or verbal oaths of secrecy, concerning their exposure to chemical weapons substances.

As you know, I take these issues very seriously. The Department of Defense is committed to honoring the service and sacrifice made by the men and women who are serving, and have served, in the nation's military. We will continue to make every effort to cooperate with the Department of Veterans' Affairs in responding to the needs and providing entitlements to those who have served. Members of my staff will continue to work with your staff to ensure that we are responsive to the concerns you have raised.

Sincerely,

Handwritten signature of William G. Perry in cursive script.

Enclosure:
As Stated



THE DEPUTY SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

11 MAR 1993

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
 CHAIRMAN OF THE JOINT CHIEFS OF STAFF
 UNDER SECRETARIES OF DEFENSE
 DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
 ASSISTANT SECRETARIES OF DEFENSE
 COMPTROLLER
 GENERAL COUNSEL
 INSPECTOR GENERAL
 DIRECTOR OF OPERATIONAL TEST AND EVALUATION
 ASSISTANTS TO THE SECRETARY OF DEFENSE
 DIRECTOR OF ADMINISTRATION AND MANAGEMENT
 DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Chemical Weapons Research Programs Using Human
 Test Subjects

On January 6, 1993, the National Academy of Sciences Institute of Medicine published a report titled "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite." Based on the findings of the report, Congressional inquiries, and requests from the Department of Veterans Affairs, I am releasing any individuals who participated in testing, production, transportation or storage associated with any chemical weapons research conducted prior to 1968 from any non-disclosure restrictions or written or oral prohibitions (e.g., oaths of secrecy) that may have been placed on them concerning their possible exposure to any chemical weapons agents. I am also declassifying documents for all chemical weapons research studies conducted prior to 1968, with respect to the issues of personnel health and safety as specified below:

- a. The location of each U. S. chemical weapons research program (chamber, field and patch) which used human subjects, the type of chemical(s) tested (e.g., sulfur or nitrogen mustard), and the start and finish dates of each test including preliminary research;
- b. Identification of each military unit stationed at each research site during the testing period, and the name, service or social security number, and military unit of each individual known to have participated in a chemical weapons research or testing program (chamber, field, and patch); and

c. The location of all facilities at which individuals participated in the production, transportation or storage of these chemical agents to include: the dates on which storage or production was begun and terminated; identification of each military unit stationed at each storage or production site; and the name, service or social security number, and military unit of each service member known to have participated in production, transportation, or storage of these chemical agents.

Secretaries of the Military Departments are tasked with the following actions:

a. Initiate procedures to fully cooperate in locating and providing the above specified information. Please ensure that the information is provided in such a way as to maintain the integrity of our records and meet Privacy Act requirements.

b. Initiate procedures to declassify documents with respect to the issues listed above for chemical weapons research studies conducted after 1968, including studies performed in support of other Federal agencies; and, release participants from any non-disclosure restrictions (e.g. oaths of secrecy) that may have been placed on them concerning their possible exposure to any chemical weapons agents during testing, production, or transportation of such chemicals. If there are any reasons that would prevent declassification of this material, those reasons should be provided to the Assistant Secretary of Defense (Force Management and Personnel) (ASD(FM&P)), in writing.

Information on the location, chemicals tested, and dates of each chemical weapons research program should be provided immediately. Personnel information should be provided to the ASD(FM&P) by July 31, 1993. Our goal is to provide information to the Department of Veterans' Affairs as soon as possible.

I fully recognize that some of this information may not be readily available. I expect a comprehensive search, however, to ensure that our current and former members receive the assistance and support to which they are entitled. I am directing the Assistant Secretary of Defense (Force Management and Personnel) to establish a task force to monitor the status of these actions. By March 31, Secretaries of the Military Departments should designate points of contact to Ms. Norma St. Claire, OASD(FM&P), (703) 696-8710.

William J. Lewis

January 22, 1993

Honorable Les Aspin
Secretary of Defense
Room 3E880, The Pentagon
Washington, DC 20301-1000

Dear Mr. Secretary:

The report, "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite," recently issued by the Institute of Medicine, National Academy of Sciences, provides important new information on secret U.S. chemical weapons programs during World War II. Of particular importance to this Committee and the Department of Veterans Affairs is the finding that an estimated 60,000 military personnel participated as human experimental subjects in tests of exposure to mustard agents (sulfur and nitrogen mustard) and Lewisite and unknown numbers of additional servicemembers may have been exposed to these agents through their participation in the production, transportation and/or storage of these chemical agents. In addition, this report contains information which is particularly significant with respect to submission of claims to VA for service-connected disability compensation for conditions believed to be caused by exposure to one or more of these chemical agents and adjudication of those claims.

The report indicates orders to maintain the secrecy of these programs given servicemembers more than forty years ago have been faithfully obeyed. As a result, many veterans reportedly have not filed claims with VA for compensation for service-connected disabilities believed to have resulted from exposure to one or more of these chemical agents during military service, because to file such a claim would require divulging information ordered to be kept secret. Fifty years after-the-fact, the interest of the government in maintaining secrecy about the chemical weapons programs conducted by the U.S. during World War II must be secondary to the government's responsibility to the veterans who participated in these once-secret programs. Official removal of unnecessary secrecy surrounding these programs is essential so all servicemembers who participated in these programs and believe they incurred a service-connected disability as a result of their

Honorable Les Aspin/2

1/22/93

service may feel free to file a claim for compensation. Action should be taken immediately to countermand previous orders given servicemen requiring secrecy about these programs. This action should be accompanied by public announcements intended to inform former servicemen that these secrecy orders have been countermanded, as recommended by the Institute of Medicine report.

Regarding adjudication of claims, the report provides conclusions regarding the causal relationships of exposure to the development of specific diseases. Also relevant to adjudication of claims submitted to VA for service-connected disability compensation, the report notes, "...many more military personnel were exposed to significant levels of mustard agents or Lewisite than is obvious from service records" and "there were often no records or documentation available of an individual's participation in the testing programs". Because individual military records may not record servicemember participation in these programs, the Department must provide VA the fullest possible accounting of these formerly secret tests of exposure to mustard agents (sulfur and nitrogen mustard) and Lewisite conducted by the U.S. during World War II and related production, transportation and storage of these chemical agents. This accounting should include, but not be limited to, the following:

The location of each U.S. chemical weapons research program which used human subjects, the purpose and nature of the research programs at each site, the identification of each military unit stationed at each chemical weapons research program location during the period of testing, the name, service number and military unit of each servicemember known to have participated as a human subject in a research program, the date on which research using human subjects, including preliminary research, was begun and was completed; and

The location of all facilities at which servicemen participated in the production, transportation and/or storage of these chemical agents, the identification of each military unit stationed at each storage and/or production facility, the name, service number and military unit of each servicemember known to have participated in the production, transportation and/or storage of chemical agents, the date on which production and/or storage of chemical agents at each location was begun and terminated.

The recent Institute of Medicine report has provided valuable information on servicemember participation in secret U.S. chemical weapons programs during World War II which was not previously available to the public, this Committee or the Department of Veterans Affairs. Restrictions, however, on access to government-held information on these programs prevented access to all relevant information and consequently this report cannot be considered complete. According to the report, "...an

Honorable Les Aspin/3

1/22/93

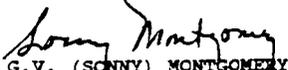
atmosphere of secrecy still exists to some extent regarding the WW II testing programs". As a result of this secrecy, "...the committee often had great difficulty obtaining information" and "The committee is certain that other relevant information exists that was never obtained." The unnecessary secrecy which still surrounds U.S. chemical weapons programs conducted during World War II must be removed if veterans who participated in these secret programs are to receive all benefits for which they are eligible. I strongly recommend the Department immediately take all necessary steps to remove the unnecessary restrictions on access to information regarding these programs and the servicemembers who participated in them.

In this regard, you may recall in early September, 1991, you and I, joined by Congressmen Stump and Dickinson, sent a letter to Secretary Cheney concerning "Department of Defense experimentation on military members with LSD, mustard gas, and other dangerous chemicals during the 1940s and 1950s" and requested a "report on the facts and circumstances surrounding these experiments...". The response we received from DOD did not disclose any of the information which has now been reported by the Institute of Medicine report. In addition to the circumstances associated with the Department's inadequate response to our earlier request being thoroughly examined, I am requesting the Department of Defense provide the Committee a report identifying all U.S. chemical weapons programs in which military personnel have participated as human experimental subjects in tests of exposure and all programs in which military personnel have participated in the production, transportation and/or storage of these chemical agents.

Finally, enclosed for your information is a copy of a letter dated January 5, 1993, from Acting Secretary Principi to Secretary Cheney regarding these issues. In his letter, Acting Secretary Principi has requested that the Department of Defense assist the Department of Veterans Affairs by identifying the servicemembers who participated in these exposure tests and other servicemembers who were otherwise exposed to these chemical agents and by providing relief from prior oaths of secrecy regarding these tests made by these veterans.

I look forward to receiving your reply and to being advised of the Department's plans to respond positively to my requests and the requests made by Acting Secretary Principi.

Sincerely,


G.V. (SONNY) MONTGOMERY
Chairman

GVM/pgp
Enclosure

PREPARED STATEMENT OF HON. MICHAEL BILIRAKIS

Thank you, Mr. Chairman.

As you know, Mr. Chairman, there are many important issues facing our subcommittee, and as the new Ranking Minority Member, I am looking forward to working with you this Congress. Let me take this opportunity to commend you for scheduling this morning's hearing on mustard gas, Lewisite and other substances.

I would also like to take a moment to welcome my colleagues Barney Frank, Porter Goss and Glen Browder to this morning's hearing. I know Porter has worked extremely hard to bring this issue to Congress' attention. I am an original cosponsor of his legislation, H.R. 1055, which directs the Secretary of Defense to issue a commendation to individuals exposed to mustard gas during World War II.

In addition, John Vogel, the Deputy Under Secretary for Benefits, is an old friend. Before becoming the Deputy Under Secretary, he served as the Medical Director for the VA Medical Center in Bay Pines, Florida. Prior to his work at Bay Pines Medical Center, John was the Chief Benefits Director at the Veterans' Administration.

In today's hearing we are going to be examining an extremely disturbing issue—the use of American military personnel in experiments. Since World War I, the military has conducted medical, chemical and biological research using military personnel who have volunteered. This research was done to maintain and protect the health of military personnel who may be exposed to a variety of diseases and combat conditions.

A recent study, *Veterans at Risk: The Health Effects of Mustard Gas and Lewisite*, conducted by the Institute of Medicine (IOM) estimates that 60,000 U.S. servicemembers were exposed to mustard agents and Lewisite, an arsenic-containing agent, during World War II. Participants in military tests experienced varying degrees of exposure to mustard agents or Lewisite, ranging from a drop of agent on the arm in "patch" tests to repeated gas chamber trials and field tests—sometimes without protective clothing.

In addition to those servicemembers who participated directly in mustard gas and Lewisite experiments, thousands of individuals worked in the U.S. arsenals that produced these chemical agents. The IOM report determined that exposure levels at these facilities were often extremely high.

What I find so disturbing about these tests is the lack of follow-up medical care or monitoring of the long-term health effects on any of the World War II military personnel. This is especially troubling in light of the fact that it was already known at the time that certain long-term health problems resulted from sulfur mustard exposure.

Now, the evidence clearly indicates that the long-term effects of mustard gas can be debilitating. Emphysema, respiratory tract cancers, immune system disorders such as leukemia, recurrent skin cancers can result from exposure. Since the Armed Forces did not maintain records for all the personnel involved in mustard gas testing, it has been extremely difficult for many veterans to prove their illnesses are service-connected.

In 1991, the Department of Veterans Affairs acknowledged that veterans exposed to mustard agents during secret tests were severely disadvantaged when filing claims for service-connected conditions. The VA should be commended for modifying their rules for adjudicating compensation claims for mustard gas exposure. The IOM study was a VA initiative, and the VA has responded quickly to the study's recommendations.

Mr. Chairman, I am anxious to hear the testimony of our witnesses. The time has come to make sure that we keep our promises to those who have shouldered the burden of our Nation's defense. I look forward to working with you and the other members of the subcommittee to ensure that those servicemembers who participated in the military's chemical experiments receive the benefits to which they are entitled.

Thank you.

STATEMENT OF CONGRESSMAN PORTER GOSS
BEFORE THE SUBCOMMITTEE ON COMPENSATION, PENSION AND INSURANCE
COMMITTEE ON VETERANS' AFFAIRS

MARCH 10, 1993

GOOD MORNING MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE. I APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE YOU AS YOU CONSIDER AN ISSUE THAT HAS BEEN ONE OF THE CONSTANTS IN MY TENURE HERE IN THE HOUSE OF REPRESENTATIVES. WHEN I STARTED MY RUN FOR CONGRESS IN 1988, A MUSTARD-GAS VICTIM CAME UP TO ME AND SAID, "IF YOU WISH TO BE A MEMBER OF CONGRESS, WOULD YOU, IN THAT POSITION, BE ABLE TO HELP THOSE OF US WHO WERE INVOLVED IN SECRET MUSTARD GAS TESTS CONDUCTED ON U.S. MILITARY PERSONNEL BY THE U.S. GOVERNMENT IN WORLD WAR II?" I REPLIED THAT I HAD NEVER HEARD OF ANY SUCH TESTING AND WOULD HAVE A HARD TIME BELIEVING SUCH A THING EVER HAPPENED. AS YOU CAN SEE FROM THE CHRONOLOGY I WILL SUBMIT FOR THE RECORD, I HAVE COME A LONG WAY SINCE 1988. TODAY, NOT ONLY DO I BELIEVE THOSE WHO TELL ME THEY WERE EXPOSED TO MUSTARD GAS IN SECRET WORLD WAR II TESTS, BUT I EXPECT TO BE ABLE TO ASSIST THEM IN SEEKING ASSISTANCE FROM THE FEDERAL GOVERNMENT.

THESE WORLD WAR II VETERANS HAVE BEEN CAUGHT IN A CATCH-22 SITUATION. UNABLE TO PROVE THEIR INVOLVEMENT IN THE SECRET TESTS, THEY NEVER HAD AN OPPORTUNITY TO RECEIVE PROPER MEDICAL TREATMENT FOR THEIR AILMENTS. THESE MEN WERE YOUNG SAILORS, TRUSTING OF THEIR GOVERNMENT, SWORN TO SECRECY, MANY OF WHOM TODAY ARE SUFFERING FROM LONG TERM EFFECTS OF THEIR EXPOSURE TO TOXIC CHEMICAL AGENTS. SOME OF THESE VETERANS, STILL TODAY, MAY NOT EVEN BE AWARE THAT PULMONARY PROBLEMS OR SKIN CANCER OR OTHER HEALTH TROUBLES MAY BE LINKED WITH AN EVENT THEY WERE FORCED TO DENY. WE CAN'T SWEEP THESE MEN UNDER THE RUG OF HISTORY -- MANY OF THEM ARE STILL ALIVE, THEY ARE SUFFERING AND THEY URGENTLY NEED OUR HELP.

IT WAS FORTUITOUS, IN MY SECOND TERM IN CONGRESS THAT I WAS ABLE TO ATTRACT THE ATTENTION AND SOLICIT THE ASSISTANCE OF MY COLLEAGUE FROM MASSACHUSETTES, CONGRESSMAN FRANK. DURING THE HEARINGS MR. FRANK HELD IN HIS ADMINISTRATIVE LAW AND GOVERNMENTAL RELATIONS SUBCOMMITTEE, THE DEPARTMENT OF VETERANS AFFAIRS RELATED THE SPECIAL OBSTACLES INVOLVED IN COMPENSATING VETERANS WHO PARTICIPATED IN CLASSIFIED TESTS, FIFTY YEARS AGO, OF WHICH ONLY FAULTY, INCOMPLETE

AND GROSSLY MISMANAGED RECORDS NOW REMAIN. WHILE THE D.V.A. STRESSED THAT THE BENEFIT OF DOUBT IN THIS CASE WOULD BE GRANTED TO THE VETERAN -- THE BURDEN WAS ON THE VETERAN TO PROVE SOMETHING AGAINST A STANDARD THAT SO FAR DID NOT EXIST. ADD TO THIS UNCERTAINTY THE LACK OF PROPER MEDICAL FOLLOW-UP AND ATTENTION FOR THESE GAS TEST VICTIMS AND THE RESULT IS THAT THE LONG-TERM EFFECTS OF EXPOSURE TO MUSTARD AND LEWISITE GASES WERE FAR FROM ESTABLISHED.

I WAS RELIEVED WHEN THE DEPARTMENT OF VETERANS AFFAIRS CONTRACTED WITH THE NATIONAL ACADEMY OF SCIENCES TO FILL IN THE GAPS AND STUDY THESE LONG-TERM EFFECTS AND I JOINED HUNDREDS OF VETERANS IN ANXIOUSLY AWAITING THE RESULTS. THE STUDY WAS COMPLETED EARLY THIS YEAR, AND IN MY VIEW, IT DEMONSTRATED WITHOUT A DOUBT THAT THESE VETERANS HAVE A LEGITIMATE AND SERIOUS GRIEVANCE AGAINST THE GOVERNMENT. THE PREFACE TO THE STUDY ENTITLED "VETERANS AT RISK -- THE HEALTH EFFECTS OF MUSTARD GAS AND LEWISITE" WAS UNUSUAL IN THAT IT WAS SIGNED BY EVERY MEMBER OF THE COMMITTEE. THE PREFACE EXPLAINS THAT "THE REPORT ITSELF IS UNUSUAL BECAUSE IT TELLS A STORY ABOUT VETERANS INVOLVED IN A LONG-SECRET WARTIME RESEARCH PROGRAM IN THE UNITED STATES -- A STORY THAT THE COMMITTEE AND ITS STAFF HOPE WILL NEVER HAVE TO BE TOLD AGAIN."

I THINK IT IS CRITICAL FOR US TO RECOGNIZE THESE INDIVIDUALS FOR THE SPECIAL SERVICE THEY PROVIDED TO OUR COUNTRY. THEY EXHIBITED SPECIAL KINDS OF LOYALTY. THEY MADE A SACRIFICE THAT MOST AMERICANS CANNOT EVEN IMAGINE, SO THAT OTHER SERVICE PERSONNEL COULD HAVE THE BENEFIT OF THEIR EXPERIENCE WHEN ON THE BATTLEFIELD.

ONCE AGAIN, WE HAVE REACHED A CROSSROADS. WE HAVE MADE SOME PROGRESS, FOR BEHIND US ARE COMMITMENTS FROM THE PRESIDENT, THE SECRETARY OF VETERANS AFFAIRS, AND NOW IN THIS FIRST HEARING BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON VETERANS AFFAIRS, A TENTATIVE COMMITMENT FROM CONGRESS. BUT, IF WE PUT THIS ISSUE ON THE BUREAUCRATIC TRAIN, PEOPLE WILL DIE BEFORE IT EVER REACHES THE STATION. EVEN THOUGH THE DEPARTMENT OF VETERANS AFFAIRS HAS EXAMINED 346 CLAIMS AND GIVEN 82 GRANTS OF SERVICE CONNECTION, I STILL HEAR FROM SOME FRUSTRATED VETERANS WHO HAVE BEEN GIVEN CURSORY DENIALS OR CONTINUAL DELAYS. IT WOULD BE UNACCEPTABLE IF WE WERE NOT TO PULL TOGETHER AND FINALLY HELP ALL OF THESE PEOPLE, ALLOWING THIS ISSUE TO FADE ONCE AGAIN AFTER A FLURRY OF MEDIA ATTENTION.

WE ARE NO LONGER JUST TALKING ABOUT THE FOUR PEOPLE MY PRIVATE BILL ADDRESSED IN THE 101ST AND 102ND CONGRESS, OR EVEN THE 22 PEOPLE WHO ACTUALLY TESTIFIED AT THE INSTITUTE OF MEDICINE HEARINGS LAST APRIL. WE ARE TALKING ABOUT HUNDREDS, EVEN THOUSANDS OF PEOPLE, WHO WERE VICTIMIZED IN THIS PROCESS AND WHO ARE NOW BEGINNING TO UNDERSTAND THAT THEY CAN AND SHOULD COME FORWARD TO SEEK HELP.

I HAVE INTRODUCED LEGISLATION, H.R. 1055, DIRECTING THE SECRETARY OF DEFENSE TO TRACK DOWN AND ISSUE A COMMENDATION TO EACH INDIVIDUAL EXPOSED TO MUSTARD AGENTS DURING WORLD WAR II. IN THIS PROCESS, INDIVIDUALS WOULD BE ADVISED OF THEIR OPTIONS, WHETHER THEY ARE CIVILIAN DEFENSE WORKERS OR VETERANS. THIS COMMENDATION WOULD NOT COST MUCH OF MONEY, JUST AN OFFICIAL RECOGNITION OF THE SPECIAL SERVICE, LOYALTY AND CONTRIBUTION OF THESE INDIVIDUALS. THESE PEOPLE, ALL LONG-SUFFERING AND FORGOTTEN HEROES, SHOULD EXPECT NO LESS OF THEIR COUNTRY.

I APPRECIATE THE OPPORTUNITY TO TESTIFY BEFORE THIS SUBCOMMITTEE AND HOPE TO CONTINUE THIS DIALOGUE IN THE NEAR FUTURE.

MUSTARD GAS CHRONOLOGY

- ** **JANUARY 23, 1990** - PRIVATE BILL INTRODUCED FOR THE RELIEF OF BILL STUCK, GLENN JENKINS, CHARLES CAVELL, ALTO BOWDOIN, JR. & NAT SCHNURMAN. BILL NUMBERED H.R. 3877, NO ACTION TAKEN.
- ** **JANUARY 3, 1991** - PRIVATE BILL INTRODUCED FOR THE RELIEF OF BILL STUCK, GLENN JENKINS, CHARLES CAVELL & NAT SCHNURMAN. BILL NUMBERED H.R. 456.
- ** **FEBRUARY 12, 1991** - H.R. 456 REFERRED TO ADMINISTRATIVE LAW AND GOVERNMENTAL RELATIONS SUBCOMMITTEE CHAIRED BY CONG. BARNEY FRANK.
- ** **MARCH 7, 1991** - H.R. 456 HEARING BEFORE CHAIRMAN FRANK'S SUBCOMMITTEE -- DEPUTY SECRETARY ANTHONY PRINCIPI TESTIFIES.
- ** **MARCH 1991** - DEPARTMENT OF VETERANS AFFAIRS ESTABLISHES A "BLUE RIBBON" PANEL ON THE LONG TERM EFFECTS OF MUSTARD GAS. THIS PANEL WAS COMPOSED OF EXPERTS WHO WERE TO ADVISE THE OFFICE OF ENVIRONMENTAL MEDICINE AND THE CHIEF MEDICAL DIRECTOR.
- ** **JUNE 11, 1991** - VETERANS ADMINISTRATION PRESS RELEASE STATING INTENT TO GIVE "THE BENEFIT OF THE DOUBT TO THOSE VETERANS WHO WERE INVOLVED IN THESE TESTS" AND INTENT TO PROPOSE RULE.
- ** **JUNE 12, 1991** - WASHINGTON POST PUBLISHES ARTICLE BY BILL MCALLISTER, "TROOPS USED IN GAS TESTS WIN BENEFITS - U.S. ENDS FIGHT OVER 1940s EXPERIMENTS".
- ** **JUNE 16, 1991** - "60 MINUTES" PROGRAM AIRS
- ** **OCTOBER 1991** - THE V.A. AWARDS A \$600,000 CONTRACT TO THE INSTITUTE OF MEDICINE TO SURVEY THE HEALTH EFFECTS OF MUSTARD GAS AND LEWISITE.
- ** **JANUARY 15, 1992** - PROPOSED RULE RECOGNIZING 7 DISEASES (LARYNGITIS, BRONCHITIS, EMPHYSEMA, ASTHMA, CONJUNCTIVITIS, KERATITIS, AND CORNEAL OPACITIES) AS HAVING A SERVICE CONNECTION TO MUSTARD GAS EXPOSURE IS PUBLISHED IN FEDERAL REGISTER.
- ** **APRIL 14, 1992** - TWENTY-TWO MUSTARD GAS VICTIMS TESTIFY AT INSTITUTE OF MEDICINE HEARING HELD AT NATIONAL ACADEMY OF SCIENCES
- ** **JULY 31, 1992** - FINAL REGULATIONS RECOGNIZING THE FIRST SEVEN DISEASES ARE PUBLISHED IN THE FEDERAL REGISTER.
- ** **JANUARY 5, 1993** - THE INSTITUTE OF MEDICINE'S MUSTARD GAS COMMITTEE CHAIR, DR. DAVID RALL, MEMBERS OF HIS COMMITTEE AND INSTITUTE OF MEDICINE STAFF HOLD A PRIVATE BRIEFING FOR CONG. GOSS ON THE INSTITUTE'S STUDY ENTITLED "VETERANS AT RISK".
- ** **JANUARY 6, 1993** - THE STUDY, "VETERANS AT RISK" IS RELEASED TO THE PUBLIC AT A PRESS CONFERENCE AT THE NATIONAL ACADEMY OF SCIENCES.
- ** **JANUARY 6, 1993** - THE VETERANS ADMINISTRATION ANNOUNCES ITS INTENT TO EXPAND THE LIST OF SERVICE CONNECTED ILLNESSES
- ** **JANUARY 1993** - CHAIRMAN JIM SLATTERY OF THE SUBCOMMITTEE ON COMPENSATION, PENSION AND INSURANCE SCHEDULES AN OVERSIGHT HEARING REGARDING THE DEFENSE DEPARTMENT'S TESTING OF MUSTARD GAS, LEWISITE AND OTHER SUBSTANCES ON SERVICE MEMBERS FOR MARCH 10, 1993.
- ** **FEBRUARY 23, 1992** - CONGRESSMAN PORTER GOSS INTRODUCES H.R. 1055 DIRECTING THE SECRETARY OF DEFENSE TO ISSUE A COMMENDATION TO EACH INDIVIDUAL EXPOSED TO MUSTARD AGENTS DURING WORLD WAR II.

GLEN BROWDER
380 DISTRICT ALABAMA
COMMITTEE ON ARMED SERVICES
COMMITTEE ON SCIENCE, SPACE
AND TECHNOLOGY

Congress of the United States
House of Representatives
Washington, DC 20515-0103

January 11, 1993

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The Honorable Bill Clinton
President-Elect of the U.S.
1120 Vermont Avenue, NW
Washington, D.C. 20270

Dear Mr. President-Elect:

Following last week's report by the National Academy of Sciences on chemical weapons testing carried out during World War II, I am calling upon you as incoming Commander-in-Chief to right the wrong that has been done to thousands of soldiers and civilians who were put at risk to the hazardous effects of mustard gas and other chemical munitions.

While the secret tests performed at several sites throughout the United States during World War II had significant value to our wartime research program, the revelations of abuse documented by the National Academy of Sciences study have tarnished that value.

We cannot undo what happened during World War II or decades of official denial and neglect, but we need to do more than just adjusting the disability claims bureaucracy and approaching this as business as usual. We need to right this wrong -- now!

Specifically, I am calling on you to: (1) recognize the contributions of the tested soldiers and apologize for the way they have been treated, (2) lift the veil of secrecy which still hinders full disclosure of the program, and (3) commit the resources of the Department of Defense and the Veterans Affairs Department to finding and helping these citizens.

Last week's report, entitled "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite," revealed that 60,000 American soldiers were exposed to dangerous chemicals as part of secret research in Washington, D.C., Maryland, Utah, Illinois, North Carolina, Florida, Alabama, and Panama during World War II.

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MCCON • MANDINPH • RUSSELL • ST. CLAIR • TALLADEGA • TALLAPOOSA

The Honorable Bill Clinton
Page 2
January 11, 1993

The soldiers were sworn to secrecy forever during the testing, and the government never officially acknowledged the program until 1991. The Veterans Administration then requested the National Institute of Medicine to conduct a study; and the resulting "Veterans at Risk" report is the first documentation of the extensive nature and problems of the program.

Besides the 60,000 soldiers participating in the secret research, the report indicates that many thousands of civilian personnel at defense installations in Maryland, Arkansas, Colorado and Alabama may have been exposed to the dangerous chemicals. In 1943 alone, 28,000 civilians were employed by the Chemical Warfare Service in the production and handling of chemical weapons; and the report cites a "dismal safety record" with a "quite high" number of injuries for the CWS.

I feel this issue warrants immediate attention following your inauguration on January 20.

Sincerely,



Glen Browder
Member of Congress

GB/vfp

THE WHITE HOUSE
WASHINGTON

February 19, 1993

Dear Glen:

Thank you for your letters concerning trade and mustard gas.

First, let me address your concerns of the impact of the Uruguay Round on the textile industry. I have asked Ambassador Mickey Kantor, the U.S. Trade Representative, to conduct a thorough study of all aspects of the GATT negotiations. We will, of course, look at the textile issue, as well as the still incomplete negotiations on market access and agriculture, and the rule making provisions of the draft agreement that was prepared by GATT Director-General Arthur Dunkel.

As part of this review, we look forward to working closely with you and your colleagues in Congress and in the industry, as well as with other affected groups. I know that you hope, as I do, for a successful Uruguay Round that provides economic benefit to all Americans.

Secondly, I can assure you that the Department of Veterans Affairs (VA) is diligently attempting to identify veterans who may have been affected in mustard gas experiments during World War II. They are in the process of expanding the list of recognized long-term effects of mustard gas exposure and have relaxed requirements for evaluating mustard gas-related compensation claims. VA has established a toll free number (800-827-1000) that veterans or survivors of veterans who may have been exposed can use to contact the Department.

As you are aware, VA contracted with the National Academy of Science for the study that resulted in the report that you cited in your letter. Since that report was issued, VA has requested the Department of Defense (DoD) to cooperate and assist

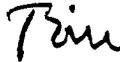
in its effort to locate and provide benefits to affected veterans by providing the names, service numbers, type of test and the type of agent used during these experiments. They have also asked DoD to release the affected personnel from their oath of secrecy so that they are free to come forward and file a claim. Further, the Secretary of Veterans Affairs, Jesse Brown, has expressed his personal commitment to insure that the service men and women included in these experiments are identified and receive the care that they deserve.

I am informed that the House Veterans Affairs Subcommittee on Compensation, Pension, and Insurance will hold a hearing on March 10, 1993 at which both the Departments of Defense and Veterans Affairs will testify about plans for resolving this unfortunate period in our military history.

Be assured this will not be treated as business as usual. I have directed both Secretaries to expedite the process of locating, treating and providing other benefits that these loyal citizens have earned.

With best wishes,

Sincerely,



The Honorable Glen Browder
House of Representatives
Washington, D.C. 20515

TESTIMONY REGARDING INSTITUTE OF MEDICINE REPORT,
VETERANS AT RISK: THE HEALTH EFFECTS OF MUSTARD GAS AND LEWISITE.

Prepared for:

United States House of Representatives
Committee on Veterans' Affairs
Subcommittee on Compensation, Pension, and Insurance

March 10, 1993

Testimony given by:

Constance M. Pechura, Ph.D.
Senior Program Officer and Study Director
Institute of Medicine

Good morning Mr. Chairman and members of the Committee. My name is Dr. Constance Pechura; I am the study director for the Institute of Medicine's Committee to Survey the Health Effects of Mustard Gas and Lewisite and I co-edited this committee's report, "Veterans at Risk: The Health Effects of Mustard Gas and Lewisite." The chairman of the committee, Dr. David Rall, regrets that he could not be here today and has asked me to describe the study to you and answer any questions you have. In addition to the required copies of the testimony I am about to give, I have also provided copies of the report summary for the record.

In 1991, the Secretary of the Department of Veterans' Affairs (DVA), Mr. Derwinski, requested the Institute of Medicine (IOM) to assemble a committee to survey the scientific and medical literature regarding mustard gas and lewisite. The purpose was to judge, on the basis of the literature, the strength of association between exposure to these agents and specific health conditions, and to identify gaps in the literature. The committee was further asked to recommend ways to reduce any gaps found. The study was requested because it had become clear that United States servicemen had been used as human subjects in a World War II testing program in which they were exposed to mustard agents (sulfur and nitrogen mustard) and lewisite. Some of these men, by 1990, were filing claims with the DVA for service-related disability. Thus, an additional element of the IOM committee's statement of task was to hold public hearings through which affected veterans could inform the committee about their experiences in the tests and their subsequent health problems.

The study that resulted from this request was a difficult, but successful, one. At the time it began, the DVA had already identified seven health conditions as causally related to mustard agent exposure, including chronic bronchitis, chronic asthma, laryngitis, emphysema, corneal opacities, keratitis, and chronic conjunctivitis. By the conclusion of the study, our committee was able to identify several new health conditions associated with exposure to these agents and to determine that the levels of exposure in the gas chamber and field tests conducted during World War II (and in later years) were sometimes equal to that experienced by soldiers in the infamous battles of World War I.

The study, however, was one in which discoveries and revelations built upon one another in a complex way. Therefore, my presentation will follow the development of the committee's work. This approach is not to inform you of the study "process", but to put into context the intricate background and underpinnings of the committee's findings and recommendations. I would also like to point out that all the committee's findings and recommendations were subjected to a rigorous review process in which the draft report was examined by 10 individuals with appropriate expertise, appointed and supervised by the National Research Council's Report Review Committee.

The IOM study began in September 1991 and the committee met for the first time in January 1992. It was clear at this first meeting that an important challenge was the state of the scientific literature. This literature was replete with information regarding the acute effects of mustard agents, but was sorely lacking in information about the long-term consequences of exposure. To counterbalance these gaps and take full advantage of the information available, the committee focused on several areas. First, the assessment of the actual exposure levels in the gas chamber and field tests became important. The committee also looked at related literature including data about second cancers resulting from the use of nitrogen mustard as a cancer chemotherapy agent. We also examined other lung irritants and the connection, or lack of one, between acute symptoms and long-term damage. Finally, the committee paid special attention to the data available from long-term follow up of chemical munitions workers and to the very few follow-up studies done with World War I mustard gas casualties. In all of their evaluations, the committee was guided by established principles of risk assessment, including dose estimation, timing of symptoms, and plausibility of biological mechanisms of injury, among others.

Between January and April 1992, the committee sought to obtain as much detail as possible regarding the experimental protocols to assess what the actual exposure levels might have been. In addition, the committee began its public hearing process in which it solicited written, oral, or public statements from veterans—over 250 veterans contacted the committee through my office by August 1992 and I am still receiving telephone calls from affected veterans. Both these activities helped shape the report.

The committee is indebted to the Naval Research Laboratory for providing technical reports and summaries of the gas chamber tests conducted there. These documents outlined subject recruiting methods, information about the concentrations of agents inside the gas chambers, number and length of individuals trials, as well as the variable use of "protective" clothing. These documents also made clear that the end point of the gas chamber experiments was tissue injury. These official documents strongly corroborated the veterans' own reports. Let me outline these experiments.

Young men in Navy boot camps were offered extra leave and "a change of scenery" if they would agree to test "summer uniforms" for a few weeks. Once at the test site, the men wore various amounts of clothing that had been chemically impregnated with substances developed to retard the penetration of mustard or other chemical agents. They were given gas masks and locked into a chamber, which was then filled with gas—most often sulfur mustard. These chambers were kept at ninety degrees Fahrenheit and sixty percent humidity. In some cases, the concentrations of sulfur mustard in the chambers would have been lethal without the gas masks. The men were required to remain in the chamber for an hour, after which they remained in the protective clothing for varying periods of time. This scenario was repeated either daily or every other day until the men's skin burned, indicating failure of the protective clothing.

Four aspects of this testing are notable. First, the men were deliberately misled about what they were being exposed to until after they had been through one chamber trial. Second, official documents warned those conducting tests not to mistake symptoms such as laryngitis or conjunctivitis for gas symptoms, despite the fact that these were well known consequences of sulfur mustard exposure. Third, official documents guided those in charge to "dress down" any subject who wanted to withdraw from the experiments; according to veterans' reports, this dressing down often took the form of overt threats. Finally, the men were told never to reveal their participation to anyone.

Less is known about field testing of the protective clothing. However, it is known that concentrations in field tests were also high, that some field tests were done without protective clothing or masks, and that field tests were often followed by chamber tests of the clothing worn. Subjects in field tests were most often recruited from units of the Chemical Warfare Service, including the 95th Medical Gas Treatment Battalion and others.

After the subjects were released from the chamber test sites, they were sent home for leave and, later, sent to their various wartime posts. No attempts were made by any department of the U. S. Government to follow the men's health status and, in some cases, mustard agent-related illnesses were not recorded as such in infirmary or hospital records. The IOM committee concluded that this lack of follow up was not justified by a lack of knowledge about long-term health effects of these agents, because military doctors had published in the open literature by 1933 that chronic bronchitis, chronic asthma, emphysema, corneal opacities, and chronic conjunctivitis resulted from sulfur mustard exposure.

The committee also investigated the degree to which the gas masks used prevented inhalation injuries in chamber tests and found that, even assuming a protection factor afforded by modern gas masks, inhalation injuries would have occurred. Further, the type of gas mask used in the experiments, the Navy diaphragm type, was eventually rejected by the Chemical Warfare Service because it was unacceptably leaky.

By their second meeting and public hearing in April 1992, the committee was also concerned with the potential psychological effects of the gas chamber and field tests on the human subjects and with their own responsibilities as physicians and scientists to consider the conduct of the experiments and how to communicate most effectively with the affected veterans once the study was completed. Thus, the committee sought input from an expert in the psychological effects of chemical and biological warfare environments and from experts in bioethics and risk communication. We decided to appoint a psychologist to the committee to help assess the relevant literature. The human subjects had not only been placed into highly threatening chemical warfare environments, they had also suffered real exposures to toxic substances. The committee reviewed the literature pertaining to psychological health effects of not only chemical warfare environments, but also exposures to other toxic substances, such as dioxin at Love Canal, and radioactive leaks, such as the Three Mile Island accident.

Between April and August 1992, the committee met twice to draft the report. Information about the poor safety record of chemical warfare production facilities emerged, partly due to the public hearing process and partly due to the search for additional exposure data. The committee was surprised to find that only Japan had done long-term follow-up studies with workers from chemical production facilities. To a lesser extent, Great Britain had studied such workers; the United States had not. In addition, the committee found that some servicemen, assigned to handle chemical weapons or train others in defense against them, had also suffered severe exposures. Finally, the committee heard from men who had been injured in World War II by sulfur mustard following the German bombing of the harbor in Bari, Italy, which destroyed a U.S. merchant vessel carrying a secret load of sulfur mustard munitions. The sulfur mustard leaked from the ship into the water and vaporized into the air, causing at least one thousand deaths among civilians and military personnel.

Now let me turn to the health conditions identified by the committee as causally related to exposure to mustard agents. I will also identify those conditions associated with exposure to lewisite, but the data on lewisite were quite scant. The committee's evaluation agreed with the original determination of the DVA assigning a causal relationship to chronic bronchitis, chronic asthma, chronic laryngitis, emphysema, corneal opacities, keratitis, and chronic conjunctivitis. In addition to these, the committee found that exposure was also causally related to:

- * respiratory cancers, including cancer of the nasopharyngeal tracts and lung;
- * skin cancer, as well as pigmentation abnormalities of the skin, chronic skin ulceration, and scar formation;
- * acute nonlymphocytic leukemia resulting from exposure to nitrogen mustard exposure, and probably sulfur mustard exposure as well;

- * bone marrow depression and a decrease in the competency of the immune system (An acute reaction that can render a person more susceptible to infectious diseases with serious long-term consequences, such as rheumatic fever that can cause lifelong cardiovascular problems.);
- * psychological disorders from gas chamber and field tests due to the combination of repeated threatening circumstances and toxic exposures (The committee was only able to identify general classes of psychiatric diagnostic categories because there is little known about the long-term expressions of untreated post-traumatic stress disorder. However, the committee believes that the causal relationship between the experimental situations and development of psychological disorders in some subjects is clear.); and
- * dysfunctions in sexual performance as a result of severe burns and scarring of sexual organs.

All other health conditions fell into one of two remaining categories. The second category is quite small and contains those conditions for which there are suggestive data, but not enough to establish a causal relationship. It includes leukemia from exposure to sulfur mustard and reproductive toxicity, including increased miscarriages or infertility.

The last category contains the majority of health problems reported by veterans during the public hearing process. This category covers those health problems for which few data exist to argue for or against a causal relationship. These include all cardiovascular problems (except those resulting from acute infectious diseases as mentioned previously), and neurological, hematological, and gastrointestinal diseases. The category further includes any reproductive effects that might result from exposure to lewisite. As you can see, the gaps in the literature still outweigh the certainties.

To close as many gaps as possible, the committee made a number of recommendations to the DVA, but also to the Department of Defense. The committee asked the DVA to identify the subjects from the gas chamber and field tests, to evaluate their health status, treat any causally related health problems found, and to initiate morbidity and mortality studies. I would like to emphasize here that the DVA anticipated this recommendation and, under the direction of Dr. Susan Mather, initiated an investigation of the feasibility of identifying the subjects. This investigation began in the winter of 1992 and reports of progress were shared with our committee in June and August 1992.

The committee made a further recommendation to the DVA to pay careful attention to the special problems of these veterans, stemming from years of official denials, the burden of secrecy, and the decades of silent worry about their health problems and their possible cause. Many of the affected veterans understandably feel betrayed and, over time, have come to believe that all their health problems are related to their exposure. Certainly, on the basis of the scientific literature, no one can be sure whether they are right or wrong. Our system operates, however, on the basis of scientific proof and this is, and will continue to be for the staff of the DVA, a difficult concept to translate to the affected veterans. It is especially difficult to do with people who have been secretly living with serious health concerns for five decades, or, in some cases, have been telling the truth only to be told that no such thing ever happened.

We also recommended that the Department of Defense attempt to identify former military and civilian workers exposed during gas handling and production, and to find those exposed following the Bari disaster. The records of military personnel should be turned over to the DVA for notification and medical evaluation and civilians should be notified by the Department of Defense and advised about their options for appropriate compensation. Finally, the committee recommended that the DVA and the Department of Defense widely advertise that any oaths of secrecy taken in World War II related to testing of mustard agents or lewisite are no longer binding.

In the preface to their report, the committee asked that each veteran who served as a human subject in the testing programs be honored for his sacrifice and that any continuing military research with human subjects be held to the same standards and guidelines applicable to civilian research; specifically, we recommend the inclusion of civilians on all research protocol review panels.

In closing, I would like to say that the committee believes that their findings are solidly based on careful analysis of the scientific literature. Further, their recommendations reflect a commitment to the idea that gaps in our knowledge can be filled by appropriate follow-up now, despite the decades that have been wasted. These gaps need to be filled, not only to provide the best possible medical care to World War II veterans and civilians who survive with lingering health problems, but also for those who may still be exposed to these agents through work in our own chemical stockpile disposal program or during conflict. Poison gas has made a resurgence in several recent wars. Beyond filling these gaps, the committee believes that these recommendations reflect current concepts of proper medical practice and well-grounded principles of medical ethics.

Thank you for your attention, I would be happy to answer your questions now.

EXECUTIVE SUMMARY

Veterans at Risk

The Health Effects of Mustard Gas and Lewisite

Constance M. Pechura and
David P. Rall, Editors

Committee to Survey the Health Effects of Mustard Gas and Lewisite
Division of Health Promotion and Disease Prevention
Institute of Medicine

NATIONAL ACADEMY PRESS
Washington, D.C. 1993

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NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for this report were chosen for their special competences and with regard for the appropriate balance.

This report has been reviewed by a group other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

The Institute of Medicine was chartered in 1970 by the National Academy of Sciences to enlist distinguished members of the appropriate professions in the examination of policy matters pertaining to the health of the public. In this, the Institute acts under both the Academy's 1863 congressional charter responsibility to be an advisor to the federal government and its own initiative in identifying issues of medical care, research, and education.

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This Executive Summary is available in limited quantities from the Institute of Medicine, Committee to Survey the Health Effects of Mustard Gas and Lewisite, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.

The complete volume of *Veterans at Risk: The Health Effects of Mustard Gas and Lewisite*, from which this Executive Summary is extracted, is available for sale from the National Academy Press, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.

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The serpent has been a symbol of long life, healing, and knowledge among almost all cultures and religions since the beginning of recorded history. The image adopted as a logotype by the Institute of Medicine is based on a relief carving from ancient Greece, now held by the Staatlichemuseum in Berlin.

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Preface

So vivid were the memories of the first use of “mustard gas” (sulfur mustard) by the Germans in World War I that the United States government began to prepare for chemical warfare even before the Japanese attacked Pearl Harbor in 1941. This work was also spurred by the fury of war in Europe and reports of Japanese use of sulfur mustard against the Chinese. The U.S. preparations included the establishment of war-related research programs organized by President Roosevelt under the White House Office of Scientific Research and Development (OSRD). Two groups under the OSRD became involved in secret testing programs concerned with mustard agents (sulfur and nitrogen mustard) and Lewisite:

- The Committee on Medical Research

This group studied protective ointments and other treatments through the National Research Council’s Committee on Treatment of Gas Casualties.

- The National Defense Research Committee

This group studied protective clothing and gas masks through military units such as the Chemical Warfare Service.

These testing programs involved the use of close to 60,000 military personnel as human experimental subjects. It was this use of human subjects more than 50 years ago that provided the impetus for the study reported in this volume. The initiation of this study in 1991 was finally prompted by long-delayed official admissions that human subjects had been used and the recognition that these subjects may have suffered

adverse, long-term, health consequences as a result of their exposure to mustard agents or Lewisite.

The committee, convened to produce this report by the Institute of Medicine in response to a request by the Department of Veterans Affairs, was comprised of experts in the fields of toxicology, epidemiology, occupational and environmental medicine, ophthalmology, dermatology, oncology, chemistry, and psychology. Its task was to survey the medical and scientific literature on mustard agents and Lewisite, assess the strength of association between exposure to these agents and the development of specific diseases, identify the gaps in the literature, and recommend strategies and approaches to deal with any gaps found. To accomplish this task, the committee met four times, examined nearly 2,000 scientific and medical reports in English and a number of foreign languages, and considered input from 13 military and civilian experts and over 250 affected veterans, including public testimony from 20 veterans. Although this task may have seemed straightforward in the beginning of the study, closer examination of the literature and the World War II (WWII) experimental protocols presented numerous scientific and ethical challenges.

The major scientific challenges were the meager literature on long-term health effects of exposure to these agents and the lack of quantitative exposure data for the veterans who served as human test subjects. The vast majority of the scientific and medical literature was concerned with the short-term, acute effects of mustard agents and Lewisite, because the research priorities of most countries had been placed on treatment of battlefield injuries and the fact that most investigations of mustard agents and Lewisite have been conducted throughout this century under the control of military establishments. Particularly distressing was the essential lack of information regarding the toxicology of Lewisite. Assessing the long-term health effects of mustard agents and Lewisite thus required the committee to integrate many types of data, from studies using laboratory animals to single human case studies, and to examine and compare closely the known biological mechanisms of injury from these agents with agents with similar properties for which more data were available.

The lack of exposure data for the WWII human subjects caused the committee to attempt to gather as much information as possible about the experimental protocols, the equipment used, and any injuries from official reports of the testing programs. The committee found that an atmosphere of lingering secrecy still existed in the Department of Defense regarding some of the testing programs. Reports of the specific experimental protocols were not always easy to obtain; in some cases, reports were not available or were obtained as the study was almost complete. Fortunately, enough information was gathered to allow

reasonable estimates of the exposures to human subjects, who were repeatedly exposed to mustard agents and Lewisite in gas chamber tests or under so-called field conditions.

As the full scope of the WWII testing protocols was revealed, compelling ethical questions emerged. At times, it seemed as if every new discovery only posed more questions. As the study progressed, the bits and pieces of information finally coalesced into a picture of abuse and neglect that was impossible for the committee to ignore. One of the first discoveries was that the end point of all the WWII mustard agent and Lewisite experiments was tissue injury—from mild skin burns to severe, and widespread, skin burns that took more than a month to heal. The chamber and field tests were actually called “man-break” tests.

Both veteran self-reports and official documents revealed that some subjects suffered damaging injuries to the lungs and upper respiratory system from inhalation of the agents. Committee analysis of expected gas mask efficiencies further showed that projected normal mask leakage under the hot, humid conditions of the gas chambers would have, in some cases, resulted in exposure levels as high as those reported on World War I battlefields.

The first response of many of the committee members to these discoveries was to try to understand the actions of the investigators in historical context—it was a war and the experiments were conducted before the Nuremberg Code of 1947 established formal principles to govern the proper treatment of human subjects. However, examination of the treatment and care of WWII chemical warfare production workers, and the conduct of later military experiments with human subjects from 1950 to 1975, demonstrated a well-ingrained pattern of abuse and neglect. Although the human subjects were called “volunteers,” it was clear from the official reports that recruitment of the WWII human subjects, as well as many of those in later experiments, was accomplished through lies and half-truths.

Most appalling was the fact that no formal long-term follow-up medical care or monitoring was provided for any of the WWII human subjects, other exposed military personnel, or chemical warfare production workers, despite knowledge available by 1933 that mustard agents and Lewisite could produce long-term debilitating health problems, particularly in those people suffering severe burns and inhalation injuries. There was not even adequate short-term follow-up of the human subjects by the Department of Defense. Subjects in the chamber tests were sworn to secrecy and simply released on leave at the conclusion of the experiments. Some of these men still had blisters or evidence of skin burns upon release, but were not given any instructions about how to obtain knowledgeable medical care if they had needed it.

Although the experiments began in a wartime climate of urgency and secrecy, it was clearly a mistake in this case to continue the secrecy after the conclusion of the war. Follow-up of the exposed human subjects could have provided a wealth of information on the effects of these war gases and could have served as a basis for legitimate disability claims by injured subjects. By the end of the war, the use of nitrogen mustard as a chemotherapeutic agent (developed as part of the WWII testing program) clearly showed the serious health effects that the previous "volunteers" might be expected to experience.

In the face of the abuses uncovered, the committee members nevertheless sought to maintain an appropriate balance of their scientific responsibilities in assessing the available literature and their ethical responsibilities as physicians and scientists. In this effort, the committee members were guided by their stated task and their own individual judgments of the scientific and historical information examined. Thus, the committee believes that the findings and recommendations contained in this report are entirely justified by the scientific, medical, and historical evidence examined. There are, however, specific statements the committee wishes to offer as commentary on its findings.

First, the committee believes that each veteran who served as a human subject in the WWII experiments deserves honor for his sacrifice.¹ These men risked their health and safety to help develop better means of protection against chemical warfare. Yet, in most cases, their participation in these experiments was not even acknowledged in their service records and was, in fact, officially denied for decades. Further, these men were ordered to keep their participation secret. They did so for nearly 50 years, in some cases despite serious, disabling diseases that they believed were caused by their exposures. There can be no question that some veterans, who served our country with honor and at great personal cost were mistreated twice—first, in the secret testing and second, by the official denials that lasted for decades. They deserve recognition.

Second, the committee believes that any future military research with human subjects should be conducted according to publicly established ethical principles similar to those that apply to civilian research. The Department of Defense should consider including civilian medical experts in reviews of all proposed military research protocols involving human subjects. As was shown in the examination and evaluation by the Department of the Army Inspector General's report of the military drug and chemical testing programs from 1950 to 1975 (see Appendix F), a climate of secrecy provides a permissive environment for the neglect of

¹According to all available reports, all the human subjects were males.

established rules of conduct. Such neglect should never be allowed to occur when human experimentation is involved.

Beyond the immense personal costs of the mistakes and failures of the United States government during and after the WWII testing programs, there are societal costs as well. The lack of available biological data concerning these chemical warfare agents also slowed the important fields of toxicology and cancer chemotherapy. Much would have been gained by careful observation after the end of WWII; instead much was lost.

The primary reason to identify and follow up veterans exposed to mustard agents or Lewisite is to provide needed medical care. In addition, follow-up of these individuals now may also benefit our understanding of carcinogenesis. For example, recent advances in molecular biology have linked some chemical exposures in laboratory animals to specific changes in tumor cells; for example, activated oncogenes with unusual mutations or suppressor genes (and/or their protein products), or chromosome damage. In addition, it is well known that nitrogen mustard cancer chemotherapy can result in second tumors, which show unusual genetic changes. Therefore, study of any sulfur mustard-associated tumors should be explored, because the results could shed light on laboratory animal and human responses to carcinogens.

The committee wishes to acknowledge that this study could not have been done without the assistance of a number of people, many of whom are listed in the acknowledgments section of this report. Before this report was completed, the report draft was reviewed by experts in appropriate fields under the rules of the National Research Council's Report Review Committee. These individuals provided helpful commentary on the draft manuscript and the committee greatly appreciates the care and expertise that the reviewers brought to their task.

The work of the committee's Institute of Medicine staff deserves the highest praise. The committee is especially grateful for the thoughtful input, advice, and support given by Gary Ellis, the Director of the Division of Health Promotion and Disease Prevention. Thanks are also extended to Jennifer Streit, the study's project assistant responsible for planning travel and other meeting arrangements, who also translated some of the French papers requested by the committee. The massive job of finding, organizing, and procuring the hundreds of scientific papers and technical reports was accomplished with great skill by Catharyn Liverman, the study's research associate and medical librarian. The committee is truly indebted to Ms. Liverman—she always knew where something was, kept a thousand details straight, and did a wonderful job tracking down obscure references. Finally, the committee wishes to recognize the major contributions of the study director, Constance

Pechura. She knew and understood the literature, she worked tirelessly to obtain information from reluctant sources, and she organized the study plan, the meetings, the special presentations, and this final report. She clearly foresaw the major problems that this committee faced as it moved from the safe, but complex, problems of risk assessment to the thornier issue of human ethics.

This Preface is somewhat unusual in that it is signed by the entire committee, rather than by the chairman alone. However, the report itself is unusual because it tells a story about veterans involved in a long-secret wartime research program in the United States—a story that the committee and its staff hope will never have to be told again.

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Susan Mather, Han Kang, and Robert Allen of the Department of Veterans Affairs aided the committee in many ways, but most especially by the determination of the feasibility of identifying the veterans who had served as subjects in the chamber and field tests (see Appendix E). Richard Patterson from the Disabled American Veterans and Richard Christian from the American Legion were valuable resources to the committee and their assistance in publicizing the public hearing process is greatly appreciated. The committee also wishes to thank Sanford Leffingwell of the Centers for Disease Control for sending an early bibliography and helping the committee to locate helpful toxicological

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Veterans at Risk

Executive Summary

BACKGROUND

World War II (WWII) has been called "the unfought chemical war." Both sides had produced millions of tons of chemical weapons and had made massive preparations for their use, yet the weapons were never used. These preparations included the establishment of secret research programs to develop better weapons and better methods of protecting against these weapons. In the United States, some of this research was focused on the development of protective clothing and skin ointments, which could prevent or lessen the severe blistering effects of mustard agents (sulfur and nitrogen mustard) and Lewisite (an arsenic-containing agent).

By the time the war ended, over 60,000 U.S. servicemen had been used as human subjects in this chemical defense research program. At least 4,000 of these subjects had participated in tests conducted with high concentrations of mustard agents or Lewisite in gas chambers or in field exercises over contaminated ground areas. The human subjects had experienced a wide range of exposures to mustard agents or Lewisite, from mild (a drop of agent on the arm in "patch" tests) to quite severe (repeated gas chamber trials, sometimes without protective clothing). All of the men in the chamber and field tests, and some of the men in the patch tests, were told at the time that they should never reveal the nature of the experiments. Almost to a man, they kept this secret for the next 40 or more years.

Public attention was drawn to these experiments when some of the WWII human subjects began to seek compensation from the Depart-

ment of Veterans Affairs (VA) for health problems that they believed were caused by their exposures to mustard agents or Lewisite. Two factors complicated resolution of these cases. First, there were often no records or documentation available of an individual's participation in the testing programs. Second, there was a great deal of uncertainty about which health problems were in fact the result of mustard agent or Lewisite exposure.

In June 1991 the VA announced guidelines for the handling of these cases. These guidelines included the loosening of normal requirements for documenting the individual's participation in the experiments and the identification of seven diseases that the VA would consider to be caused by mustard agents or Lewisite. These seven are asthma, chronic bronchitis, emphysema, chronic laryngitis, corneal opacities, chronic conjunctivitis, and keratitis (of the eye). In addition, the VA requested that the Institute of Medicine convene a committee to survey the scientific and medical literature in order to assess the strength of association between exposure to these agents and the development of specific diseases. The committee was also charged with identifying the gaps in the literature and making recommendations relevant to closing those gaps. This report details the committee's findings and recommendations.

Between October 1991 and August 1992, almost 2,000 scientific papers, technical reports, and other documents were reviewed by the committee. The experimental protocols used in the WWII testing programs were examined to assess the potential dose levels experienced by the experimental subjects. In addition, the committee consulted with a variety of outside experts and sought information from the affected veterans themselves, through a public hearing process that resulted in written or oral statements from over 260 veterans regarding their exposures to these agents and subsequent health problems.

The committee found large gaps in the literature pertaining to the long-term health effects of exposure to mustard agents and Lewisite. For many diseases, very little or no work had been done in the eight decades following the first use of sulfur mustard in World War I. Almost all of the work in the United States had been conducted or funded by chemical defense sections of the military and was concerned only with the acute effects of these agents and not with their long-term effects. As a result, the committee depended heavily on occupational studies of chemical weapons production workers in other countries, on what could be found on battlefield casualties, and on what was known about the effects of nitrogen mustard derivatives that have been used since WWII as cancer chemotherapy agents. In addition, the committee carefully considered the basic scientific data available regarding the biological mechanisms of tissue damage from mustard agents and Lewisite.

Special attention was directed at estimating the dose levels to which the experimental human subjects had been exposed in gas chambers or field exercises. In these experiments, subjects wore varying amounts of the protective clothing being tested, as well as gas masks. In the chamber tests, human subjects were required to enter gas chambers repeatedly for an hour or more per trial, until, after a number of trials, their skin showed evidence of chemical burns (erythema)—an indication that the agents were penetrating the protective clothing. In the field tests, the agents were dropped over large tracts of land, and human subjects, wearing clothing being tested, were sent into those areas for varying amounts of time. Penetration of the agents through the clothing was assessed in these tests in the same manner as in the chamber tests.

GENERAL CONCLUSIONS

The committee reached the following conclusions on the basis of its analysis of the experimental protocols:

- **The lack of follow-up health assessments of the human subjects in the WWII gas chamber and field tests severely diminished the amount and quality of information that could be applied in the assessment of long-term health consequences of exposure to mustard agents and Lewisite.**
- **The levels of exposure to mustard agents or Lewisite experienced by the human subjects may have been much higher than inferred in the summaries of the gas chamber and field tests.**

The lack of follow-up of these subjects particularly dismayed the committee for a number of reasons. For example, the end point of the chamber and field tests was tissue injury, but it was already known by 1933 that certain long-term health problems resulted from sulfur mustard exposure. Further, it was documented that numerous subjects suffered severe injuries that required up to a month of treatment. Finally, the exposure levels were sufficiently high that even the most efficient gas mask would have leaked enough mustard agent or Lewisite to cause inhalation and eye injuries.

- **The committee was additionally dismayed that there were no epidemiological studies done of mustard agent-exposed, U.S. chemical weapons production workers, war gas handlers and trainers, or combat casualties from WWII.**

Tens of thousands of people (military and civilian) worked in U.S. arsenals that produced mustard agents, Lewisite, and other chemicals. Exposure levels in these facilities were often quite high, as evidenced by the number of injuries reported and by the poor safety record of the

Chemical Warfare Service during the peak years of production. Many other servicemen were trained to handle the gases or were assigned to jobs that put them in contact with mustard agents or Lewisite. A German bombing attack on the harbor of Bari, Italy, released sulfur mustard from a damaged American ship into the water and atmosphere, resulting in thousands of injuries and hundreds of deaths. Yet no follow-up studies were done with any of these groups; the committee had to rely instead on occupational studies from Japan and Great Britain for data on World War II production workers and their long-term health problems.

SPECIFIC FINDINGS

The following is a summary of the major conclusions reached by the committee regarding the association of exposure to mustard agents or Lewisite and the development of specific diseases in different organ systems. Much more is known about mustard agents than is known about Lewisite. Thus, the following summary pertains to mustard agents, except when Lewisite is indicated.

The findings generally fall into one of three categories. In some cases, the data examined were found to indicate a *causal* relationship between exposure and a particular disease. For a few diseases, the data were *suggestive* but not completely clear. Finally, there were many diseases for which very little or no data existed regarding the possible contributions of exposure to mustard agents or Lewisite. This means that many diseases in this category may (or may not) be caused by mustard agents or Lewisite, but no study has been done. It is important to emphasize that *no condition evaluated could be removed from consideration as a health consequence of exposure to these agents*. Thus, for many diseases there remains significant doubt.

The evidence found indicated a causal relationship between exposure and the following health conditions:

- Respiratory cancers
 - Nasopharyngeal
 - Laryngeal
 - Lung
- Skin cancer
- Pigmentation abnormalities of the skin
- Chronic skin ulceration and scar formation
- Leukemia (typically acute nonlymphocytic type, nitrogen mustard)
- Chronic respiratory diseases (also Lewisite)
 - Asthma

- Chronic bronchitis
- Emphysema
- Chronic obstructive pulmonary disease
- Chronic laryngitis
- Recurrent corneal ulcerative disease (Includes corneal opacities; acute severe injuries to eye from Lewisite will also persist.)
- Delayed recurrent keratitis of the eye
- Chronic conjunctivitis
- Bone marrow depression and (resulting) immunosuppression (An acute effect that may result in greater susceptibility to serious infections with secondary permanent damage to vital organ systems.)
- Psychological disorders
 - Mood disorders
 - Anxiety disorders (including post-traumatic stress disorder)
 - Other traumatic stress disorder responses (These may result from traumatic or stressful features of the exposure experience, not a toxic effect of the agents themselves.)
- Sexual dysfunction (Scrotal and penile scarring may prevent or inhibit normal sexual performance or activity.)

The evidence found suggested a causal relationship between exposure and the following health conditions:

- Leukemia (acute nonlymphocytic type, sulfur mustard)
- Reproductive dysfunction (genotoxicity, mutagenicity, etc.; mustard agents)

There was insufficient evidence found to demonstrate a causal relationship between exposure and the following health conditions:

- Gastrointestinal diseases
- Hematologic diseases
- Neurological diseases
- Reproductive dysfunction (Lewisite)
- Cardiovascular diseases (Except for those that may result from serious infections shortly following exposure—heart disease resulting from rheumatic fever, for example.)

RECOMMENDATIONS

There are large gaps in all areas of the knowledge base about the long-term health risks associated with exposure to mustard agents and Lewisite. For example, very little is known about the long-term effects on specific organ systems from studies in animals. The data from human studies lack precise information about the exposure levels in occupational settings. After consideration of these gaps in light of the commit-

tee's findings regarding the probable long-term health effects of exposure to these agents, as well as the likely exposure levels to the human subjects involved, the committee formulated the following recommendations.

The committee recommends that the Department of Veterans Affairs (VA) institute a program to identify each human subject in the WWII testing programs (chamber and field tests, and to the degree possible, patch tests), so that these individuals can be notified of their exposures and the likely health risks associated with those exposures. Further, all subjects so identified, if still living, should be medically evaluated and followed by the VA as to their health status in the future. These individuals should also, if they request it, be treated by the VA for any exposure-related health problems discovered. Morbidity and mortality studies should be performed by the VA, comparing chamber, field, and patch test cohorts to appropriate control groups, in order to resolve some of the remaining questions about the health risks associated with exposure to these agents.

The only way to answer some of the key remaining questions is to establish a base of knowledge based on human exposures. There is precedent in the later identification and follow-up of veterans exposed to chemicals, including hallucinogenic drugs, in other military testing programs.

The committee is well aware that a half century has now passed and that many of those who might have benefited from a broader understanding of the toxicity and carcinogenicity of mustard agents and Lewisite are already dead. Nevertheless, their surviving family members deserve to know about the testing programs, the exposures, and the potential results of those exposures. For those veterans still living, diseases such as skin and lung cancer may still appear, and full knowledge of their likely cause might well save their lives.

In the case of the human subjects of the WWII testing programs, it is reasonable to assume that secrecy, uncertainty, and fear may have resulted in adverse psychological effects for the veterans and their families.

The committee recommends that careful attention be paid by health care providers to the special problems and concerns of the affected veterans and their families. This attention may include the convening of a special task force of experts in stress disorders and risk perception to aid the VA, further than this

committee is able, in the establishment of comprehensive guidelines for handling of these cases.

These recommendations are not meant to ignore the fact that thousands, probably tens of thousands, of other military and civilian personnel were exposed to mustard agents and Lewisite in occupational and training settings, and in combat in the Bari harbor disaster. Some of these exposures will have resulted in one or more of the exposure-related health problems identified in this report; and, in fact, some military personnel who served in the Chemical Warfare Service have qualified for service-connected disability as a result of such exposures. However, many more military personnel were exposed to significant levels of mustard agents or Lewisite than is obvious from service records.

The committee additionally recommends that the Department of Defense (DoD) should use all means at its disposal, including public channels, to identify former chemical warfare production workers (military or civilian) and individuals exposed to mustard agents or Lewisite from gas handling, training, the Bari harbor disaster, or other circumstances. Records of former military personnel could be turned over to the VA for notification, inclusion in morbidity and mortality studies, and health status evaluation. Records of the civilian personnel should be used by the DoD to advise former workers as to their health risks and options for seeking appropriate compensation for any illnesses that resulted from their exposures.

This committee discovered that an atmosphere of secrecy still exists to some extent regarding the WWII testing programs. Although many documents pertaining to the WWII testing programs were declassified shortly after the war ended, others were not. Of those declassified, many remained "restricted" to the present day and, therefore, not released to the public. As a result, the committee often had great difficulty obtaining information. For example, only one of the three major chamber test locations, the Naval Research Laboratory, freely shared technical reports and detailed summaries with the committee from the beginning of the study. For other locations, such information arrived only as the study was in its final stages, despite months of requests and inquiries to a variety of offices. The committee is certain that other relevant information exists that was never obtained. It is also clear that there may be many exposed veterans and workers who took an oath of secrecy during WWII and remain true to that oath even today. Even as this report was going to press, veterans were still contacting the committee for information, having just heard about the study and

thinking it might now be permissible to reveal their experiences. This continuing secrecy, in the committee's view, has impeded well-informed health care for thousands of people.

The committee recommends that the VA and DoD publicly announce and widely advertise that personnel exposed to mustard agents or Lewisite during their service are released from any oath of secrecy taken at the time. In addition, professional educational materials should be prepared by the VA or DoD, or both, and made available for physicians who may be treating affected individuals. These materials should incorporate the latest information regarding the long-term health effects of exposure to mustard agents and Lewisite.

There is no doubt that the long-term health consequences of exposure to mustard agents or Lewisite can be serious and, in some cases, devastating. This report has demonstrated that complete knowledge of these long-term consequences has been and still is sorely lacking, resulting in great costs to some of those exposed in WWII. The lack of knowledge, however, has ongoing ramifications as nations will probably continue to use these chemical weapons in battle or begin to grapple with their disposal. Thus, accidental and deliberate human exposures to mustard agents and Lewisite can only be expected to continue in the foreseeable future.

STATEMENT OF
R. J. VOGEL
DEPUTY UNDER SECRETARY FOR BENEFITS
DEPARTMENT OF VETERANS AFFAIRS
BEFORE THE
SUBCOMMITTEE ON COMPENSATION, PENSION AND INSURANCE
COMMITTEE ON VETERANS' AFFAIRS
HOUSE OF REPRESENTATIVES
MARCH 10, 1993

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

I AM PLEASED TO BE HERE TODAY TO DISCUSS WHAT THE DEPARTMENT OF VETERANS AFFAIRS HAS DONE TO ASSIST VETERANS WHO WERE EXPOSED TO MUSTARD AGENTS AND LEWISITE AS A RESULT OF MILITARY SERVICE.

ACCOMPANYING ME THIS MORNING ARE: GARY HICKMAN, DIRECTOR, COMPENSATION AND PENSION SERVICE; DR. SUSAN MATHER, ASSISTANT CHIEF MEDICAL DIRECTOR FOR ENVIRONMENTAL MEDICINE AND PUBLIC HEALTH; AND DARRYL KEHRER, DIRECTOR, BENEFITS/MANAGEMENT POLICY SERVICE.

WE IN THE DEPARTMENT OF VETERANS AFFAIRS ARE WELL AWARE OF THE TERRIBLE HARDSHIPS ENDURED BY THESE VETERANS. WE CONSIDER IT A SOLEMN OBLIGATION AND GENUINE PRIVILEGE TO ENSURE THAT VETERANS ARE AFFORDED EVERY POSSIBLE BENEFIT THE LAW AND REGULATIONS PROVIDE. I BELIEVE WE HAVE TAKEN -- AND CONTINUE TO TAKE -- THE RIGHT STEPS TO REVISE OUR ADJUDICATION REGULATIONS AND PROCEDURES TO RESPOND TO THE UNIQUE CIRCUMSTANCES UNDER WHICH THESE VETERANS WERE EXPOSED TO MUSTARD GAS.

MR. CHAIRMAN, I WOULD LIKE TO DESCRIBE BRIEFLY THE CHEMICAL WARFARE AGENTS AT ISSUE AND VA'S EFFORTS TO PROVIDE BENEFITS TO VETERANS EXPOSED TO THEM.

MUSTARD AGENTS AND LEWISITE ARE BLISTER-PRODUCING (VESICANT) AGENTS. THERE ARE TWO TYPES OF MUSTARD AGENTS: SULPHUR MUSTARD, A WAR GAS; AND NITROGEN MUSTARD, A CHEMICAL USED IN CANCER CHEMOTHERAPY. LEWISITE IS AN ORGANIC COMPOUND, SHARING SOME PROPERTIES WITH MUSTARD AGENTS. HOWEVER, IT LACKS THE GREATEST MILITARY ADVANTAGE OF MUSTARD GAS, THAT OF DELAYED ACTION. ALTHOUGH THESE AGENTS ARE COMMONLY THOUGHT OF AS GASES, THEY ASSUME LIQUID FORM AT ROOM TEMPERATURE.

SINCE AT LEAST WORLD WAR I, THE MILITARY HAS CONDUCTED MEDICAL, CHEMICAL AND BIOLOGICAL RESEARCH USING MILITARY PERSONNEL. WE ARE AWARE OF AT LEAST THREE MAJOR CHEMICAL EXPERIMENTS CONDUCTED BETWEEN 1942 AND 1975: (1) THE NAVY'S WORLD-WAR-II-ERA TESTS OF CLOTHING AND EQUIPMENT THAT EXPOSED SERVICE MEMBERS TO MUSTARD AND LEWISITE AGENTS; (2) THE ARMY'S WORLD-WAR-II-ERA TESTS OF CLOTHING, EQUIPMENT AND WEAPONS THAT ALSO EXPOSED SERVICE MEMBERS TO MUSTARD AGENTS; AND, (3) IN THE COLD WAR, THE ARMY'S EXPERIMENTS THAT EXPOSED ARMY AND SOME AIR FORCE SERVICE MEMBERS TO INCAPACITATING AGENTS.

VA HAS FOUND IT A CHALLENGE MAKING DECISIONS ON THE VALIDITY OF VETERANS' DISABILITY CLAIMS ASSOCIATED WITH THESE TESTS. BEFORE JULY 1992, WHEN OUR PRESUMPTIVE RULE TOOK EFFECT, VETERANS WERE REQUIRED TO PROVE THAT THEIR MEDICAL PROBLEMS RESULTED FROM PARTICIPATION IN THE MUSTARD AGENT TESTS. HOWEVER, FEW VETERANS COULD PROVE ANY RELATIONSHIP BECAUSE OF THE SECRET NATURE OF THESE CHEMICAL EXPERIMENTS AND TESTS. THEREFORE, VA BEGAN AN AGGRESSIVE REVIEW OF ITS PROCESSING OF CLAIMS RELATED TO MUSTARD AGENT EXPOSURE. SUBSEQUENTLY, WE REVISED OUR ADJUDICATING PROCEDURES.

FOLLOWING THE HEARING ON MARCH 7, 1991, BEFORE THE SUBCOMMITTEE ON ADMINISTRATIVE LAW AND GOVERNMENTAL RELATIONS OF THE HOUSE JUDICIARY COMMITTEE, VA ISSUED GUIDANCE ON EVALUATING CLAIMS FOR COMPENSATION FROM VETERANS WHO PARTICIPATED IN THESE MILITARY RESEARCH PROGRAMS. OUR CIRCULAR WAS PUBLISHED ON MARCH 20, 1991. ON FEBRUARY 5, 1992, VA REVISED THE CIRCULAR TO PROVIDE INSTRUCTIONS FOR DEVELOPING CLAIMS FROM VETERANS WHO PARTICIPATED IN A NAVAL WORLD WAR II PROGRAM TO TEST AND EVALUATE THE EFFECTIVENESS OF PROTECTIVE CLOTHING AND APPLICATIONS (SUCH AS OINTMENTS AND POWDERS) FOR WAR GASES, PARTICULARLY MUSTARD AGENTS AND LEWISITE. IN THIS CIRCULAR, WE PROVIDED ADDRESSES FOR REGIONAL OFFICES TO OBTAIN INFORMATION CONCERNING PARTICIPATION IN TESTS, IF THIS INFORMATION WAS NOT ALREADY CONTAINED IN THE INDIVIDUALS' SERVICE MEDICAL RECORDS. THE CIRCULAR ALSO SPELLED OUT THE SPECIFIC TYPE OF INFORMATION VA NEEDED TO DEVELOP A CLAIM FOR EXPOSURE TO MUSTARD AGENTS. WE INCLUDED INSTRUCTIONS FOR ASSISTING IN THE DEVELOPMENT OF CLAIMS FROM SOLDIERS AND AIRMEN WHO PARTICIPATED IN SECRET ARMY CHEMICAL TESTS. THESE INSTRUCTIONS WERE LESS DETAILED THAN THOSE FOR CLAIMS FROM NAVAL PERSONNEL BECAUSE WE KNEW VERY LITTLE ABOUT THE ARMY'S TESTING ACTIVITIES AT THAT TIME.

WE LATER DEVELOPED AN EVEN GREATER SENSE OF THE DIFFICULTIES OF OBTAINING ADEQUATE INFORMATION WITH WHICH TO DECIDE THE CLAIMS OF THESE DESERVING VETERANS. VA RESPONDED BY RELAXING CERTAIN REGULATORY REQUIREMENTS FOR EVALUATING MUSTARD GAS COMPENSATION CLAIMS AND ADDRESSING THE PROBLEMS POSED BY THE CONFIDENTIALITY OF SOME OF THE TESTING, THE LACK OF MILITARY MEDICAL RECORDS, AND THE ABSENCE OF POST-SERVICE MEDICAL FOLLOW-UP.

VA UNDERTOOK RULE MAKING BY PROPOSING A NEW REGULATION, 38 CFR 3.316, TO ESTABLISH A PRESUMPTION OF

SERVICE CONNECTION BASED ON MUSTARD GAS EXPOSURE, IF THE VETERAN WAS SUBJECTED TO FULL-BODY EXPOSURE DURING FIELD OR CHAMBER EXPERIMENTS TO TEST PROTECTIVE CLOTHING OR EQUIPMENT DURING WORLD WAR II, AND SUBSEQUENTLY DEVELOPED A CHRONIC FORM OF ONE OF THE FOLLOWING SEVEN CONDITIONS: LARYNGITIS, BRONCHITIS, EMPHYSEMA, ASTHMA, CONJUNCTIVITIS, KERATITIS AND CORNEAL OPACITIES. THIS REGULATION BECAME FINAL ON JULY 31, 1992.

TO ENHANCE OUR KNOWLEDGE ON THE SUBJECT, WE NEEDED A REVIEW OF THE WORLDWIDE MEDICAL AND SCIENTIFIC LITERATURE TO DETERMINE THE LONG-TERM HEALTH EFFECTS OF EXPOSURE TO MUSTARD AGENTS AND LEWISITE. VA TOOK THE INITIATIVE TO CONTRACT WITH THE INSTITUTE OF MEDICINE (IOM) OF THE NATIONAL ACADEMY OF SCIENCES (NAS) TO THIS END. DURING OUR PRE-CONTRACT DISCUSSIONS WITH NAS WE SUPPORTED THE INCLUSION OF A PUBLIC HEARING. ON JANUARY 6, 1992, THE NAS COMMITTEE HELD ITS FIRST SESSION ON THIS ISSUE. IN APRIL 1992, NAS HELD A PUBLIC HEARING TO ALLOW VETERANS WHO PARTICIPATED IN MUSTARD GAS AND LEWISITE TESTS DURING WORLD WAR II TO TESTIFY ABOUT THE TESTS AND SUBSEQUENT HEALTH PROBLEMS.

ON SEPTEMBER 17, 1992, VA REVISED ITS CIRCULAR BY ADDING INSTRUCTIONS TO VA REGIONAL OFFICES THAT PROVIDED INFORMATION ON THE LONG-TERM HEALTH EFFECTS OF EXPOSURE TO MUSTARD GAS AND INSTRUCTIONS FOR ADJUDICATING COMPENSATION CLAIMS UNDER THE NEW REGULATION.

WE ORDINARILY TRACK CLAIMS BY TYPE OF DISABILITY, NOT BY THE CAUSE OF THE DISABILITY. THEREFORE, PRIOR TO MARCH 1991, VA DID NOT TRACK CLAIMS FROM VETERANS WHO REPORTED PARTICIPATING IN TESTS INVOLVING MUSTARD AGENTS AND LEWISITE. THEN, HOWEVER, WE BEGAN TRACKING MUSTARD GAS EXPOSURE CLAIMS WHEN THE SIGNIFICANCE OF THIS ISSUE BECAME APPARENT. SINCE THAT TIME VA'S REGIONAL OFFICES HAVE SENT VA'S COMPENSATION AND PENSION SERVICE COPIES OF RATING DECISIONS

GRANTING OR DENYING SERVICE CONNECTION FOR DISABILITIES VETERANS BELIEVED TO BE THE RESULT OF EXPOSURE TO MUSTARD GAS FROM TESTING PROGRAMS. ON FEBRUARY 5, 1992, WE INSTRUCTED REGIONAL OFFICES TO STOP DENYING MUSTARD GAS EXPOSURE CLAIMS PENDING PUBLICATION OF THE NEW REGULATION. AFTER THIS NEW RULE BECAME FINAL, WE BEGAN EVALUATING ALL PENDING CLAIMS AND REVIEWING CLAIMS PREVIOUSLY DENIED.

AS OF FEBRUARY 4, 1993, WE HAD ADJUDICATED MUSTARD GAS CLAIMS FROM 346 INDIVIDUAL CLAIMANTS AND MADE 82 GRANTS OF SERVICE CONNECTION. THE MOST PREVALENT REASON FOR DENIAL OF A MUSTARD GAS CLAIM IS THAT VA HAS BEEN UNABLE TO VERIFY EXPOSURE TO THIS AGENT.

ON JANUARY 6, 1993, NAS RELEASED ITS REPORT ON THE VA-REQUESTED STUDY OF THE LONG-TERM HEALTH EFFECTS OF EXPOSURE TO MUSTARD AGENTS AND LEWISITE. AS A RESULT OF THE NAS FINDINGS, WE ARE IN THE PROCESS OF AMENDING OUR REGULATION TO REMOVE THE RESTRICTION THAT FULL-BODY EXPOSURE MUST HAVE OCCURRED DURING FIELD OR CHAMBER EXPERIMENTS DURING WORLD WAR II. PRESUMPTION OF SERVICE CONNECTION FOR SPECIFIED CONDITIONS WOULD, CONSEQUENTLY, BE EXTENDED TO THOSE WHO WERE EXPOSED TO MUSTARD AGENTS IN BATTLE DURING WORLD WAR I; WERE INVOLVED IN THE BARI, ITALY, INCIDENT IN WORLD WAR II; OR WERE EXPOSED WHILE MANUFACTURING OR TRANSPORTING CHEMICAL WARFARE AGENTS DURING MILITARY SERVICE.

WE HAVE INITIATED RULE MAKING TO EXPAND THE LIST OF SEVEN CONDITIONS VA CURRENTLY RECOGNIZES IN ORDER TO PERMIT GRANTS OF SERVICE CONNECTION FOR THE FOLLOWING CONDITIONS AS A RESULT OF VERIFIED FULL-BODY EXPOSURE TO MUSTARD GAS: NASOPHARYNGEAL CANCER, LARYNGEAL CANCER, LUNG CANCER (EXCEPT MESOTHELIOMA) AND SQUAMOUS CELL CARCINOMA OF THE SKIN. WE WILL ALSO GRANT SERVICE CONNECTION FOR ACUTE NON-LYMPHOCYTIC LEUKEMIA RESULTING FROM FULL BODY EXPOSURE TO NITROGEN MUSTARD.

FURTHER, THE REGULATION WILL ALSO ADDRESS GRANTING SERVICE CONNECTION FOR CHRONIC FORMS OF LARYNGITIS, BRONCHITIS, EMPHYSEMA, ASTHMA OR CHRONIC OBSTRUCTIVE PULMONARY DISEASES THAT ARE A RESULT OF VERIFIED FULL BODY EXPOSURE TO LEWISITE, AS WELL AS TO MUSTARD GAS.

AS IN THE CURRENT RULE, THESE CONDITIONS COULD APPEAR AT ANY TIME AFTER EXPOSURE, AND CONTINUITY OF SYMPTOMS FROM MILITARY SERVICE WOULD NOT NEED TO BE SHOWN IN ORDER TO ESTABLISH SERVICE CONNECTION FOR ANY OF THE CONDITIONS SPECIFIED IN THE REGULATION.

WE HOPE TO PUBLISH THE PROPOSED REGULATORY AMENDMENTS IN APRIL 1993. A 30-DAY PUBLIC REVIEW AND COMMENT PERIOD AND AN ADDITIONAL 10-DAY PERIOD FOR PUBLIC REVIEW OF THE COMMENTS WILL BE PROVIDED. WE HOPE TO PUBLISH THE FINAL AMENDMENTS BY FALL 1993.

MR. CHAIRMAN, VA'S RECORD IN ADDRESSING THE COMPENSATION CLAIMS OF VETERANS EXPOSED TO MUSTARD AGENTS AND LEWISITE IS A POSITIVE ONE, DEMONSTRATING BOTH COMMITMENT AND COMPASSION. AS MORE INFORMATION BECOMES AVAILABLE, WE WILL CONTINUE TO ACT AGGRESSIVELY TO ALLEVIATE THE HARDSHIPS THAT THESE VETERANS HAVE ENDURED.

WE APPLAUD THE DEPARTMENT OF THE NAVY FOR ITS COOPERATION IN MAKING AVAILABLE TO US RECORDS CONCERNING ITS TESTING OF CHEMICAL WARFARE AGENTS. NAVY PROVIDED A LIST OF THE LAST NAMES OF APPROXIMATELY 2500 PARTICIPANTS IN THE TESTING AT THE NAVAL RESEARCH LABORATORY BETWEEN AUGUST 1943 AND OCTOBER 1945. THIS LIST CAN ESTABLISH A VETERAN'S PARTICIPATION IN A TEST. MANY VETERANS HAVE BENEFITED FROM NAVY'S COOPERATION IN VERIFYING THEIR PARTICIPATION AND EXPOSURE. UNFORTUNATELY, THE INFORMATION THE NAVY PROVIDED

DOES NOT INCLUDE FIRST NAMES OR SERVICE NUMBERS, WHICH LIMITS ITS USEFULNESS.

WE ALSO APPRECIATE LITERATURE SEARCHES ON MUSTARD GAS TESTING IN THE 1940'S PROVIDED TO US BY THE ARMY'S CHEMICAL RESEARCH, DEVELOPMENT AND ENGINEERING CENTER AT ABERDEEN PROVING GROUND, MARYLAND, AND CERTAIN HISTORICAL INFORMATION ON SUCH TESTING PROVIDED BY THE ARMY'S ARMAMENT, MUNITIONS AND CHEMICAL COMMAND, ALSO AT ABERDEEN. HOWEVER, WE WOULD GREATLY BENEFIT FROM TESTING INFORMATION AND NAMES AND SERVICE NUMBERS OF PARTICIPANTS FROM ALL BRANCHES OF SERVICE.

VA SHARES THE CONCERNS OF VETERANS OVER THE LACK OF INFORMATION ON MANY OF THE TESTING ACTIVITIES. WE WELCOME THE OPPORTUNITY TO EXPLORE INITIATIVES THAT WILL ASSIST US IN PROVIDING BENEFITS TO THESE VETERANS.

FINALLY, LET ME TURN TO THE NAS/IOM REPORT ENTITLED "VETERANS AT RISK - THE HEALTH EFFECTS OF MUSTARD GAS AND LEWISITE." IN ORDER TO ADDRESS VETERANS' MEDICAL CONCERNS FURTHER, WE EXPECT TO CONDUCT A MORTALITY STUDY OF VETERANS WHO WERE EXPOSED TO MUSTARD GAS DURING LABORATORY AND FIELD EXPERIMENTS DURING WORLD WAR II. WE HAVE ALREADY BEGUN EFFORTS TO IDENTIFY EACH VETERAN WHO PARTICIPATED IN THE TESTING PROGRAM AT THE NAVAL RESEARCH LABORATORY. ONCE THE STUDY AND CONTROL GROUPS HAVE BEEN IDENTIFIED, THE STUDY WILL TAKE 18 MONTHS TO COMPLETE AND COST AN ESTIMATED \$200,000.

AS YOU KNOW, ON JANUARY 5 VA ASKED THE SECRETARY OF DEFENSE TO PROVIDE A LIST OF ALL MILITARY PERSONNEL WHO PARTICIPATED IN THE TESTS. WHEN WE HAVE THIS INFORMATION, VA WILL CONTRACT WITH THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH) UNDER THE AUTHORITY OF A PROVISION OF PUBLIC LAW 96-128, AS AMENDED BY PUBLIC LAW 96-466, TO

OBTAIN CURRENT ADDRESSES AND NOTIFY EACH PARTICIPANT OF THE POTENTIAL HEALTH EFFECTS OF THEIR EXPOSURE. WE WILL ALSO CONSIDER THE FEASIBILITY OF A MORBIDITY STUDY.

FURTHER, IN RESPONSE TO AN NAS/IOM RECOMMENDATION, THE SECRETARY OF VETERANS AFFAIRS IS CONVENING A SPECIAL TASK FORCE ON STRESS DISORDERS TO MAKE RECOMMENDATIONS TO ASSIST VA IN HELPING THOSE VETERANS WHO SEEM TO BE EXPERIENCING CONTINUING PSYCHOLOGICAL TRAUMA SINCE THEY SERVED AS SUBJECTS IN THESE CHEMICAL EXPERIMENTS.

VA IS ALSO WIDELY DISSEMINATING THE NAS/IOM REPORT AND IS PREPARING EDUCATIONAL MATERIALS FOR PHYSICIANS AS A PART OF A NATIONWIDE SATELLITE VIDEO CONFERENCE.

MR. CHAIRMAN, THANK YOU FOR THE OPPORTUNITY TO DISCUSS VA'S EFFORTS TO ASSIST VETERANS EXPOSED TO MUSTARD AGENTS AND LEWISITE DURING THEIR MILITARY SERVICE. WE INTEND TO DO ALL WE CAN TO DO RIGHT BY THEM. I WILL BE HAPPY TO ANSWER ANY QUESTIONS THAT YOU OR MEMBERS OF THE SUBCOMMITTEE MAY HAVE.

STATEMENT
OF THE
DEPUTY ASSISTANT SECRETARY OF DEFENSE
MILITARY MANPOWER & PERSONNEL POLICY
FORCE MANAGEMENT AND PERSONNEL
LT GENERAL ROBERT M. ALEXANDER

HEARING BEFORE THE
COMPENSATION, PENSION AND INSURANCE SUBCOMMITTEE
HOUSE VETERANS' AFFAIRS COMMITTEE

March 10, 1993

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SUBCOMMITTEE

CHEMICAL WEAPONS TESTING PROGRAMS

Mr. Chairman and members of the Subcommittee, I appreciate the opportunity to appear before you to discuss the actions the Department of Defense is taking to respond to the questions and issues raised by recent information that has surfaced concerning chemical weapons programs conducted during or following World War II by the Department of Defense. My staff has reviewed the National Academy of Science report on "Veterans at Risk: Health Effects of Mustard Gas and Lewisite," and the GAO report on "Human Experimentation: Information From DoD Can Help VA Assess Veterans' Disability Claims." We are initiating a Department-wide effort to locate, declassify, and provide information that will help us identify individuals at risk.

Secretary Aspin is committed to identifying all military members, civilian employees and contractors of the Department who were exposed to chemical weapons agents through chemical weapons testing programs conducted by, or for, the Department of Defense. We share your concerns that many of the individuals exposed may not even know they were exposed. We are also aware that others may feel constrained to speak out because of written or oral oaths they may have taken or because of guidance they may have received at the time. The Secretary has officially released individuals from any oaths of secrecy or non-disclosure statements they may have made with respect to participation in chemical weapons testing programs conducted during and after World War II. We invite individuals to come forward if they believe they may have been exposed. Former military members may call the Department of Veterans' Affairs at their toll free number 1-800-827-1000.

I wish it were possible for me to give you all of the information you have asked for today. It is not. However, we have taken the first steps.

We are in the process of declassifying information concerning the locations, dates, and individuals exposed through chemical weapons programs. We are establishing a task force to monitor and oversee the effort to locate and provide the information you have requested. We will create and maintain a central data base of individuals identified. Our goal is to provide the information to the Department of Veterans' Affairs as soon as possible.

The Department is committed to honoring the service and sacrifice made by the men and women who are serving, and have served, the Department of Defense. We will continue to make every effort to cooperate with the Department of Veterans' Affairs in responding to the needs and providing entitlements to those who have served.



DEPARTMENT OF THE NAVY
OFFICE OF THE JUDGE ADVOCATE GENERAL
200 STOVALL STREET
ALEXANDRIA VA 22332 2400

IN REPLY REFER TO

06 MAR 1991

The Honorable Barney Frank
Chairman
Subcommittee on Administrative Law
and Governmental Relations
Committee on the Judiciary
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The Department of the Navy has been assigned responsibility for expressing the views of the Department of Defense on H.R. 456, 102nd Congress, a bill "For the relief of William L. Stuck, Glenn Jenkins, Charles L. Cavell, and Nathan J. Schnurman."

H.R. 456 would direct the Secretary of the Treasury to pay \$750,000 each to William L. Stuck, Glenn Jenkins, Charles L. Cavell, and Nathan J. Schnurman for damages they allegedly incurred as a result of exposure to chemical warfare agents while participating in chemical warfare testing conducted by the U.S. Army and U.S. Navy between December 7, 1941 and December 31, 1946.

The Department of the Navy, on behalf of the Department of Defense, defers to the Department of Veteran's Affairs on the issue of a possible causal relationship between exposure to certain chemicals and health problems of the individuals named in the legislation. However, the Department of the Navy opposes the legislation in general.

During World War II, there was a program at the Naval Research Laboratory (NRL) to test and evaluate protective clothing and applications (ointments, powders, etc.) for use against war gases. This program, which was formerly classified, was established by the Navy in anticipation of the potential use of war gases by the enemy.

The tests involved the participation of naval enlisted volunteers from the Out-Going Unit (OGU) at the Naval Training Station at Bainbridge, MD. The standard procedure at that time involved the officer in charge of the OGU at Bainbridge, or a naval officer at NRL, informing the volunteers that they would be taking part in testing the effectiveness of protective clothing and ointments, and, as a result, might come in contact with mustard-type gases. Upon their arrival at NRL, the volunteers were examined by a Navy physician, and, during and after the testing, were kept under his supervision. Test documentation suggests that test medical records were kept on each of the approximately 2000 volunteers.

Extensive searches by NRL, the Bureau of Medicine and Surgery, the Office of the Navy Surgeon General, and the national records center in St. Louis have failed to recover these test medical records. However, the official service medical records of the volunteers have been provided to the Department of Veteran's Affairs.

According to Navy records, the greater part of the testing of the protective clothing and devices was performed using sulfur mustard gas. The records also indicate that nitrogen mustard and/or lewisite was used during some of the testing. Although a significant part of this program involved the testing of protective clothing, protective ointments and powders were also used during some of the testing. Records show that the tests of protective clothing generally involved an exposure of about 1/2 to 1 hour per day for a total test period ranging from 1 to 12 days with the average exposure being 3 to 5 days. The volunteers were examined by a Medical Officer before each exposure. The scientific notebooks kept during the tests indicate that the volunteers experienced varying forms of erythema and other reactions as a result of their exposure to the gases. According to the official reports on the tests, when a volunteer incurred intense erythema or other severe reaction he was removed from the test. Those volunteers who participated in the tests were placed under a Navy physician's care after the tests were completed and observed for a minimum of 2 days before being allowed to go on leave. After participating in the program, all volunteers were given 7 to 10 days leave. Before returning to Bainbridge, they were reexamined by the Navy physician.

Given the technology of the day these types of exposure experiments were essential to adequately test protective clothing. The state of knowledge of mustard gas toxicity at the time of the war was such that long-term effects of limited exposure to small amounts was not a concern.

The contributions of these volunteers to the war effort were considerable. Although chemical warfare did not play a role in the war, there was a genuine concern at that time that it might. The efforts of these volunteers greatly assisted in the development of methods and procedures to protect personnel in a chemical warfare environment, including those used today in Southwest Asia and throughout the world. These sailors deserve the gratitude of the Armed Forces and the nation.

In 1979, Mr. Schnurman filed a civil action against the United States under the Federal Tort Claims Act (Schnurman v. United States, 490 F.Supp. 429 (1980)). He alleged that, 1) the Navy was negligent in failing to provide follow-up examinations, treatment or supervision or to warn him of the risks of physical injury; 2) the Navy violated his constitutional rights by subjecting him to experimentation without his knowledge or

consent; and, 3) the United States deliberately concealed the nature of mustard gas and its potential hazards.

The U.S. District Court held that Mr. Schnurman's cause of action was barred by the two-year statute of limitation since he did not file his claim with the Navy until 1978, three years after he became aware of a possible link between his medical problems and the mustard gas testing. Additionally, the court held that the Feres doctrine precluded Mr. Schnurman from recovering since that doctrine applied to constitutional as well as intentional torts and since Mr. Schnurman's injuries were not shown to have been caused in any way by the government's failure to treat him after his discharge or to warn him of the true nature of the gas to which he was exposed.

In Feres v. United States, 340 U.S. 135 (1950), the Supreme Court determined that a member of the armed forces did not have a cause of action under the FTCA for injuries incurred "incident to service." Underlying this determination was the unique relationship of a service member to his superiors, the effects of FTCA suits on military discipline, and the adverse results that would occur if such suits were permitted for orders given or acts committed in the course of military duty. The Supreme Court has continued to recognize these special factors, as well as the statutory compensation program available to service members who are injured during service. The Department of the Navy is opposed to private relief legislation for the individuals named for the reasons similar to those the courts have cited for the Feres doctrine. Military service is unique and inherently dangerous. Congress has established a medical care and compensation system designed to meet the special needs of service members who may be injured incident to service.

The Department of the Navy also opposes private relief legislation for these individuals because it would result in preferential treatment for them over all other members of the armed forces who have been clearly injured incident to service, whether on the battlefield, in training exercises, or during testing of equipment, weapons and other materials.

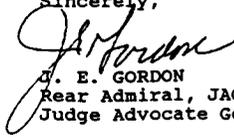
For the foregoing reasons, the Department of the Navy, on behalf of the Department of Defense, recommends that the bill not be favorably considered.

As stated in the bill, if enacted, the Secretary of the Treasury will be required to pay \$3,000,000 out of money in the Treasury not otherwise appropriated.

This report has been coordinated within the Department of Defense in accordance with procedures prescribed by the Secretary of Defense. The Office of Management and Budget advises that, from the standpoint of the Administration's program, there is no

objection to the presentation of this report for the consideration of the Committee.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. E. Gordon".

J. E. GORDON
Rear Admiral, JAGC, U.S. Navy
Judge Advocate General

Copy to:
The Honorable George W. Gekas
Ranking Minority Member

WRITTEN COMMITTEE QUESTIONS AND THEIR RESPONSES

CHAIRMAN SLATTERY TO DEPARTMENT OF DEFENSE

1. How long do you expect it to take to declassify the information we need on chemical weapons testing programs that were conducted by the Department of Defense after 1968?

As far as we have been able to determine, no such classified information exists for programs conducted after 1968. We are currently researching this information and will be able to verify the existence of any classified information by next month. At that time we will also provide an answer on how long it will take to declassify such information.

2. What was the nature of the oaths of secrecy that were taken by military members or other individuals involved in the chemical weapons testing programs?

As the GAO has indicated in their report, individual health and personnel records dating back to the World War II period have been difficult to locate. We have asked various test sites and agencies to research their archives to try and locate test reports which may have individual oaths or other information on testing protocol attached. We will provide information as to the type of oath (oral or written) and the extent to which these oaths may have been administered.

3. Do you have any knowledge of similar chemical tests (other than mustard gas) performed on defense personnel that may have had adverse health effects on participants that are still classified?

We do know that other chemical agents have been investigated by components of DoD. We do not know to what extent human subject participation, or the documentation of adverse health effects, are currently classified. It is our intention to identify all individuals, to the extent possible from existing records, who may have been exposed to chemical weapons agents either before or after 1968.

VBA's RESPONSES TO QUESTIONS FROM
THE HONORABLE MICHAEL BILIRAKIS
SUBCOMMITTEE ON COMPENSATION, PENSION, AND INSURANCE
HEARING OF MARCH 10, 1993

Q-1. Does your Department know how many beneficiaries of deceased servicemen who were participants in these experiments will be eligible for Dependency and Indemnity Compensation? Do you have any idea as to what the approximate cost might be?

A-1. We do not have sufficient information about service personnel and survivors to predict the number of DIC claims which may be approved.

Q-2. Have you experienced an increase in mustard gas exposure claims since the release of the Institute of Medicine's report?

A-2: Specific data to enumerate the increase in mustard gas claims are not available. However, we do expect to receive more mustard gas claims since the release of IOM's report, especially in view of VA's outreach initiatives to disseminate information to veterans and their families.

Q-3: What type of Health Care is being provided to the victims of Mustard Gas and/or Lewisite exposure?

A-3 Veterans who have been exposed to mustard gas and/or lewisite and who have signs or symptoms of any of the many diseases linked to that exposure are being cared for in the appropriate clinics. Most will receive some of their care in the Medical Clinic with referrals to subspecialty clinics as necessary. For instance, veterans with respiratory conditions, such as asthma, bronchitis, or chronic obstructive pulmonary disease are being seen in Pulmonary Clinic. Those with chronic laryngitis would be seen in Otolaryngology (ENT) Clinic where their larynx could be visualized to rule out laryngeal cancer. The various eye problems, which include recurrent corneal ulcerative disease, delayed recurrent keratitis, and chronic conjunctivitis, are treated in Ophthalmology Clinic. Those with pigmentation abnormalities and scars are seen in Dermatology Clinic. Finally those who were psychologically traumatized by their experiences in the secret testing can receive counseling and treatment for post traumatic stress disorder, as well as mood disorders or anxiety disorders in Mental Health Clinics.

Q-4. In previous testimony by your Department before the Judiciary Committee VA stated the Department of the Navy had assured you it would share all available information on the circumstances of the testing program and would assist you in assembling all available examination and treatment records of the servicemen involved. Has the Navy Department followed through on this, and if so has your Department been able to make positive determinations on these claims based on the information?

A-4. VA has received from the Navy a list of approximately 2,500 participants in the testing at the Naval Research Laboratory between August 1943 and October 1945. If a claim is received from a Navy veteran, the regional office may call our Compensation and Pension Service in VA's Central Office to determine if the claimant is shown on the list. Further, we

have established contact points at the Department of Defense to call or write for information and assistance, if the information is not contained in the individual's service medical records.

Q-5. What effect, if any, has the "Triggering Mechanism" had on VA's ability to identify patterns or trends in claims for exposure to mustard gas?

A-5. The Compensation and Pension Service receives copies of rating decisions either granting or disallowing mustard gas claims. With these, we are able to initiate reevaluation of claims if additional information becomes available or new regulations are established. Also, VA has begun to collect data to begin a mortality study of veterans who were exposed to mustard gas in Naval Research Lab tests. The study is expected to be completed in two years.

Q-6. Of the approximately 60,000 service personnel who were involved in the tests, how are you going to adjudicate the claims of those personnel who were only required to take a "patch test"? Will their claims be treated on the same basis as the 4,000 who were subjected to full-body exposures in field tests and/or chamber trail experiments?

A-6. Individuals who were given a "patch test" may establish service connection for skin conditions under the traditional rules of eligibility since we believe the medical literature supports a finding of direct service connection if the veteran develops certain skin conditions at the site where skin was exposed to a droplet of mustard gas.

"Patch test" individuals are not covered under the special rules for establishing service connection due to mustard gas exposure, 38 CFR 3.316, which have already been approved by the Secretary nor will they be covered under the proposed amendment to this rule because NAS did not find that "patch tests" would cause the eye or respiratory conditions or the cancers (except skin carcinomas) which may result from full-body exposure.

Q-8: Using Naval Research Lab Records, what is the status of VA'S mortality study of veterans who were exposed to Mustard Gas?

A-8 (a) One of the most challenging aspects of the proposed mortality study is identification of veterans who volunteered for the testings at the Naval Research Lab (NRL). Approximately 2500 individuals are known to have been exposed at the NRL. Unfortunately, these individuals were identified only by their last names, or in rare instances with initials. Proposed procedures for identifying those veterans are being tested and refined in collaboration with the NRL and National Personnel Records Center (NPRC). An interagency agreement to review and abstract military records is being developed between VA and NPRC.

(b) A research protocol, "A mortality follow-up study of veterans exposed to mustard gas during World War II" has been developed and is undergoing a scientific peer-review within the Veterans Health Administration.

(c) Once the study protocol is approved by a VA committee, the study will take about two years to complete.

Q-9. On page 4 of your statement you indicated that a circular was issued to your field offices spelling out the specific type of information needed in order to develop a claim for exposure to mustard agents. Could you expand on just what that circular contained?

A-9. In addition to providing guidance concerning the type of evidence needed to develop a claim for exposure to mustard agents, Circular 21-91-7, Revised, provided field stations with information on the long-term health effects of exposure to mustard gas and instructions for adjudicating compensation claims under 38 CFR 3.316. We provided addresses for regional offices to obtain information concerning participation in the tests, if this information was not already available in the individual's service medical records.

A copy of this circular is attached.

Q-10. Of the 346 claims for exposure to mustard agents received and adjudicated, minus the 82 which have been granted, how many have been denied? How many are pending additional information from the Defense Department? How many do you feel may be without merit?

A-10. As of February 4, 1993, 346 claimants filed claims for compensation for disability resulting from exposure to mustard gas. 264 claims were denied primarily because full-body exposure is unverified or the claimed disability is not recognized to be the result of exposure. At this time, we are unable to provide the number of claims that are pending additional information from the DoD. However, denied claims are subject to review following promulgation of new regulations.

Veterans Benefits Administration
Department of Veterans Affairs
Washington, D.C. 20420

Circular 21-91-7
Revised
September 17, 1992

LONG TERM HEALTH EFFECTS OF EXPOSURE TO MUSTARD GAS

1. PURPOSE. This circular contains revised instructions for evaluating claims for compensation based on exposure to mustard gas during military service. It also provides corrected estimates on the number of service personnel who were involved in the tests and a revised list of conditions which VA currently recognizes as long term health effects of exposure to mustard gas. This revision also contains an explanation of the implementation of 38 CFR 3.316 in rating claims.

2. BACKGROUND. American military personnel were exposed to significant amounts of mustard gas, a vesicant (blister-producing) gas, during warfare in World War I (WWI) and in experiments on protective clothing and equipment. Although mustard gas is lethal in certain concentrations, lethal doses are unusual in warfare because the gas will disperse.

a. An analysis prepared by the Veterans Health Administration's (VHA) Office of Environmental Medicine indicates that direct, non-fatal contact with gas, liquid, or solid forms of mustard gas produces local damage. The effects of mustard gas are delayed. Depending on the concentration and length of exposure, signs and symptoms do not occur for several hours or even days after exposure.

b. The initial symptoms are usually burning, itching and tearing of the eyes, nausea and vomiting. Reddening of the skin is the first sign and occurs simultaneously with the onset of upper respiratory symptoms and hacking cough; blistering of the skin appears after twelve to forty-eight hours. Respiratory tract lesions develop after four to six hours with irritation and congestion of the mucous membranes of the nose, throat, trachea and bronchi. Eye symptoms worsen, and vision becomes impaired due to corneal involvement and severe swelling of the conjunctiva and eyelids.

3. EXPOSURE DURING EQUIPMENT TESTING

a. Approximately 2000 Naval personnel were experimentally exposed to mustard gas during tests of protective equipment and clothing conducted at the Naval Research Laboratory (NRL), located in Washington, DC, between August 1943 and October 1945. Of this number approximately 200 had localized exposure either through placing their arms in an "arm chamber" or by having droplets of mustard gas placed on their skin; the rest were subjected to full-body exposure in a large gas chamber.

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b. The Army conducted tests at Edgewood Arsenal, Maryland, and at several other sites around the country including Bushnell, Florida; Camp Sibert, Alabama; and Dugway Proving Ground in Tooele, Utah. Testing also was conducted at San Jose Island, Panama. Between September 1943 and February 1945 over 1000 enlisted men and officers were subjects of these tests. To date, few other details are known about this testing, and the development procedures outlined in Appendix B should be followed.

4. LONG-TERM EFFECTS. A relatively large body of literature exists on the immediate and short-term effects of mustard gas exposure. There is considerably less literature on the long-term residuals, and much of that is in foreign medical literature. For individuals who survive acute poisoning with mustard gas, the chronic, long-term effects (those lasting longer than one year) that have been noted include laryngitis, bronchitis, emphysema, asthma, conjunctivitis, corneal opacities, and keratitis. These effects begin shortly after exposure.

5. VA REGULATION ON MUSTARD GAS EXPOSURE. On July 31, 1992, VA published in the Federal Register a final regulation authorizing service connection in claims from veterans who underwent full-body exposure to mustard gas during field or chamber experiments to test protective clothing or equipment during World War II (WWII), and who subsequently develop a chronic form of laryngitis, bronchitis, emphysema, asthma, conjunctivitis, corneal opacities, or keratitis (38 CFR 3.316). The regulation was effective July 31, 1992.

a. The liberalizing provisions of 38 CFR 3.316 were developed to help veterans who participated in these testing programs overcome almost insurmountable disadvantages in attempting to establish entitlement to compensation. The tests were conducted in strict secrecy, medical records associated with the tests are generally unavailable, and no long-term follow-up examinations were performed. Therefore, the service medical records of the participants may not show evidence of the acute effects of mustard gas exposure. It is also likely that participants who developed chronic effects of the exposure did not previously file claims with VA because they had been instructed not to discuss their involvement in the tests. Private medical records showing treatment of these chronic conditions also may no longer be available.

b. All pending claims deferred awaiting publication of this final regulation should now be completed. If service connection is granted in any case meeting the criteria of 38 CFR 3.316, the effective date provisions of 38 CFR 3.114(a) also should be applied, but in no instance may a grant under 38 CFR 3.316 be earlier than July 31, 1992.

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Revised

c. Instructions for developing for exposure to mustard gas during field and chamber tests are contained in Appendices A and B of this circular. However, since we became aware of this issue, the Departments of the Army and Navy have made some additional records available to National Personnel Records Center (NPRC). Therefore, do not deny any claim because development to the Service Department done prior to April 1, 1992, failed to confirm participation in these tests. Redevelop to NPRC before making a final decision on these claims. Cases in which questions of any kind arise that cannot be resolved locally may be referred to the Director, Compensation and Pension Service (211C) for an advisory opinion.

6. OTHER COMPENSATION CLAIMS. Compensation claims based on residual disabilities from mustard gas exposure generally fall into one other category besides exposure during field and chamber tests: exposure under battlefield conditions during WWI. In these cases, and in cases involving other types of exposure, service medical records should show evidence of the acute effects of the mustard gas exposure, and the long-term, chronic effects for which compensation is claimed should have first appeared shortly after exposure and existed continuously since then. Undertake appropriate development in each case in an attempt to obtain the necessary evidence to establish service connection.

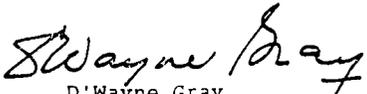
7. LITERATURE SEARCH. VA has contracted with the National Academy of Sciences (NAS) to conduct a review of the world medical and scientific literature to determine the long-term health effects of exposure to mustard gas. A report from the NAS is due in December 1992. After reviewing the NAS findings, VA will determine what, if any, changes are warranted in the current regulation concerning the long-term health effects of exposure to mustard gas. The regulation will be amended as needed.

8. COPIES OF RATING DECISIONS/CONTACT POINT. Send a copy of every rating decision which awards or denies service connection for disabilities alleged to be the result of mustard gas exposure to the Director, Compensation and Pension Service, (211B). Questions on this circular may be directed to the Regulations Staff at FTS (202) 233-3005.

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9. Rescissions. This circular rescinds Circular 21-91-7 dated March 20, 1991, and Change 1, dated February 5, 1991.



D'Wayne Gray
Chief Benefits Director

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September 17, 1992

Circular 21-91-7
Revised
Appendix A

APPENDIX A

CHEMICAL TESTING CLAIMS - NAVY

1. BACKGROUND

a. From 1942 to 1945, The Naval Research Laboratory (NRL) conducted a program to test and evaluate protective clothing and applications (ointments, powders, etc.) for use against war gases. The tests involved the participation of naval enlisted volunteers from the Out-Going Unit (OGU) at the Naval Training Station at Bainbridge, MD. The volunteers were informed that they would be taking part in testing the effectiveness of protective clothing and ointments and, as a result, might come into contact with mustard-type gases.

b. Naval records indicate that the greater part of the testing of the protective clothing and equipment was performed using sulfur mustard gas. The records also indicate that some lewisite and nitrogen mustard were used. The test periods ranged from 1 to 12 days; the average exposure period was 3 to 5 days.

c. The approximately 2000 volunteers participating in the tests were placed under a Navy physician's care after the tests were completed and observed for a minimum of 2 days. After participating in the program, they were given 7 to 10 days leave. Before returning to Bainbridge, they were reexamined by the Navy physician. Medical records were kept and at the end of WWII were sent to the Bureau of Medicine and Surgery.

d. The mustard gas testing at NRL was profiled on a national television program. Since then, VA and NRL have received several hundred inquiries. The nature of some inquiries prompted NRL to look further into chemical testing conducted during WWII. The available information now suggests that Navy-sponsored mustard gas type testing was carried out in several locations. The type of tests, the number of participants, the degree of exposure, and the test locations are uncertain. For example, 6000 to 20,000 might have been tested in Chicago alone.

2. DEVELOPMENT FOR TESTING AT NRL. It is not sufficient merely to place the claimant at Bainbridge Naval Training Station. The veteran's presence at NRL should be established, if at all possible. Development can include asking for a copy of orders to or from NRL, copies of morning report entries, buddy statements from others who participated at the same time, etc.

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a. The Naval Branch of the National Personnel Records Center (NPRC) in St. Louis will review a veteran's records and, if information concerning the testing is found, will provide that information to the regional office. This office may be reached at FTS (314) 538-4166. If no information is found in the veteran's file, the requester will be referred to:

Naval Research Laboratory, Code 4810
Washington, DC 20375-5000
Attn: Head, Information Services Branch.

b. The Compensation and Pension Service (211B) has a list of over 1900 Navy volunteers who participated in the testing between August 1943 and October 1945. Most of the names on the list are surnames only. However, if more than one person in the same test had the same name, initials were also given. The names are alphabetical by test period; each test period is kept in a separate notebook. If a veteran claiming compensation submits the dates of the testing, and his name appears on the corresponding list, there is a reasonable probability of a valid claim. To inquire whether a name is on a list, contact the Regulations Staff at FTS (202) 233-3005.

3. OTHER NAVY TESTING. Information about chemical testing by the Navy at sites other than NRL should be developed through the NPRC.

4. TRACKING CLAIMS. The Adjudication Officer should maintain a log of all claims for service-connected disability or death alleged to have resulted from chemical testing. The following information should be recorded: veteran's name, claim number, date of claim, branch of service, date and location of test, type of chemical believed to have been used (mustard gas, lewisite, etc.), and the claimed disabilities. This log should be kept current and available for random review.

5. CENTRAL OFFICE CONTACT POINT. For questions and assistance contact the Regulations Staff of the Compensation and Pension Service (211B) at FTS (202) 233-3005.

September 17, 1992

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Revised
Appendix B

APPENDIX B

CHEMICAL TESTING CLAIMS - ARMY

1. BACKGROUND. The Army conducted research into the effects of chemical warfare on individuals dating from WWII until the program was terminated in 1975. The projects in the program included the use of mustard gases and other types of chemicals.

2. DEVELOPMENT FOR TESTING

a. Prior to the early 1950's, information about a person's participation in any kind of testing by the Army was placed in the individual's service medical records (SMRs). These records are stored at the National Personnel Records Center (NPRC) in St. Louis and can be obtained by submitting VA Form 21-3101, Request for Information.

b. Since the 1950's the records on testing have been compiled in different formats and stored in a number of locations. Some are on microfiche, some are on magnetic tape, and some remain in the original paper form. The U.S. Army Research and Development Command has provided VA with a single address for requesting a record search:

OTSG
Attn: DASG-RDZ (SGRD-SGS)
5109 Leesburg Pike
Falls Church, VA 22041-3258

Personnel at this location will respond to official VA requests submitted in connection with benefits determinations.

c. The test information is not in all cases maintained under the name of the participant. Therefore, identifying information should include the veteran's name, service number, social security number, date and location of test, type of test, and the unit to which the veteran was assigned. The success of the records search will depend on the completeness and accuracy of the identifying information.

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Revised
Appendix B

September 17, 1992

3. TRACKING CLAIMS. The Adjudication Officer should maintain a log of all claims for service-connected disability or death alleged to have resulted from chemical testing. The following information should be recorded: veteran's name, claim number, date of claim, branch of service, date and location of test, type of chemical believed to have been used (mustard gas, lewisite, etc.), and the claimed disabilities. This log should be kept current and available for random review.

4. CENTRAL OFFICE CONTACT POINT. For questions and assistance contact the Regulations Staff of the Compensation and Pension Service (211B) at FTS (202) 233-3005.

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ONE HUNDRED THIRD CONGRESS

G.V. (SONNY) MONTGOMERY
CHAIRMAN**U.S. House of Representatives**

COMMITTEE ON VETERANS' AFFAIRS

328 CANNON HOUSE OFFICE BUILDING

Washington, DC 20515

April 8, 1993

Honorable Jesse Brown
 Secretary
 Department of Veterans Affairs
 Washington, DC 20420

Dear Mr. Secretary:

In reference to our Subcommittee on Compensation, Pension and Insurance hearing of March 10, 1993, I would appreciate it if you could answer the additional questions enclosed by May 20, 1993.

In an effort to reduce printing costs, the Committee on Veterans Affairs, in cooperation with the Joint Committee on Printing, is implementing some formatting changes for materials for all full committee and subcommittee hearings. Therefore, it would be appreciated if you could provide your answers consecutively on legal size paper, single spaced. In addition, please restate the question in its entirety before the answer.

Sincerely,

G. V. (SONNY) MONTGOMERY
Chairman

GVM:das

Enclosure

HONORABLE MICHAEL BILIRAKIS
QUESTIONS SUBMITTED FOR THE RECORD
MR. JOHN VOGEL
DEPUTY UNDER SECRETARY FOR BENEFITS
DEPARTMENT OF VETERANS AFFAIRS
SUBCOMMITTEE ON COMPENSATION, PENSION, AND INSURANCE
MARCH 10, 1993

- 1) DOES YOUR DEPARTMENT KNOW HOW MANY BENEFICIARIES OF DECEASED SERVICEMEN WHO WERE PARTICIPANTS IN THESE EXPERIMENTS WILL BE ELIGIBLE FOR DEPENDENCY AND INDEMNITY COMPENSATION? DO YOU HAVE ANY IDEA AS TO WHAT THE APPROXIMATE COST MIGHT BE?
- 2) HAVE YOU EXPERIENCED AN INCREASE IN MUSTARD GAS EXPOSURE CLAIMS SINCE THE RELEASE OF THE INSTITUTE OF MEDICINE'S REPORT?
- 3) WHAT TYPE OF HEALTH CARE IS BEING PROVIDED TO THE VICTIMS OF MUSTARD GAS AND/OR LEWSITE EXPOSURE?
- 4) IN PREVIOUS TESTIMONY BY YOUR DEPARTMENT BEFORE THE JUDICIARY COMMITTEE VA STATED THE DEPARTMENT OF THE NAVY HAD ASSURED YOU IT WOULD SHARE ALL AVAILABLE INFORMATION ON THE CIRCUMSTANCES OF THE TESTING PROGRAM AND WOULD ASSIST YOU IN ASSEMBLING ALL AVAILABLE EXAMINATION AND TREATMENT RECORDS OF THE SERVICEMEN INVOLVED. HAS THE NAVY DEPARTMENT FOLLOWED THROUGH ON THIS, AND IF SO HAS YOUR DEPARTMENT BEEN ABLE TO MAKE POSITIVE DETERMINATIONS ON THESE CLAIMS BASED ON THE INFORMATION?
- 5) WHAT EFFECT, IF ANY, HAS THE "TRIGGERING MECHANISM" HAD ON VA'S ABILITY TO IDENTIFY PATTERNS OR TRENDS IN CLAIMS FOR EXPOSURE TO MUSTARD GAS?
- 6) OF THE APPROXIMATELY 60,000 SERVICE PERSONNEL WHO WERE INVOLVED IN TESTS, HOW ARE YOU GOING TO ADJUDICATE THE CLAIMS OF THOSE PERSONNEL WHO WERE ONLY REQUIRED TAKE A "PATCH TEST"? WILL THEIR CLAIMS BE TREATED ON THE SAME BASIS AS THE 4,000 WHO WERE SUBJECTED TO FULL-BODY EXPOSURES IN FIELD TESTS AND/OR CHAMBER TRAIL EXPERIMENTS?
- 7) IN THE VA'S WHITE PAPER IN MUSTARD GAS WHICH WAS PROVIDED TO THE SUBCOMMITTEE, THE TERM "LOCAL DAMAGE" WAS USED WHEN REFERRING TO NONFATAL EXPOSURES. PLEASE EXPLAIN WHAT IS MEANT BY "LOCAL DAMAGE".
- 8) USING NAVAL RESEARCH LAB RECORDS, WHAT IS THE STATUS OF VA'S MORTALITY STUDY OF VETERANS WHO WERE EXPOSED TO MUSTARD GAS?
- 9) ON PAGE 4 OF YOUR STATEMENT YOU INDICATED THAT A CIRCULAR WAS ISSUED TO YOUR FIELD OFFICES SPELLING OUT THE SPECIFIC TYPE OF INFORMATION NEEDED IN ORDER TO DEVELOP A CLAIM FOR EXPOSURE TO MUSTARD AGENTS. COULD YOU EXPAND ON JUST WHAT THAT CIRCULAR CONTAINED?

10) OF THE 346 CLAIMS FOR EXPOSURE TO MUSTARD AGENTS RECEIVED AND ADJUDICATED, MINUS THE 82 WHICH HAVE BEEN GRANTED, HOW MANY HAVE BEEN DENIED? HOW MANY ARE PENDING ADDITIONAL INFORMATION FROM THE DEFENSE DEPARTMENT? HOW MANY DO YOU FEEL MAY BE WITHOUT MERIT?

**Responses to Questions Submitted for the Record
by Honorable Michael Bilirakis
Subcommittee on Compensation, Pension, and Insurance
to Constance M. Pechura, Ph.D.
Institute of Medicine
March 10, 1993**

1) Dr. Pechura, to your knowledge, were there other types of experiments conducted outside the United States by the US military? And, if so, where and what kind of tests were they?

I do not have extensive knowledge of other types of experiments conducted by the US military outside the United States. Given, however, that the US military and Chemical Warfare Service had field research installations in the Panama Canal Zone (San Jose Island), New Guinea, and Hawaii (biological warfare testing facility) conducted tests in variety of areas (e.g., smoke dispersal, herbicides, and biological warfare agents), it is possible that other types of tests were conducted. Precise information about what kind of tests, where the tests were held, and whether or not human subjects or observers were involved is difficult to trace, because references to such experiments in the unclassified literature that our committee reviewed are vague and any information found must be followed up by procuring the original technical reports and summaries. These reports are often available, but only after significant time is spent tracking and requesting them. The Institute of Medicine committee only did this tracking for documents pertaining to mustard agent and lewisite testing programs.

The following references were used as the starting place and would be useful for anyone interested in pursuing other information:

1. Andrus EC, Bronk DW, Carden GA Jr, Keefer CS, Lockwood JS, Wearn JT, Winternitz MC, eds. 1948. Advances in Military Medicine. Volumes I and II: Office of Scientific Research and Development. Boston: Little, Brown.
2. Brophy LP, Fisher, G. 1959. The Chemical Warfare Service: Organizing for War. United States Army in World War II: The Technical Services. Washington, DC: Office of the Chief of Military History, Department of the Army.
3. Brophy LP, Miles WD, Cochrane RC. 1959. The Chemical Warfare Service: From Laboratory to Field. United States Army in World War II: The Technical Services. Washington, DC: Office of the Chief of Military History, Department of the Army.
4. Office of Scientific Research and Development. National Defense Research Committee. Chemical Warfare Agents, and Related Chemical Problems. 2 vols. Summary Technical Report of Division 9, NDRC. Washington, DC: NDRC. AD-234 249. 1946.

The following references were not requested or obtained by the Institute of Medicine committee, but were cited in some of those above:

1. Cochrane RC. (monograph) Biological Warfare Research in the United States, History of the Chemical Warfare Service in World War II (1 July 1940-15 August 1945), November 1947. (possibly available from Fort Detrick, Maryland).
2. Rpt, Henry I. Stubblefield, A Resume of the Biological Warfare Effort, 21 Mar 58. CMLHO C-511.111. (possibly available from Fort Detrick, Maryland).

2) What were the major recommendations resulting from your review of the scientific literature on mustard gas and/or lewisite exposure?

The major findings from the Institute of Medicine committee were in two areas:
1) identification of new health conditions causally related to exposure to mustard gas and lewisite (in addition to conditions already identified by the Department of Veterans Affairs including asthma, chronic bronchitis, laryngitis, emphysema, chronic conjunctivitis,

corneal opacities, and keratitis of the eye); and 2) recommendations for action by the Department of Veterans Affairs and the Department of Defense.

The new health conditions identified were respiratory cancers (including nasopharyngeal, laryngeal, and lung), skin cancer, pigmentation abnormalities of the skin, chronic skin ulceration and scar formation, bone marrow depression and immunosuppression (resulting in possible acute infections with long-term, disabling effects), psychological disorders, and sexual dysfunction (from genital scars). The major recommendations to the Department of Veterans Affairs included the identification and notification of all human subjects of World War II testing programs, medical evaluation of those identified, and institution of morbidity and mortality studies of these groups to determine additional health conditions causally related to exposure to mustard gas and lewisite that were not revealed by review of the literature. Recommendations to the Department of Defense were to identify and notify all personnel exposed to significant levels of mustard gas and/or lewisite, including chemical warfare production workers, Bari harbor survivors, and military personnel who handled war gases or trained others to use or defend against these agents. In addition, a major recommendation to the Department of Defense was to lift any oaths of secrecy taken by individuals during World War II pertaining to mustard gas or lewisite testing programs.

3) On page 214 of your report, you mentioned the "...The committee found a 'stunted' body of literature, clearly focused on the acute effects of these agents." Please explain what you mean by a stunted body of literature.

The Institute of Medicine committee was charged to assess the long-term health effects of exposure to mustard agents or lewisite based on the scientific and medical literature. Such a charge usually implies that there exists a body of literature focused on health effects of specific exposures and that this literature has developed based on free inquiry in which significant preliminary evidence of health effects or serious physiological damage is fully examined and studied. In the case of mustard agents and lewisite, however, essentially all research in the United States was directed and funded by the military with the sole aim to develop effective weapons and defend against their use. Thus, it was an applications-driven inquiry that largely ignored long-term health consequences, despite compelling evidence of such effects, because only the acute effects of exposure and their impact on the capacity and effectiveness of military troops in battle were of interest. The result was a knowledge base that was "stunted" by the pursuit of only highly specific types of information, leaving large and important gaps.

In part, of course, the scope of the inquiry about sulfur mustard and lewisite exposure derives from the narrow use of these agents in that there were almost no civilian uses for these agents. Two examples are illustrative. In the case of nitrogen mustard, the discovery of its genotoxic effects led to testing of this agent as a therapy for cancer. Although this initial research was conducted by the military in an effort to find civilian uses for chemical warfare agents, the research was eventually supported by civilian agencies funding a broad range of biomedical research. As a result, nitrogen mustard compounds have been used for decades in chemotherapy and free inquiry has produced a body of literature revealing significant increases in second cancers, particularly acute nonlymphocytic leukemia, from exposure to nitrogen mustard. Another example is Agent Orange. Components of this agent have had agricultural applications or have been found in toxic waste sites (e.g., Love Canal). As a result, some research, again funded outside the military, has focused on the long-term physiological effects of components of Agent Orange in human populations, such as agricultural workers and residents of neighborhoods near toxic waste sites. In both these cases, the scientific and medical inquiry was broadened beyond military applications to include human health effects in both an acute and long-term sense.

The fact that other countries, Japan in particular, did pursue long-term studies of the health consequences of exposure to mustard agents through follow up of their chemical munitions workers argues, however, that lack of civilian uses for specific agents does not necessarily preclude the support of broader research into the effects of these agents from an occupational or environmental perspective. Indeed, the narrowness of our

knowledge base concerning sulfur mustard and lewisite (in addition to hampering the Institute of Medicine committee's review) will continue to hamper our ability to predict potentially important effects of these agents on chemical stockpile disposal workers and gas casualties of recent international conflicts and will, thus, limit optimally effective medical interventions.

4) In your review, did you discover any other types of experiments which were conducted by the military? If so, were any of them conducted outside the United States?

Again, there were many types of experiments conducted during World War II under the Office of Scientific Research and Development. Some of these were conducted entirely by the US military with US servicemen as human subjects (e.g., studies of stress and fatigue, acclimatization to heat and cold, burn studies, altitude and anoxia (low oxygen) studies, acceleration and "G" forces, irritancy of a variety of clothing and therapeutic agents, and efficacy of a variety of medications or vaccines. Some of these experiments seem to have been conducted at US field research installations, such as San Jose Island and New Guinea, according to the references listed above. Review of all the various types of experiments done, however, was impossible for the Institute of Medicine to undertake.

An additional point to consider regarding the difficulty in outlining precise information about other types of tests is the fact that there was such a great level of cooperation between the United States, British, Canadian, and Australian military research programs in chemical and biological warfare that, in some cases, it is difficult to discern which experiment was done by which country's military.

5) In your review of the various types of experiments which were conducted, could you give us some idea of the extent of the injuries incurred by the test participants? Please include those individuals who underwent "patch" tests.

In patch tests involving multiple sites of mustard agent or lewisite application, injuries ranged from minor skin burns leaving no permanent scars to severe burns that destroyed whole areas of skin. These severe burns could take a month or more to heal and left permanent scars. It is important to note, however, that patch tests referred to here do not include the more common training applications of one drop of liquid agent to demonstrate blistering capability.

In gas chamber and field tests, injuries ranged again from mild to severe. In mild injuries, the skin was reddened (slight erythema) by the chemical burn, but no blisters or areas of frank destruction of skin layers occurred. In addition, in mild cases the erythema was located in areas such as the back, arms, or legs. In severe burns, by no means uncommon, the skin burns were classified as severe erythema with blister and vesicle formation (i.e., destruction of skin layers with separation of the epidermis from the underlying dermal skin layer). These burns also took a month or more to heal and resulted in scar formation. Such burns were often located in genital areas and involved a larger percentage of body area than milder burns.

An additional factor in gas chamber and field tests was inhalation exposure and eye burns, as well as damage to the larynx and lung. Manifestation of such damage was severe laryngitis, pulmonary symptoms, and severe conjunctivitis. Some individuals did seem to incur systemic affects from severe exposures involving both extensive erythema and inhalation exposure. These individuals suffered from prolonged vomiting and gastrointestinal distress in addition to pulmonary and skin affects. Such individuals may also have contracted serious infectious diseases due to immune system depression and may have exhibited cardiac abnormalities (e.g., tachycardia) in response to the systemic toxic effects.

