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# HHS NEWS

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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FOR IMMEDIATE RELEASE  
Wednesday, October 21, 1981

HHS Secretary Richard S. Schweiker today made public the attached Chronology of Activities on Agent Orange.

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#360

FROM: James S. Stockdale  
Deputy Under Secretary for  
Intergovernmental Affairs

TO : The Secretary

CHRONOLOGY OF ACTIVITIES RE: AGENT ORANGE

The first meeting of the re-established and expanded Agent Orange Working Group was held on August 28, 1981. The first task of the Working Group was to review the status of all ongoing and planned Federal research and related activities.

Each member agency was directed to provide updated reports on the status of its current or planned research activities.

A proposed protocol for the design of the Veterans Administration epidemiological study will be reviewed by the Working Group's Science Panel.

A number of veterans organizations have been briefed on the continuing military records search that is being conducted by the Army Agent Orange Task Force. Preparations are continuing for the Air Force Ranch Hand Study. That study involves pilots and maintenance personnel engaged in the spraying of herbicides during the Vietnam conflict. Concern was expressed that the fullest possible participation by Ranch Hand personnel be obtained for this study of possible health effects related to exposure to Agent Orange. This is critical because the Ranch Hands are a relatively small group of approximately 1200.

A public affairs panel was created and will develop plans for a public meeting of the Working Group to be scheduled later this year.

The Working Group also agreed to establish a resource development panel to assure adequate funding and personnel resources.

Dr Vernon Houk, Chair of the Working Group's Science Panel, has plans to review all research.

Dr. Houk and several other members of the Working Group visited the Army Agent Orange Task Force Office for a briefing on the status of the Department of Defense records search. During the briefing, it became apparent that a potentially

existed

promising new concept/for the identification of people exposed to Agent Orange in addition to the Air Force Ranch Hand personnel or broadly defined units of ground troops. The full research panel was briefed on this new information.

The information may provide the basis for a new approach to finding answers to some of the serious scientific questions before the Working Group. It opens the possibility of an expanded number of potentially identifiable exposures to Agent Orange in addition to those involved in the Ranch Hand study. Further developments regarding the information will be included in the next Working Group report.

The Agent Orange Working Group's predecessor, the Inter-agency Work Group to Study the Possible Long-Term Health Effects of Phenoxy Herbicides and Contaminants (IWG), also undertook a number of activities during the transition period between April, 1981, when it transmitted its seventh report, and August, when the expanded Working Group convened.

At the May meeting of the IWG, a status report was given on the birth defects study being conducted by the Centers for Disease Control. It was reported that the Office of Management and Budget had approved the study and preparations for the study were under way, with completion likely in the summer or fall of 1983.

At the same meeting, it was reported that a representative of the Medical Follow-Up Agency of the National Academy of Sciences' National Research Council had been briefed on and had reviewed the Defense Department's records search effort and had concluded it could be difficult to identify a population of ground troops the nature and extent of whose exposure to Agent Orange could be reliably reconstructed and documented.

At its June meeting, the IWG was honored by a visit by the Australian Minister of Veterans Affairs, Senator Anthony Messner. Senator Messner told the Group of his government's Agent Orange-related research and urged continuing cooperation between our countries in the area of research. During the meeting, the IWG was assured of the Administration's strong support for Agent Orange research.

As you know, Agent Orange efforts of the various Federal bodies include research as follows:

1. The Agent Orange Working Group coordinates all Federal Agent Orange research. It does not undertake any research on its own but rather acts as the coordinator and monitor.

2. The Air Force Ranch Hand Study is to be monitored by an independent advisory committee in addition to the Agent Orange Working Group. This advisory committee will meet publicly (probably beginning in November) and will include scientists from inside and outside the Federal government.
3. The Veterans Administration Advisory Committee on Health-Related Effects of Herbicides meets periodically to review all VA herbicide-related research. The committee includes scientists from inside and outside the government as well as representatives of veterans organizations.
4. The Office of Technology Assessment of the Congress has established a scientific review panel to review the proposed protocol for the design of the VA epidemiological study and will provide the VA with its conclusions and recommendations regarding the protocol.
5. There are also a number of State-level Agent Orange commissions charged with undertaking and/or monitoring Agent Orange research.

The report notes in conclusion that a number of veterans organizations, members of the public and Congress have expressed support for the Administration's actions regarding Agent Orange and related research.

Attachments:

- (A) Memorandum of August 21, 1981, Re-establishing the Agent Orange Working Group, from EHS Secretary Richard S. Schweiker in his capacity as Chairman Pro-Tem of the Cabinet Council on Human Resources.
- (B) Opening Remarks of Agent Orange Working Group Chairman James S. Stockdale at the Working Group's August 28, 1981 meeting.
- (C) Report by Dr. Vernon Houk, Chair of the Working Group's Science Panel.

## THE WHITE HOUSE

WASHINGTON

AUG 21 1981

MEMORANDUM FOR: SECRETARY OF DEFENSE  
 SECRETARY OF AGRICULTURE  
 SECRETARY OF LABOR  
 DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET  
 ASSISTANT TO THE PRESIDENT FOR POLICY  
 DEVELOPMENT  
 CHAIRMAN, COUNCIL OF ECONOMIC ADVISERS  
 DIRECTOR OF ACTION  
 ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY  
 ADMINISTRATOR OF VETERANS AFFAIRS  
 DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY  
 POLICY

*Rich Schweiker*

FROM : SECRETARY RICHARD SCHWEIKER  
 CHAIRMAN PRO-TEM, CABINET COUNCIL  
 ON HUMAN RESOURCES

SUBJECT : Agent Orange Working Group

The Administration has reviewed the excellent work of the Interagency Work Group to Study the Possible Long-Term Health Effects of Phenoxy Herbicides and Contaminants and believes that it has made significant progress toward fulfilling its important mandate. By bringing together knowledgeable scientists from the various Federal departments and agencies the Work Group has identified ongoing research activities on phenoxy herbicides and contaminants and begun to develop and organize the means to carry out additional needed scientific research.

President Reagan shares the widespread public and congressional concern over possible adverse health effects among Vietnam veterans exposed to Agent Orange and other substances. The President stated, during his meeting with national veterans organization leaders at the White House on July 17, 1981, that the Administration is giving special consideration to those concerns of Vietnam veterans.

At the White House meeting, the President announced that the administration had re-established an expanded Working Group as the Agent Orange Working Group and raised its status to Cabinet Council level. The President is personally determined to assure that the full resources of the Federal government are

available to support the Working Group's continuing efforts. The decision to re-establish and expand the membership of the Working Group and to make it an integral part of the Cabinet Council on Human Resources reflects the President's commitment and accords the highest priority to its mission.

As Chairman Pro-Tem of the Cabinet Council on Human Resources, I am, accordingly, reaffirming by this memorandum the Agent Orange Working Group's mandate of December 11, 1979 and providing specific guidance as to how that mandate is to be carried out in accordance with the Cabinet Council's decisions.

The Department of Health and Human Services shall continue to have lead responsibility for overall direction and management of the Agent Orange Working Group. The Secretary of Defense and the Administrator of Veterans Affairs shall continue to assure that their respective agencies participate fully in all Working Group activities. The Departments of Agriculture and Labor and the Environmental Protection Agency, each of which have until now been observers, shall assume full membership and their respective agency heads shall assure that those agencies participate fully in all Work Group activities.

In addition, ACTION, the Office of Management and Budget, and the Council of Economic Advisers, as well as the White House Office of Science and Technology Policy and the Office of Policy Development, shall assume membership on the Working Group and the heads of those agencies and offices shall assure that the resources of their respective agency or office are fully available to support it.

Also, the congressional Office of Technology Assessment, which has been actively involved in all Working Group activities as an observer, will be invited to continue to participate in that capacity, and the General Accounting Office, which has been extremely helpful to the Working Group in the past, will continue to be kept abreast of developments and invited to advise and assist as appropriate.

The Working Group has initiated research efforts designed to find answers to many of the questions surrounding Agent Orange that have been raised. These efforts include the birth defects study being conducted by HHS' Centers for Disease Control, the Ranch Hand Study being conducted by the Air Force, the epidemiological study being planned by the Veterans Administration pursuant to P.L. 96-151, and the compilation by HHS' National Institute of Occupational Safety and Health of a national registry of workers exposed to dioxins. Each of these research activities, as well as the other important research

activities being conducted under the overall guidance of the Working Group, are to be continued without interruption or delay.

The Working Group has developed an impressive record of scientific objectivity, impartiality and integrity and it is imperative to the success of the Working Group effort that this record and the Group's credibility be maintained. In this regard, regular progress reports to the Cabinet Council, the Congress and the public will continue to be made by the Agent Orange Working Group.

To assure effective leadership of the Working Group, I am hereby appointing James Stockdale, HHS Deputy Under Secretary for Intergovernmental Affairs, as Chair. Also, I am appointing Dr. Vernon N. Houk of the Center for Environmental Health of the Centers for Disease Control as Chair of the Working Group's Science Panel. In addition, I am appointing HHS Legal Counsel Leslie A. Platt, who has served as legal adviser to and staff director of the Working Group since its inception, to continue in those capacities. I know and believe you will find that these individuals share my commitment to carrying out this important mission.

Please review your representation on the Working Group to assure that your agency or office is adequately represented by appropriate technical experts, scientists and policy-level officials. In order to facilitate the Group's effectiveness, it is of course important that each agency's total membership be limited.

The first meeting of the full Working Group has been scheduled for Friday, August 28, 1981 and a meeting of the Science Panel will be scheduled for shortly thereafter. Accordingly, please let Mr. Bart Kull, Special Assistant to the Deputy Under Secretary for Intergovernmental Affairs (245-6156), or Dr. Peter Beach, HHS Director of Veterans Affairs (245-2210), know as soon as possible the name(s) of your designated representative(s) so that briefing materials may be forwarded to them.

Attached for your information is a copy of the memorandum of the Executive Secretary to the Cabinet Council on Human Resources establishing the Working Group.

Attachment

cc: Comptroller General of the United States  
Director, Congressional Office of Technology Assessment  
Mr. Robert Carleson  
Mr. Edwin Gray

Agent Orange Working Group  
August 28, 1981 Meeting

Introductory Statement by James Stockdale, HHS Deputy  
Under Secretary for Intergovernmental Affairs and  
Chair, Agent Orange Working Group

Good Morning. I am James Stockdale, HHS Deputy Under Secretary for Intergovernmental Affairs and Chair of the Agent Orange Working Group. As Chair of the Working Group, I wish to express to you my beliefs about the work under way.

Many of you have known frustration in the course of time serving on this project. Occasionally there has been the concern that it would be stuffed away in some dusty corner of official memory and permitted to die of neglect.

Some of you have believed - and in that belief have held firm, and in that firmness have kept the mission and the mechanism of this group intact and alive.

The President of the United States, in his recognition of the trust this nation holds on behalf of those who have served our country in war ... in recognition of the heavy questions that eat at the minds of many who served ... has publicly and forcefully reaffirmed and reinforced the goals this working group seeks to achieve.

President Reagan recently said "we are giving special consideration to the concerns of Vietnam veterans over Agent Orange. Our fiscal year '82 budget will contain a large



increase in funding for the continued study of Agent Orange. In addition to the VA's epidemiological study and the Air Force Ranch Hand Study, we have reestablished an expanded Interagency Work Group as the Agent Orange work group and, yesterday, we raised its status to Cabinet Council level."

If ever there has been a statement of genuine concern for the fears that lurk in the minds of many Vietnam veterans and their families - that was it.

Those fears of possible long term adverse health effects as a result of exposure to Agent Orange are very real. They demand answers. They demand the kind of deliberate, objective research that will provide as many answers as science can give.

There is no fear like the fear of the unknown. It is the mission of this working group to make known the unknown insofar as humanly possible.

This working group will not cave in to the hysteria of emotionalism that surrounds this issue. This working group has a responsibility to turn aside from the barrage of demands for quick and easy answers based on assumptions and fear rather than facts.

Equally so, this working group will not bow to any interests that might seek to sweep this issue under the rug - to pretend it does not exist and hope it will simply go away. This working

group will not succumb to any effort to stonewall. This issue will not go away. Efforts to stonewall it will fail.

This working group's mission is to seek truth and to reveal openly as much truth as can be found.

All of the truth may be beyond our grasp but we have a moral obligation to reach and even to stretch our reaching beyond the limits we believe imposed upon us by the nature of our finite minds and the current state of science.

On behalf of those who wonder and worry and fear we can do no less.

I am especially pleased, therefore, that we have assembled such an outstanding team for this project.

At this time, I would like to introduce some of the key people in this effort from the Department of Health and Human Services. First, I would like to introduce Dr. Vernon Houk of the Center for Environmental Health of the Centers for Disease Control, who will chair the Science Panel. Next, Leslie Platt, our legal counsel and staff director, and Bart Kull, my special assistant, who will chair the group in my absence. Also, you all know Dr. Peter Beach, the Department's director of veteran affairs who has been and continues to provide overall coordination for this effort. We all welcome you to the Department and look forward to working with you.

## Memorandum

Date September 24, 1981

From Chairman, Science Panel  
Agent Orange Working Group

Subject Report of the Science Panel to the Agent Orange Working Group

To Mr. James Stockdale  
Chairman, Agent Orange Working Group  
Deputy Under Secretary for Intergovernmental  
Affairs, HHS

Attached is the Report of the Science Panel.

  
Vernon N. Houk, M.D.

Attachment

## REPORT OF SCIENCE PANEL

TO THE

## AGENT ORANGE WORKING GROUP

The Science Panel met September 2 and September 15, 1981. A summary of these meetings and other activities is as follows:

Veterans Administration (VA) Draft Protocol for Epidemiological "Studies of Agent Orange"

The Veterans Administration Draft Protocol for Epidemiological "Studies of Agent Orange" received from the University of California at Los Angeles (VA Contract V101(93)P-842) was distributed to the members of the Science Panel. It was agreed that the review would take place in two stages.

The members are to transmit to the Chair by September 18 a general overview and general comments of what needs to be done. By October 16, detailed, specific comments and suggestions for protocol design on what needs to be done, how to do it, and suggestions on who has the capability of doing it should be transmitted to the Chair. The Chair will consolidate the comments and return it to the members of the Science Panel for review with final comments on the proposed study to be submitted to the VA before their committee meeting on this subject in November.

The present VA proposed protocol is scheduled to be reviewed by the Science Panel, the VA Committee, the Congressional Office of Technology Assessment, and the National Academy of Science, National Research Council (NRC). Dr. Honchar suggested that the document was not yet ready for review by the NRC and suggested the VA discuss with NRC that they consider withholding a review until a more detailed and specific document can be made available. The Science Panel members concurred with this suggestion.

Dr. Gough of the Congressional Office of Technology Assessment indicated that their review has been completed.

A Case Control Study of the Relationship Between Exposure to 2,4-D and Spontaneous Abortions in Humans

The Science Panel was asked to review the document "A Case Control Study of the Relationship Between Exposure to 2,4-D and Spontaneous Abortions in Humans" prepared for the National Forest Products Association and the U.S. Department of Agriculture--Forest Service by SRI International. Dr. Kimbrough and a rather large intergovernmental group has reviewed this study in detail during its route to completion. Those comments were made available to the Science Panel. The members of the Science Panel were asked to complete this review process and send written comments to the Chair by the end of October.

Mr. Platt indicated that he would send to all agencies involved the list of past, present, and anticipated activities on the subject of herbicides. The agencies will be asked to review and update that document and return to Mr. Platt within 1 month.

### Data Sets

There was considerable discussion about additional data sets that may be available. Dr. Shepard was asked to have the VA review and report back to the Science Panel specific information on the VA death certificates, any health information that may be contained in VA life insurance information, and to survey the major VA hospitals for any additional studies or information that may be available.

The Department of Defense (DOD) was asked to report on the status of the Soft Tissue Sarcoma Registry at the Armed Forces Institute of Pathology (AFIP). DOD was asked to investigate and report on the kinds and amounts of herbicides used in non-Vietnam DOD installations in various parts of the United States and the rest of the world.

The Department of Agriculture (DA) was asked to report on any information from their sources (Extension or otherwise) on the use of herbicides in the United States. Dr. Shaw of the DA was concerned that special groups in the United States, such as those involved in spraying the electrical power transmission lines rights of way, could be identified and could contain significant health information on workers involved in this activity. Drs. Rall and Landrigan felt that this information would at best be sketchy. Dr. Shaw was asked to report to the Science Panel on this subject.

### VA Mortality Study

Dr. Kimbrough suggested that the VA proceed with the review of the VA death certificates for Vietnam veterans. VA has 95 to 98 percent of death certificates of veterans who died on file in various locations around the country. The study would also include, in cooperation with DOD, individuals who died while still on active duty. Dr. Kimbrough will work with Dr. Shepard and others to explore the feasibility of this being accomplished. It was suggested by several members of the Science Panel that in order to be successful, individuals will have to be identified and trained to extract the specific information needed in a uniform manner from the records. It is unlikely to be successful simply by paying available people overtime to review records in their current installation.

### International Symposium on Chlorinated Dioxins and Related Compounds October 25-29, 1981

Dr. Shepard asked the Science Panel to endorse and various agencies to co-sponsor (without commitment of dollars) the subject conference. Dr. Landrigan felt that the speakers listed on the brochure presented only one side of the

subject material. Dr. Shepard indicated that this was not intended, and anybody with any information was invited to participate.

Attempts will be made to contact the group evaluating soft tissue sarcoma from Sweden to participate. Dr. Honchar was also asked to present her recent study on this subject.

Since the above discussion on the subject symposium, Dr. Lennart Hardell of Sweden asked to present their data on soft tissue sarcoma. He was apparently told by organizers of the conference that there was no room on the program for his paper. The Chair communicated with Dr. Shepard that this was not in accord with the previous agreement and was asked to use his influence with the symposium organizers to have Dr. Hardell's paper included in the formal program.

No governmental agency will formally co-sponsor or otherwise endorse the symposium though many will provide participation by their employees.

#### Other Groups to be Explored

Major Young suggested that there are other individuals who may have been exposed to Agent Orange in high doses that could be identified and available for study. These include approximately 50 scientists and technicians that were assigned to the Plant Sciences Laboratory, Fort Dietrick, Maryland, 1962-70; approximately 200 scientists and technicians involved in the development and evaluation of spray equipment at Eglin Air Force Base, 1962-70; and approximately 200 individuals who were involved in the disposal of Agent Orange (Project PACER-HO 1977). Major Young was asked to make a presentation at a future meeting of the Science Panel.

After the previous discussion of Data Sets above, Dr. Bricker shared with the Chair information on "aborted missions." An aborted mission is one when for various reasons the intended targeted spraying of the herbicide was not done but the material was dumped from the aircraft. The Chair asked Dr. Honchar to quickly review these data. Her report is attached. Major General Augerson formally notified the Science Panel of these data. That notification and acknowledgment of the Science Panel are attached.

On September 15 a meeting was called for the Science Panel to examine this new information.

#### Aborted Missions

Dr. Bricker and Mr. Christian presented a briefing on aborted missions. They have identified 90 between 1965-1971 and have reasonable information on 28 (MACV records). It is possible that information could be developed on the other 62 (Air Force printouts). They suggested that major attention be given to the activities at four locations in Vietnam. In addition to exposed personnel in these four areas associated with the aborted missions, there may be other groups that have had extensive exposure. These may include personnel who were involved in base perimeter spraying, by air or by land, sprayers of riverbanks, and any personnel who were used for cleanup activities when there were leaks or disruptions of the storage containers or other significant accidental spills. We would suggest that the Defense Department develop

information on those units that might have had the highest exposure. It is necessary to determine the duration of acute, heavy, and long term exposure to all herbicides used in Vietnam. For the herbicide Agent Orange, it would also be useful if information could be developed on the manufacturer and date of manufacture or at least whether this was one stripe or two stripe Agent. By consensus of the Science Panel, Drs. Honchar and Kimbrough were asked to work with Dr. Bricker and Mr. Christian to develop information from the Army records and other documents. Hopefully, it will be possible to identify units that have had considerable exposure to Agent Orange from these records.

A request regarding this matter was sent to Major General Augerson on September 21. A copy of that letter is attached. The Science Panel recommends that the Chair, Agent Orange Working Group, ask the Resource Panel to explore providing the necessary resources to complete this task. By October 20, we should have a fairly good estimate of what tasks will be needed. DOD should provide a resource estimate. Not only are there groups who may have been acutely heavily exposed to these materials but the surface is likely to be heavily contaminated. It appears that at least some of these incidents occurred in places with significant populations remaining in contact with the contaminated area for a period of time. The Science Panel will explore the possibility of identifying similar non-Vietnamese areas of contamination that would lend themselves to a study of for how long and how much of the TCDD is likely to remain in the soil. It is known that TCDD degrades upon exposure to ultraviolet light. TCDD in soil on the other hand may be extremely persistent. Dr. Kearney of DA has been asked to report on this by October 20 in more detail. Dr. Kearney was also asked to determine what environmental monitoring data is available from Vietnam on 2,4,5T; 2,4D; and TCDD.

#### Laboratory Quality Monitoring

Dr. Eric Sampson of the Clinical Chemistry Division, CEH, CDC, presented to the Panel some general information on quality control procedures used by the information on new methods developed at CDC for the precise measurement of five reproductive hormones.

The Science Panel recommends for any investigations, including the Ranch Hand Study, that tight quality controls of laboratory tests be incorporated into their studies. This is even more critical when longitudinal observations are being made on groups so the data will be comparable over time.

Respectfully submitted September 24, 1981.



Vernon N. Houk, M.D.  
Chairman, Science Panel  
Agent Orange Working Group

Date September 14, 1981  
From Science Panel Member

Subject Preliminary Assessment of Epidemiologic Utility of Aborted Ranch Hand Missions

Chairman, Science Panel, Agent Orange Working Group  
Through: ~~X~~ Director, DSHEFS, NIOSH ~~PSK~~  
Chief, IWSB, DSHEFS, NIOSH *William Halperin*

On September 10, 1981, I met with Department of Defense personnel to learn about aborted Ranch Hand missions and to determine whether adequate information about these missions is available to allow identification of a cohort(s) with defined exposure for epidemiologic study. To this end, questions about both the exposure and potential cohorts were explored.

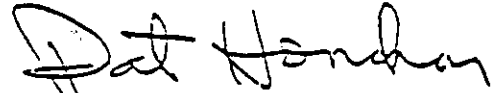
Concerning the exposure, ninety aborted missions have been identified. Of these, some documentation (e.g. date, altitude, agent, gallons, location, etc.) is available for 28, and less complete information on the additional 62 missions is contained in the HERBS tape. It will be important to assemble the original documentation for the additional 62 missions. Based on what is known about the 28, it appears that ultimately documentation for some of the missions will be incomplete. When all available data about these missions is assembled, information such as agent, altitude, gallons, time and date when available can be analyzed to estimate the area contaminated by the emergency dumps. The Army has begun to map the aborted missions, and this activity can and should continue with additional information on the emergencies.

Concerning the population exposed, it appears at this time that it will continue to be difficult to know with absolute certainty from records that a particular individual or unit was located directly under and came in contact with Agent Orange released in an emergency dump. The Army has, from preliminary mapping of the missions, begun to identify military populations in closest proximity to clusters of aborted missions. At this time, four population areas have been identified with from approximately 800 to approximately 12,000 military personnel in residence at the time of the aborted missions in the four areas.

In summary, this evaluation is preliminary. After all available information about the known aborted missions is assembled and evaluated, continued effort can be applied to identify the ground units in closest proximity. At that time, issues of potential cohort size, controls, etc. can be considered. It is very important to note, however, that further information about these aborted missions at best can be utilized to maximize the probability of exposure of a cohort; it will be difficult or probably



impossible to define the exposure of each individual in any cohort. Questions of frequency and amount of exposure, and multiple exposures, will remain. And finally, given that the bulk of Agent Orange exposure including the aborted missions occurred in the late 1960's, the issue of inadequate latency must be addressed if a cohort mortality study is proposed.



Patricia A. Honchar, M.S., Ph.D.

*Handwritten scribble*

# HHS NEWS

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

FOR IMMEDIATE RELEASE  
Wednesday, September 23, 1981

Laura Genero - (202) 245-6343  
Dick McGowan - (202) 245-7204

HHS Secretary Richard S. Schweiker today announced that the administration's Agent Orange Working Group has received significant new data about emergency aerial dumpings of herbicides that could help scientists determine the possible long-term health effects of the defoliant on Vietnam veterans.

As part of a continuing search of Vietnam war files, Department of Defense records personnel discovered that approximately 90 chemical spraying missions had been aborted and their cargo dumped due to enemy fire or engine failure. Agent Orange apparently was involved in 41 such dumps, some directly over or near U.S. air bases and other military installations.

Until now, approximately 1,200 pilots and support personnel who sprayed Agent Orange were the only group documented and identified to have been heavily exposed to the defoliant.

Veterans groups fear it is causing a variety of illnesses among soldiers who were exposed to the chemical and birth defects in their offspring.

On July 17, President Reagan elevated a government-wide Agent Orange Working Group to cabinet council level. HHS Deputy Under Secretary James Stockdale was named chairman by Secretary Schweiker.

This new information is of particular interest to the working group's scientific panel, because it may help in identifying additional exposed populations for potential health effect study. Information is now being developed by the Department of Defense on exact locations, times, weather conditions, personnel present and the extent of possible exposure.

# # #

DEPARTMENT OF HEALTH AND HUMAN SERVICES

"Press Briefing with Richard S. Schweiker,  
Secretary of Health and Human Services, on Agent Orange"

Washington, D. C.

September 23, 1981.

pmcc

P R O C E E D I N G S

SECRETARY SHWEIKER: On July 17th President Reagan asked me to take the lead in a new cabinet level working group on Agent Orange. I am today announcing new information about Agent Orange that can help scientists determine the possible long term effects of the defoliant on Vietnam era veterans.

We are working to get more details, but I feel it's essential to make public at the earliest opportunity the new information that's now available because of our commitment to the public's right to know generally and our recognition of the concerns of Vietnam veterans and their families specifically.

Up until now we could only identify a relatively small number of persons exposed to Agent Orange in which to base a study on its effects. Now as part of our extensive review of government records by the President's cabinet level working group on Agent Orange we found that a greater number of persons than previously thought may have been exposed to this chemical.

We have found that there were approximately 90 chemical spraying missions in Vietnam which had to be aborted and their cargo dumped due to enemy fire or engine failure. Forty-one of these dumpings may have involved Agent Orange.

A scientific panel is now working with the Department of Defense to try to determine the exact locations, times, weather conditions, personnel present and the extent of possible exposure to Agent Orange so that

complete study can be made. I think at this point I'd be glad to answer any questions. Yes.

MS. : Mr. Secretary, do you have any idea how many American servicemen could have been exposed as a result of this dumping?

SECRETARY SCHWEIKER: At this point we do not. That's exactly what the working group is now focusing on, now that we've pinpointed some 90 aborted missions and 41 possible missions for Agent Orange alone. We're going back focusing on that, seeing what was involved. Obviously some of these may well be military installations and bases that are involved, so we are saying today, I guess, for the first time that a much larger population exposure exists than, unfortunately, was known or believed possible before.

And I think we don't really have any concrete figures. I want to say that this is still an ongoing investigation. For example, we have reports that we're now investigating that they used Agent Orange in base clearing procedures and would obviously need a certain amount to clear a base area, staging area. We've had reports they've used it for riverbank spraying, and my only point is that what we're saying today is as much as we know today, that it has, I think, substantially changed the people who might have been exposed to this chemical.

MR. : Mr. Secretary, you're saying that there are some 41 such dumps, that maybe perhaps thousands of

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additional people might have been exposed. It's thousands?

SECRETARY SCHEIKER: Again it's difficult to say, but I want to be candid in saying that some of these specifically we now know will have been over military base installations in military residential areas. And when you start dumping 1,000 gallons of a chemical in that area, you're exposing some people to rather some severe levels.

We just don't have the figures or numbers of people at this point. It would be premature to talk about numbers of people, but --

MR. : Is the geography involved beyond Vietnam?

SECRETARY SCHWEIKER: I don't -- one of my panelists is on that.

MR. : Before you might respond to that, Mr. Secretary, the geography --

(Simultaneous remarks.)

SECRETARY SCHWEIKER: Yeah, come on up here a minute.

MR. PLATTE: My name is Leslie Platte. I'm legal counsel to the Department of Health and Human Services and to the Agent Orange Working Group. The information we're talking about pertains to aborted missions in Vietnam.

SECRETARY SCHWEIKER: So we're saying at this point Vietnam only. Yes.

MS. : Yes With all due respect to the

working panel, what has happened to these records over the years that this information was not made available before to the veterans who may have been exposed? Where was it buried, in the Defense Department records? Where did you find this information?

SECRETARY SCHWEIKER: Well, I just got commissioned for this job on July the 17th, and I think the reason that we decided to upgrade the council and make it part of my cabinet council working group working group was we felt that a high enough priority had not been given to it previously, and we didn't feel that a high enough level of inquiry was made. So all I can say is I think as a result of a higher level of inquiry and our stronger focus, we did find this information. I can't answer offhand where it was buried or why it didn't occur before, but we made every effort to get it, and I think we are getting it.

MS. : But they are Defense Department records you're looking at?

SECRETARY SCHWEIKER: That's correct.

MS. : And they didn't bother to find them before this?

SECRETARY SCHWEIKER: What's that?

MS. : Did they find them before this?

SECRETARY SCHWEIKER: I don't know. I wasn't here.

MR. : Talking about identifying the troops

that were exposed, what will you do about it?

MR. SCHWEIKER: Well, we have a series of studies that we've been looking at to put forth as part of our working group. And we are now in the process of defining, delineating and commissioning those studies. And there's about six studies now that we're going to focus on for examination.

One, whether Vietnam veterans are -- are they higher risk of siring children with birth defects which is in the Center for Disease Control presently. Another, an epidemiologic study of ranch hand personnel involved in the Agent Orange spray operation. That's focussed in DOD. Another registry of all workers involved in the manufacture of 245-T. That's the chemical. This is in NIOSH, in our department. Four, Congressionally mandated epidemiologic study of veterans exposed to Agent Orange, this is with the VA. Five, a Congressional mandated review of worldwide scientific literature regarding possible health risks associated with exposure to dioxin, VA contracted for the review and analysis to be performed by a contractor. And six, the health status of Vietnam vets to determine whether service in Vietnam may have generally placed veterans at a higher risk of suffering adverse health effects, VA.

Now, I want to make clear, most of these are underway. They're not all underway yet, because we're looking into the feasibility of them as well as the scientific expertise available



studies we've looked at, these are the ones that have come most in focus that we're going to be dealing with.

MR. : My question was specifically, these individuals who you now say may have been exposed to Agent Orange once you've identified them and you know X G.I.'s were exposed, what are you going to do about it? Are you going to (inaudible) examination?

MR. SCHWEIKER: Well, in this one study we specifically are going to identify them and do whatever the scientific experts in the field tell us needs to be done to assess the impact on that particular person, personally or biologically or chemically, whatever way we can.

Let me say this, that that's not an easy thing to do. Until we get a scientific body of agreement on just what implications there are. We know about Agent Orange at this point. It's a highly toxic chemical. Beyond that, there's a lot of scientific debate and conjecture about what happens and we want to try to find it all out.

MR. : But are you going to call them in and give them physical examinations?

MR. SCHWEIKER: Well, again, it's up to each of these study groups to come in with a plan and to make a proposal, and I'll have to and (inaudible) have to okay the model and the proposal. Well, our intent is to find out, yes, to find out all that we can.

that we can.

I'll be glad to -- we're going to break up in a little while and let you talk to a few of the experts here on some of the details of these studies, so if you want to pursue some of them --. I think the answer is, we haven't evolved all the studies to the point where we can say that this is exactly the way the study will operate yet. And some we have commissioned and some we're still discussing about the priority of.

So --

MR. : Mr. Secretary, two years ago there was a study of the effects of atomic radiation fallout from above-ground tests. People were invited to call into a hotline and identify themselves, and identify an incident in which they were exposed.

Are you doing any such outreach in connection with this, asking people to identify themselves and where they think they were exposed to Agent Orange?

MR. SCHWEIKER: We have been working very closely with Vietnam veterans group, who are doing this kind of outreach. And the answer is yes, we will encourage any kind of outreach like that. So far we've been proceeding. I think you'll find the Vietnam veterans up until today and I think even more so today feel that we are trying to get to the bottom of what they perceive are very real problems here.

So the answer is, we're working outreach

through the Vietnam veterans groups. We'll certainly go beyond that if we feel it's necessary.

MR. : Followup, just one other question. People who then feel that they have been exposed should contact whom, the Department or veterans groups or what?

MR. SCHWEIKER: I think, contact the Department at this point. We'd be glad to hear from them, yes. Mr. Stockdale is chairman of our working group at the working Cabinet level, yes.

MR. : Mr. Secretary, if you have no estimate of how many numbers of veterans who have been involved, do you have any estimates on how many bases and military installations (inaudible)?

MR. SCHWEIKER: Well, we are in the process of trying to define -- what we have to do is go back to look at missions. We have to determine what chemical was on that mission, we have to determine if the mission was aborted and was it aborted at what stage where, and what likely happened.

This is not exactly a crystal-clear record of situations. So the reason that we worded the things the way we have is that this is the records that have come to our attention so far. We are going to make every effort to get more detailed records and more specific records about where the chemicals might have fallen what time frame, logistically they were in when they aborted the mission to try to figure out exactly where it is.

But it isn't easy. And that's why I can't give you a

lot of specifics, because we just don't know at this point.

MS. : When do you expect it will be done?

MR. SCHWEIKER: Well, we're making every effort to do it as soon as we possibly can. I think considering that we only got started in July and considering we probably know more about what happened on exposure in the last couple of weeks than we knew for several years, I think we're making some progress. But we're just going to pursue it until we feel the job is done, and I don't know what the time frame is, frankly.

MS. : Mr. Secretary, is one of the reasons for your making this information public today the feeling that perhaps there may be people out there who may be suffering health problems, who may have been exposed under these circumstances who don't know it, and hoping they --

MR. SCHWEIKER: I would say that's one of the reasons, yes. I'd say there are really three reasons. When I took the chair of this group, I felt there was a responsibility to level with the American people about what was happening here, because as you know, the Vietnam vets have really criticized the government. They felt the government was not providing the information. They felt they were in fact obscuring it.

So I felt my responsibility was to put the information up front when it came to my attention. That was number one. Number two, we have worked closely with the Vietnam veterans group

who are now involved, who now feel they may have an exposure. And we felt in fairness to them we had to come forward as soon as we had this. And thirdly, yes, the other part of your question is, we certainly would encourage and welcome people in that third category, because now that we know there's a larger exposure area in personnel and physical than was originally admitted, why, we think that it's very critical that we have this information.

Yes.

MR. : (Inaudible.)

MR. SCHWEIKER: Well, what we did, we took -- there had been a group that had been working on this that I would say a lower level. And I think President Reagan in meeting with the veterans group in July gave them his assurance that he would put a high priority on getting to the bottom of this situation.

And when he made that decision he turned around then and commissioned -- I happened to chair a counsel on human resources. And he commissioned our Cabinet council and myself as chairman to take over this project. So the previous group was upgraded and expanded and given Cabinet council status. And frankly, at that point we began to get everybody involved who ought to be involved in terms of the Defense Department, the Air Force, the VA, et cetera.

And our results were somewhat productive.

MS. : Mr. Secretary, do you have any suspicions -- to press this point a little harder, do you have

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any suspicions that anyone over there over the past decade or so has been sitting on this information deliberately?

MR. SCHWEIKER: I really can't make that judgment. I really can't make that judgment. The judgment I can make is that we upgraded the focus, raised the priority and did our level best to get this information.

I think we've accomplished a significant part of that role. As I said, there are still parts of the iceberg that haven't been seen yet. I don't want anybody to be misled that we are doing the whole thing here today. Because we do know there are reports of these perimeter clearings where chemicals were dumped to clear clearings and jungles and obviously a lot of concentrated chemicals had to be dumped there.

We hear reports of the riverbank spraying for other logistical reasons was done. We aren't to the bottom of those things yet. We just are getting there. So some of it is scratching the surface. So I don't want to make any accusations or view with concern about what happened before. I'm just glad we've got something now.

Maybe one or two more, then I'll leave and let my experts here take over. Yes.

MR. : Secretary Schweiker, you said that these dumps were over populated areas of the basin. That doesn't seem to be commonsensical. Why would the pilots dump it over a populated area? This was a defoliant, they know what it was.

Wouldn't they choose some barren area to give evidence to the contrary?

MR. SCHWEIKER: Well, we do have evidence to the contrary. And the reason for it is clear, and that is there was a mechanical failure of the mission. Maybe the plane -- the chopper or whatever had trouble or they were shot down by enemy fire and didn't have any choice. So these were all forced dumpings, they were forced to dump their cargo because the mission was aborted, either because of mechanical failure or because of enemy fire or some adverse situation.

Now, what we're saying is that that didn't always occur over bases. But we'd be misleading you if we didn't say that some of the evidence that's turned up indicates that some of it did occur over areas that were inhabited. So we don't want to mislead you.

MR. : Can I ask a -- not exactly a follow-up, but a different question here. This phrase, this account that information is being developed by the Defense Department, on exact locations, weather conditions, personnel present and the extent of exposure. That seems to imply that it can be done. Can it be done, how long would it take to get those questions answered, or it is something that you don't know yet that you'll be able to find everybody?

MR. SCHWEIKER: Well, some of these go back pretty far in terms of military records.

talking about a mission of a helicopter and it flew out and back, we don't always have complete records on everything. So all we're saying, I guess, is that we're going to get every available record that we can. We think we now have a substantial number of them.

But I'm sure, with the other reports about the base perimeter clearings and the riverbank things, we do not have those yet. So we're just going to keep plugging away until we see what we can get. It's an open-ended answer because we just want to keep going until we get as much as we can get. I don't know what the time frame -- I don't want to give you 30 days and then not have the answer. I want to say we're going to do the job until it's finished, until we're satisfied ourselves that we have used all the available information.

And, when I got this job in July, I don't think anybody quite foresaw that we would be dumping chemicals on our own people. I'll be quite honest with you. I don't think anybody quite foresaw that. Yet obviously, the Vietnam veterans have been saying something like that for some time. We were listening. But now it's clear to me that we apparently did in cases do that.

And so having just seen that being reported, I don't want to shut off something in the next 60 days and 90 days or six months and say, we have all the information. I want to get all the information.



that if you got the information from, say, the Department of Defense, and it's all related to these mechanical failures, does that mean you've got all the information on that particular kind of dumping, the accidental mechanical failures? Or in six months we're going to get another news release that says, 150 more have been found?

MR. SCHWEIKER: Well, I don't know what will happen in six months. All I do know is that we feel is that we have enough information to make a definitive statement that the number of people exposed was substantially larger than anybody expected, and that we have an obligation to alert people to that substantial larger exposure.

Now, we feel we have a reasonable handle on the first thing that we're saying here, which is the aborted mission aspect of it. We do not have a reasonable handle on the base-clearing problem or on the riverbanks problem. And we do not know whether that's a big thing or a little thing.

So, yes, you might have another release. Our job is to find out.

MR. : This news could shake up a lot of people today. What are the symptoms for a person who's been exposed to Agent Orange?

MR. SCHWEIKER: Well, at this point I think I better turn it over to our technical experts to not only answer that question but to follow up on...

questions. Let me just say -- identify the people who will be here to follow up.

Lesley Platt here is legal counsel to the Agent Orange working group in our department, Bart Call is special assistant to the deputy Under Secretary and Jim Stockdale is the chairman of the working group task force as my chairman of that working group. And all three are here to follow up, and I'll let them follow up on that technical question.

MR. : (Inaudible).

MS. : We don't have it yet.

MR. SCHWEIKER: We would list it if we had it in specific enough form to be reasonably intelligible. You have a plane that released a chemical. You're not sure exactly where he released the chemical. Nobody took a picture of him releasing the chemical over a certain ground. We don't have an aerial spy photograph looking down when he dumped the chemical.

All we know is that he was on a mission that aborted a chemical. He was in some general area. Depending on what his reported time was and whether he clocked a record of the time in plotting his chart, we're not exactly sure where he did it. So it's pretty clear to me that it would be irresponsible to pinpoint it beyond what we did today.

On the other hand it would be irresponsible of us not to give you folks and the Vietnam vets the information we now have

gation.

MS. : (Inaudible.)

MS. : Susan, I think they can answer your questions. We've got three people here who are part of the working group. They've been dealing with this subject for a couple of months. The ground rules in asking them questions are we ask you to attribute their statements to HHS folks rather than mentioning them by name.

This is Jim Stockdale who's chairman of the working group. Les Platt and Bernard Cole.

MR. : Mr. Stockdale, I asked the Secretary about people volunteering information to this group. He mentioned your name as the point of contact for them, I guess. So could you give us an address where people can write?

MR. STOCKDALE: I am chair of the working group. My address is in this building, room 622E.

MR. : HHS, Room 622E.

MR. : So people should contact you if they feel (inaudible)?

MR. STOCKDALE: Let's go through this in an orderly fashion. First of all, let me introduce my colleagues who along with I will make some responses. On my right is Leslie Platt who's general counsel to the working group. And on my left is Bart Cole who's my special assistant and deputy chair of the

And the question vis a vis where should a concerned person make contacts so their name becomes known so their concern can be considered, et cetera. Les, would you respond to this whole --

MR. : Yes, sir. The Veterans Administration has a registry of all Vietnam veterans who believe they may have been exposed to Agent Orange. The appropriate thing for any concerned veteran to do first is to assure that his or her name is on that registry.

I believe approximately 60,000 people have put their names into that registry. They can put their name on the registry by contacting their local VA medical facility or VA office.

MR. : (Inaudible.)

MR. : Yes, if the purpose is to make sure that there is a recording of their possible exposure, they should contact the Veterans Administration. In addition, the Veterans Administration has a standing policy that any Vietnam veteran who would like to have a medical examination may come to the VA medical facility to get that examination.

MR. : (Inaudible.)

MR. : The appropriate information would include as much detail as they can provide about the nature of the medical condition or conditions they believe they're suffering if there are any, and any service-related information about when and where they were in the service.

MS. : Can you give some information to repeat the question about symptoms that can be identified with Agent Orange?

MR. : There's a broad spectrum of diseases and health effects that have been alleged to be associated with exposure to Agent Orange. I would state that the allegations run the range from birth defects, liver dysfunctions, sleeplessness, loss of sexual libido and a range of problems and multi-system disorders.

There is at this point no definitive scientific consensus in the scientific community that has been working on the Agent Orange problem within the government, as to the nature of any possible connection between presumed exposure to Agent Orange in Vietnam and health decrement that may be present in any individual veteran at this point.

What is known is what the Secretary said before, namely, that dioxin, the manufacturing contaminant and 245-T is toxic. They're also known from a number of animal studies that this has been confirmed. There is a furious scientific debate abroad, not only in the United States, but also throughout the world about the possibility that exposure to Agent Orange or any of its constituent elements may have resulted in any health decrement to an individual veteran who may have been casually, accidentally exposed.

One of the major problems identified by the Secretary

is that there simply is no good measure right now of the nature and duration of exposure of individual ground troops. Until now the only group the nature and duration of whose exposure to Agent Orange can be reliably reconstructed and documented is the group of 1200 ranch hand Air Force personnel who spread Agent Orange and whose mission assignments are recorded in detail in available military records.

One of the studies the Secretary mentioned which is to begin very shortly after multiple expensive scientific protocol reviews that have spanned several years is a study of the health status of those 1200 Air Force ranch hand personnel.

MR. : Would you say that this new information would invalidate previous studies (inaudible)?

MR. : I don't know that without further information. A scientist -- and I am not a scientist and I could not answer that question for you even with the information. I would not presume to answer that question. I don't know that a scientist could answer that question without more precise information.

MR. : Would you say this lends any more credence to the claims that the veterans groups have been making?

MR. : The major point we would make is that verisimilitude of the exposure circumstances of veterans in Vietnam is now being shown to be somewhat closer to some of the portrayals

MR. : (Inaudible.)

MR. : The first study I mentioned was the Air Force ranch hand study. That study will include detailed questionnaires to be administered to the ranch hand personnel followed up by a detailed physical examination of those personnel I would point out that the study is voluntary and that its success depends in large measure on the willingness of the 1200 to participate.

That study is about to begin. Its conduct -- it is being conducted by the Air Force. It is to be monitored, however by an independent, formally federally chartered advisory committee which will begin to meet probably in November in public meetings to insure that the study is carried out in scientifically impeccable and unbiased manner.

The second study is a study that is being jointly funded by the Department of Health and Human Services, Department of Defense and the Veterans Administration being conducted by the Center of Disease Control of this Department to examine the issue of whether Vietnam veterans are at a higher risk of siring children with birth defects.

That study will begin shortly as well as being expected to be completed in the summer or fall of 1983. It will depend on records that are maintained in the Atlantic Congenital Defects Registry and are available to the Center for Disease Control. The third study is an epidemiological study mandated by Congress.

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# Use of Chemical Weapons in Asia

November 10, 1981



United States Department of State  
Bureau of Public Affairs  
Washington, D.C.

*Following is a statement by Mr. Richard Burt, Director of the Bureau of Politico-Military Affairs, before the Subcommittee on Arms Control, Oceans, International Operations, and Environment of the Senate Foreign Relations Committee, November 10, 1981.*

I am pleased to appear before you today to discuss aspects of chemical/biological warfare in Asia and to bring you up to date on our latest findings. With me today are Amoretta Hoeber, Deputy Assistant Secretary of the Army for Research and Development; Dr. Sharon Watson, from the Army Surgeon General's Office; Mr. Gary Crocker from the State Department's Intelligence Bureau; and Dr. Robert Mikulak of the Arms Control and Disarmament Agency.

Witnesses appear before the Congress on a whole host of subjects. But there is no subject of greater urgency than that we are here to discuss today. Over the past 5 years and perhaps longer, weapons outlawed by mankind, weapons successfully banned from the battlefields of the industrialized world for over five decades, have been used against unsophisticated and defenseless people in campaigns of mounting extermination which are being conducted in Laos, Kampuchea, and more recently in Afghanistan.

Reports of the use of lethal chemical weapons in Southeast Asia began to appear in 1976, although the initial attacks may, in fact, predate that by several years. The sites of these first attacks were in remote highlands of Laos, 6

weeks by jungle track from the nearest neutral territory. The targets were the villages of the highland tribes, such as the Hmong, traditionally resistant to the lowland Pathet Lao. The victims were the inhabitants of these villages—men, women, and children, particularly the children, who proved least able to resist the lethal effects of the poisons being employed against them.

In succeeding years the attacks multiplied and spread, first to Kampuchea and then to Afghanistan. Reports were necessarily fragmentary, incomplete, and episodic. The sources were the victims themselves or the refugee workers, doctors, nurses, and journalists who had spoken with those who survived the long trek from the deserted villages, the poisoned wells, and the deadly fruit of their homeland to safe havens in Thailand.

As information accumulated, it was clear to the U.S. Government that something important and sinister was occurring, but it was not clear precisely what. Repeated stories from rural peoples in widely separated regions, in different countries, all correlated with each other. This made it impossible to discount these reports as self-serving inventions by dissident elements in conflict with the local regime. Yet while, over time, we felt compelled to credit these reports as true, we remained puzzled by them for two reasons.

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First, because analysis of samples taken from the areas of attack—samples of vegetation, clothing, and human tissue—had shown no detectable traces of any known chemical agent;

Second, because the extent and sequence of the signs and symptoms reported were also inconsistent with the effects of any known chemical agent or combination of such agents.

In 1979, despite these remaining gaps in our evidence, the State Department, with the support of other agencies, began to take several important steps.

- We set up an interagency committee to coordinate the government's work on chemical weapons use and worked with the intelligence community to devote greater resources to the development and analysis of information on the subject.

- We began to brief other governments on this issue and to encourage them to develop and share with us their own information on these attacks.

- We began to express our concerns publicly and to seek wider international action.

As a result of these steps, we succeeded last fall in securing a favorable vote in the U.N. General Assembly—over the vehement opposition of the U.S.S.R., Vietnam, and their allies—mandating a U.N. investigation of reports of chemical weapons use.

A second result of these steps was the decision, by a group of U.S. Government scientists and experts on the U.S. interagency committee on chemical weapons use, to take a fresh look at reporting on chemical weapons use from the beginning and, in particular, to re-examine the pattern of the attacks and the resultant symptoms.

### Pattern of Attacks and Symptoms

Many of the reported attacks, particularly in Laos, did follow a pattern—not an invariable pattern but one with consistent elements from report to report. These attacks were conducted by low, slow-flying aircraft, sometimes identified as an AN-2—a Soviet biplane used as a crop duster in the U.S.S.R. The plane would release a cloud, often described as yellow, sometimes orange, red, or other tints. The cloud would descend upon a village or upon people in the neighboring rice paddies. The cloud seemed to be made up of small particles which would make sounds, when falling on rooftops or vegetation, similar to that made by rain. It came to be called, by its victims, the "yellow rain."

For those directly exposed to this yellow rain, its effect was quick and dramatic. They would experience an early onset of violent itching, vomiting, dizziness, and distorted vision. Within a short time they would vomit blood-tinged material, then large quantities of bright red blood. Within an hour they would die, apparently of shock and the massive loss of blood from the stomach.

Those on the periphery of the attack, or under shelter, or those who returned to the village after an attack and ate contaminated food, would experience similar symptoms over a longer period, accompanied by bloody diarrhea. These people, too, would often die—after a week or two of agony—of dehydration.

These symptoms in this order cannot be explained by positing the use of any known chemical agent, either of the blistering type, such as the mustard gas of World War I, or of the more modern nerve agents. Similar symptoms, however, have been reported in natural outbreaks of toxin poisoning of a certain type, specifically trichothecene toxins. Toxins are biologically produced chemical substances, poisons which appear in nature, on grain for instance. In some locales these pose serious hazards to public health.

The U.S. Government scientists and experts on the chemicals weapons use committee combined their hypothesis of trichothecene poisoning based upon the symptomatology of reported chemical weapons attacks with a review of the literature which revealed that the Soviet Union had a long experience in the field of trichothecene toxicology, and had done much research, including research into the massive production of trichothecene toxins. Some such research had, in fact, been done in Soviet institutes under military control and with connections to the Soviet chemical weapons program. We concluded, therefore, that we should begin to look for evidence of possible toxin use. As a first step in this direction, we started to reanalyze samples already tested for other chemical agents for the presence of toxins.

So far I have been citing evidence mainly from Southeast Asia and particularly Laos, where the yellow rain attacks were first reported and where they have been conducted most systematically. In Kampuchea growing reports in recent years suggest that a wide range of chemical warfare agents are in use, including "yellow rain." Cyanide, for instance, has been discovered in wells. Vietnamese soldiers have been captured poisoning the wells of refugee camps on the Thai border.

In Afghanistan, too, the evidence of chemical weapons use has been rising. We are today in much the same position—in terms of our ability to establish a pattern of such use and to identify specific agents being employed in Afghanistan—as we were in 1979 regarding Southeast Asia. We have numerous eyewitness reports—of victims, of journalists—we have sensitive intelligence of technical and human origin, and we have testimony of those who have fought on the Soviet side. Based upon this information, we are certain that chemical weapons are being used in Afghanistan. These include irritants, new and as yet unidentified incapacitants, and familiar lethal agents, including nerve gas. A number of former Afghan military officers, trained in the Soviet Union in chemical warfare, have identified lethal agents brought into Afghanistan, have pinpointed the sites where these are stored, and have specified when they have been used. These reports are corroborated by reports from refugees and victims of these same attacks.

### Physical Evidence in Southeast Asia

We do not, as yet, have physical evidence of chemical warfare in Afghanistan; in Southeast Asia we do. The first set of samples we subjected to test for trichothecene toxins was taken from a village in Kampuchea. It was collected within a day of an attack on the village which killed people in the same brutal manner I have described. The results of that analysis, as you are already aware, showed that:

- The leaf and stem in question contained levels of trichothecene mycotoxins 20 times higher than that found in natural outbreaks;

- The trichothecene mycotoxins found do not occur naturally in the combination identified in Southeast Asia;

- In parts of the world where these mycotoxins do appear naturally, they do so in combination with certain other toxins which were not present in this sample;

- The effect of these trichothecene mycotoxins on man and animals is the symptomatology I have described. These toxins produce all the symptoms I have mentioned, and they are not known to produce any symptoms not reported. The fit, in other words, was perfect.

Others here are better qualified to discuss the technical process of analysis and to interpret the results for you. The significance of this discovery, however, can be simply stated. We had solved the mystery. We had fitted together the jigsaw puzzle which had bedeviled us for 5 years. We now knew what was causing the bizarre and brutal deaths of Laotian and Kampuchean villagers. We had ascertained that a completely new class of weapons had been developed and was in use.

In the past few weeks we have completed analysis of further samples from both Kampuchea and Laos. The results have confirmed our earlier findings and reinforce the conclusions we have drawn from them. One of these new samples was of water, taken from the same Kampuchean village at the same time as the set of leaves and stems, which was first analyzed positively for trichothecenes. The other two samples are from sites of separate attacks in Laos, one of which was provided to us for analysis by Congressman Jim Leach [of Iowa].

All three of these samples reveal very high quantities of trichothecene mycotoxins, quantities even higher than in the first sample. Both of the samples of yellow powder from Laos were scraped from rocks, not naturally a medium for high levels of toxins. One of the Laos samples, for example, contained 150 parts per million of  $T_2$  toxin. This is almost 50 times higher than the level of  $T_2$  in the original sample from Kampuchea. The water sample from Kampuchea contained 66 parts per million of deoxynivalenol.

In addition to samples collected from sites of reported attacks, we have also obtained samples of background soil and vegetation of the same species as originally tested from near the same area in Kampuchea. These were tested by the same analytical technique and found to be free of any trichothecenes, thus further confirming the absence of natural occurrence of these toxins in that region.

Dr. Watson is prepared to discuss the detailed results of these latest tests, and their significance. Again, however, the basic conclusion is a straightforward one: We have confirmed the use of toxin weapons in Laos as well as Kampuchea.

Ever since the U.S. Government began to voice its concerns over reports of chemical weapons use, critics have demanded that we produce the smoking gun. The testimony of victims, of witnesses, or refugee military officers who had engaged in chemical warfare activities, and the technical intelligence

was not enough. Those who did not believe said they would not believe—unless we produced a smoking gun, physical proof.

We now have the smoking gun. We now have four separate pieces of physical evidence. We may soon have more as, I regret to say, chemical attacks have been reported in Laos and Kampuchea within the last month. We are taking every step to make this evidence widely available in order that others can form their own conclusions. There will always be those who will not believe. We are persuaded, however, that any person, any government, any journalist who approaches this issue with an open mind, who travels to the borders of conflict and seeks out victims and those who have treated them, that anyone who conducts his own inquiry, will come to the same conclusions we have.

Having answered one question which bedeviled us for 5 years, we have opened up a new set of unanswered questions. Toxins are one type of chemical weapons in use in Southeast Asia. But there are other chemical warfare agents in use there and in Afghanistan, which we have yet to identify. The trichothecene mycotoxins we have discovered are a highly lethal mixture. But we are not certain that this is the only type of toxins in use, and we are not certain precisely why this combination has been chosen or what other combinations we may yet discover.

We are also addressing ourselves to the question of why toxins have been developed and used as a weapon, when other lethal chemical warfare agents are available, off the shelf, so to speak.

There seem a variety of factors that make toxin weapons particularly effective against the rural, defenseless peoples of nations like Laos and Kampuchea. The violence of the death—with victims experiencing severe vomiting, diarrhea, extreme irritation of the eyes and skin and respiratory system, and often dying rapidly; the ease in which the powder can be carefully applied to a limited area; and the survival rate of those on the periphery, who can report what they have seen, all contribute to making this type of weapon suitable for driving people from their homes and villages and insuring that they stay away. The limited protection needed by those who must handle this material—gloves and a simple face mask, as opposed to a complete protective suit, and the simple method of delivery, such as crop-dusting aircraft—contributes to its

attractiveness as an effective weapon of terror. Finally, the difficulty in detecting and identifying the toxins contributes to its attractiveness. It has, after all, taken the U.S. Government, with all the technical resources at its disposal, 5 years and many thousands of man-hours to discover the true nature of "yellow rain."

### Issue of Responsibility

I have so far addressed the question of chemical weapons use but not the issue of who is responsible for their use. The Soviet Union is, of course, directly involved in the fighting in Afghanistan and thus in the use of chemical weapons in that country. In Laos and Kampuchea, on the other hand, these weapons would seem to be employed by indigenous forces—the Vietnamese, Laotians, and Kampuchean. Nonetheless, the links to the Soviet Union are strong.

- The Soviets are providing extensive military assistance and advice in Laos, Kampuchea, and to the Vietnamese forces fighting there. The Soviets certainly know what is happening and are in a position to stop it if they chose.

- The Soviets are advising and controlling chemical warfare activity in Southeast Asia. Soviet chemical experts have inspected a number of chemical weapons storage facilities there. Both lethal and nonlethal chemicals are believed to be stored at these sites and are transported between storage facilities and ordnance camps or field use areas as needed.

- There exists, in so far as we are aware, no facilities in Southeast Asia capable of producing the mold and extracting the mycotoxins in the quantities in which they are being used.

- Such facilities do exist in the Soviet Union, including microbiological plants under military control and with heavy military guard.

- The Soviets have resisted every effort to mount an impartial investigation of chemical weapons use in Southeast Asia and Afghanistan.

For over 2 years we have sought, and failed to receive, from the Soviet Union an explanation of the anthrax outbreak at Sverdlovsk. We have also raised with the Soviet Union our concerns regarding chemical weapons use in Afghanistan and Southeast Asia. More recently, we have raised these issues again in the context of new information on the use of toxins. We have still not received a substantive response.

The use of toxins as warfare agents in Southeast Asia has grave implications for present and future arms control arrangements. As biologically produced chemical substances, toxins fall within the prohibitions of both the 1925 Geneva Protocol, forbidding the use of chemical weapons in warfare, and the 1972 Biological Weapons Convention, which forbids the production, stockpiling, or transfer of toxin weapons. These agreements, signed by both the Soviet Union and Vietnam, and the customary international law, which has developed out of the former, are being flagrantly violated.

A common feature of the Geneva Protocol and the Biological Weapons Convention is that neither contains any provisions for verification and neither contains adequate mechanisms for resolving issues of compliance. It is too early to determine the full consequences of the use of chemical and toxin warfare agents for future arms control arrangements. There should be no doubt, however, that the U.S. Government will insist that any future arms control agreements contain whatever provisions are needed to permit verification and to insure that questions of compliance are dealt with seriously. The day the United States signs unverifiable arms control agreements is over. Let us hope that the day when others urge us to do so in the cause of relaxed tensions or increased international goodwill is over as well. For nothing increases tension or poisons goodwill more than the lack of compliance with agreements concluded.

### U.S. Steps

Let me next turn to the steps we have taken as a result of the new information on toxin use. As I have noted we have raised this issue again with the Soviet Union, to no effect. We have raised the issue with Vietnam and Laos, also without effect. We have made our evidence available to the United Nations and to all its member countries. We have sent our experts to a number of European capitals and to New York, where they met with the U.N. experts. We have indicated our hope that the U.N. experts continue their inquiry and travel at least to all of those countries neighboring the scenes of conflict—they have just visited Thailand, and Pakistan has offered an invitation as well—to interview refugees and other sources. We have also encouraged other nations and other private organizations, including journalists, to mount their own inquiries into what is going on in Southeast Asia and Afghanistan.

Our objective is to stop these attacks. We will keep this issue before the world community and on the international agenda as long as we need to do so. For the present, we believe priority should be given to the U.N. inquiry. A vote in the General Assembly on whether to extend the mandate for that investigation will be taken in the next 6 weeks. It is very important that this be done.

We are also reviewing other means to focus world opinion on this issue. If we are to succeed, we must make sure this is not simply perceived as a

U.S.-Soviet contest from which others can disengage. This means we must insure our evidence is made as widely available as possible, while avoiding any appearance of engaging in a propaganda campaign. For if our efforts are to have any utility, others must take this information as seriously as we.

There is reason they should. For over 50 years, as I have said, chemical weapons have been successfully banned from the battlefields of the industrialized world. This success is due, I expect, as much to the deterrent effect of possible retaliation as to respect for the sanctity of international law. What is going on today in Afghanistan and Southeast Asia is not an East-West issue. It is an issue of universal import with particular consequences for those countries least prepared to defend against the use of chemical and biological agents. It is our task to put our information at the disposal of the world community. It is the response of the world community—not just that of the U.S. Government, its friends, and allies—which will, in the end, determine whether these attacks continue and proliferate or are halted forever. ■

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## FACT SHEET

Reports of the use of chemical warfare agents in Southeast Asia date back to 1976. The US has publicly expressed its concern about these events on numerous occasions over these years. We have privately and formally expressed our concern to the Soviet, Vietnamese and Laotian governments only to be told that our concerns are unfounded. In June of 1980, we prepared a 125 page compendium of reports of CW use and used that compendium as a basis for supporting the December 1980 UN Resolution to establish an impartial international investigation into reports of CW use. We followed that up with an update to the compendium in March of 1981.

After earlier unsuccessful attempts to obtain physical evidence of CW use, we have recently uncovered significant--though preliminary--information to demonstrate clearly that our concerns were entirely justified. Specifically, we believe we have obtained good evidence that rather than a traditional lethal chemical agent, three potent mycotoxins of the trichothecene group have been used. A mycotoxin is a poison typically produced in nature by living organisms.

Analysis of a leaf and stem sample from Kampuchea has revealed high levels of mycotoxins of the trichothecene group. The levels detected were up to twenty times greater than any recorded natural outbreak. Since normal background levels of these toxins are essentially undetectable, the high levels found are considered to be abnormal, and it is highly unlikely that such levels could have occurred in a natural intoxication. In point of fact, these mycotoxins do not occur naturally in Southeast Asia.

Symptoms associated with these three lethal toxins specifically include rapid onset of vomiting, multiple hemorrhages of mucus membranes, bloody diarrhea, and severe itching and tingling of skin with formation of multiple small blisters, and death.

The possession and use of toxins is a violation of both the 1925 Geneva Protocol and the 1972 Biological Weapons Convention, as well as the rules of customary international law of armed conflict.

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These toxins are produced by fusarium (fu-sare-e-um) fungi which are toxic to man and animals. They are chemically quite stable and can be produced in large quantities. Preparation does require, however, large scale biological fermentation facilities, and no such facilities are known to exist in Southeast Asia.

Over the past several years a number of medical doctors working on this problem have visited Southeast Asia. They visited the borders in question, interviewed and examined refugees, reviewed medical records, including public health data, and have spoken directly with eyewitnesses to events in both Laos and Kampuchea.

Detailed analysis of this and other information leads us to conclude that mycotoxins--not traditional chemical warfare agents--produced the bizarre effects which caused in rapid sequence: dizziness; severe itching or tingling of skin, with formation of multiple small hard blisters; nausea; coughing of blood-tinged material; choking; vomiting of massive amounts of blood; shock; and death of those victims directly under the sprays. For those on the periphery of the attacks or who ate or drank contaminated food or water, symptoms took longer to develop (days rather than minutes to hours) and usually led to death within two weeks if no treatment were given.

The similarities between the sequence and type of medical effects of the toxins described above are striking when compared with those elicited from witnesses and victims.

The test results we have recently obtained together with the information provided by the physicians who have visited Southeast Asia represents strong and compelling, but nonetheless preliminary, evidence that the lethal agents used are mycotoxins. I want to caution you that there are certainly other agents being used that we have not yet identified. Incapacitating and riot control agents as well as other possible lethal agents may be involved. We are attempting to obtain additional information from Laos and Kampuchea in an effort to obtain corroborative evidence.

We are sharing this information with the UN group of experts investigating CW use as well as other governments throughout the World.

Attachments:

Summary of Reports on Use of Chemical/Biological  
Warfare Agents  
Report on Sample Analysis

The US Government for several years has been analyzing the many reports from public and intelligence sources that several thousand deaths have been caused by toxic "yellow rain" or powder. The deaths have occurred primarily in northern Laos against the Hmong tribesmen, in Kampuchea near the Thai border, and in Afghanistan. Some incidents could be attributed to the use of more "conventional" riot-control agents, blister agents, and possibly incapacitants. However, the high death rate when Soviet aircraft (including AN-2, AN-12, and helicopters) were reported to be disseminating yellow-powder--and consistent bizarre symptoms--led the intelligence community to embark on a new collection effort.

Over the past several years a number of medical doctors working on this problem have gone to Southeast Asia. They visited the borders in question, interviewed and examined numerous refugees, reviewed medical records, including public health data, and spoke directly with many eyewitnesses to events in both Laos and Kampuchea. A recent trip by an American forensic medical specialist reviewed this data to confirm these previous findings. Detailed analysis of all sources taken together has led to the conclusion that chemicals called mycotoxins--not traditional chemical warfare agents--produced the bizarre effects in rapid sequence caused dizziness, nausea, coughing of blood-tinged material, choking, vomiting of massive amounts of blood, shock, and death in those directly under the yellow powder. For those on the periphery of the attacks or who eat or drink contaminated food or water, symptoms take longer to develop (days rather than minutes to hours) and usually lead to death within two weeks if no treatment is given.

The symptoms produced by these mycotoxins are similar to those caused by the unidentified agent employed in Laos, Kampuchea, and Afghanistan.

The agent has been described as "yellow rain" by witnesses and victims. Its name comes from the fact that the agent is released from aircraft as a yellow powder that floats down covering the ground, structures, vegetation, and people below it. In addition to the symptoms induced in man and animals described above, plants develop "blotches". A very common finding has been the appearance of numerous scattered, very small (about 1 MM) scorched or dark circles with holes in the center on leaf surfaces after the "yellow rain" has fallen. On close examination, these marks did not have the appearance of any known effect from traditional CW material, herbicides, or plant pathogens. A peculiar quality of the trichothecene toxin is the production of just such an unusual effect by causing multiple foci of minute biochemical oxidation or burns in vegetation.

Mycotoxins occur naturally in the environment. History has recorded several natural outbreaks of toxin-related diseases which have resulted in thousands of deaths. The outbreak of St. Vitas Dance in the Middle Ages, for example, has been attributed to a toxin. In 1944, thirty percent of the population of Orenburg, near Siberia in the Soviet Union, became seriously ill from a natural infestation of Trichothecene toxin, and over ten percent of the entire population of the Orenburg District actually died. Other outbreaks attributed to red mold toxicosis have occurred in Japan, Europe and the United States.

Mycotoxins can be produced in large quantities. The facilities needed to produce mycotoxins are similar to those needed to produce pharmaceutical-grade antibiotics. However, these facilities do not exist in Southeast Asia in sufficient numbers or sizes to produce the quantities of "yellow powder" reportedly used and those mycotoxins are not native to warm climates, i.e. Southeast Asia. The Soviet Union, on the other hand, does have the necessary facilities to easily produce the quantities reported. Mycotoxins have figured prominently in Soviet scientific literature since the 1930s, and research projects concerning them have been identified at Warsaw Pact institutes previously associated with chemical and biological warfare research.

## REPORT ON SAMPLE ANALYSIS

Chemical analysis of the leaf and stem sample from an area near the Thai/Kampuchea border where CW attacks have been reported has revealed the presence of abnormally high levels of trichothecene toxins. This sample, (coded Sample A); positive control sample to which T2 toxin was added (coded Sample B); and negative control sample (coded Sample C) were forwarded to a leading mycotoxin detection expert for analysis. Researcher was given no information concerning the history or content of the samples, but was requested to analyze the three unknowns labeled only A, B, and C for the presence of trichothecene toxins. Method of analysis was a ferric gel procedure followed by selected ION monitoring on computerized gas chromatograph/ mass spectrometer (Hewlett-Packard 5985B). No trichothecenes were detected in negative control Sample C and T2 toxin was detected in spiked positive control, Sample B. Sample A (suspected CW Sample) was found to contain nivalenol, deoxynivalenol, and T2 toxin. These three compounds are potent toxins of the trichothecene group. Levels of deoxynivalenol and nivalenol detected were up to 20 times greater than that reported to occur when vegetation is naturally contaminated by trichothecene toxins. Such high levels are extremely unlikely to occur as a result of natural intoxication according to the mycotoxin expert. There is a striking similarity between the symptoms produced by trichothecene toxins and the unidentified chemical agent allegedly employed in Laos, Kampuchea, and Afghanistan. Symptoms associated with trichothecene poisoning include rapid onset of vomiting, multiple hemorrhage of mucus membranes, diarrhea, and severe itching or tingling of skin with formation of small blisters. All of the trichothecenes produce similar symptoms, however, there are some differences in the degree of severity. nivalenol and deoxynivalenol have fewer skin irritative effects than T2; nivalenol is a slightly stronger hemorrhagic, while deoxynivalenol (also known as vomitoxin) causes very severe vomiting.

Trichothecenes are chemically quite stable and can easily be produced in large quantities. The circumstantial evidence that trichothecenes may have been employed as chemical agents is strong and is supported by the analysis described above.





ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

11 Feb 1982

HEALTH AFFAIRS

DEPARTMENT OF DEFENSE (DOD)  
HERBICIDE ORANGE STATUS REPORT

The name, Herbicide Orange, comes from an identifying orange stripe painted on the drum of this particular herbicide, which was made up of equal portions of the commercially-available herbicides 2,4-D and 2,4,5-T. These herbicides have been used extensively and in large quantities in agriculture and forest management in the United States (US) as well as worldwide for more than three decades. Only 2,4,5-T has been implicated as causing any potential health problems due to the presence, in low concentrations (parts per million), of a toxic contaminant, dioxin (2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)), formed as the result of the normal manufacturing process.

Basically, herbicides were used in Vietnam in a major role to deny cover, and minimally, to deny crops to the enemy. At the request of the President of the Republic of Vietnam (RVN), the use of herbicides was approved by the President of the United States. This was done only after testing in Florida, Hawaii, and South East Asia in the period 1961-1962, and limited operational use during 1962-65. The herbicides used had the desired effects of improving visibility in dense jungle and were then believed to be harmless to humans. From 1965 to 1970, extensive aerial spraying was carried out over approximately 10 percent of the land mass of the RVN, dispensing 11,300,000 gallons of Herbicide Orange in over 6,000 separate missions recorded on a computer tape (HERBS tape). This was carried out under the code name "Ranch Hand." Each mission was carefully approved in matching procedures within the US and RVN chains of command. The missions were often carried out in remote or enemy-controlled areas as a result of the military need to improve observation of enemy activity and to reduce the potential for ambush. The missions were flown under strict meteorological and operational conditions designed to minimize the drift of the herbicide. To the extent that troop movements were timed to foliage destruction, the troops would not normally enter the sprayed area for one to two months when Orange exhibited its maximum defoliation effect. United States and RVN commanders were also warned to keep their troops out of the target area at the time of spraying so that Vietcong groundfire might be safely returned by fighter aircraft protecting the spraying mission. Spraying did occur over US troop positions.

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In a typical spraying of the jungle, tests showed that only 6 percent of the herbicide reached the ground. At normal rates of application, this equals 4 millionths of a pound per acre of the contaminant, 2,3,7,8-TCDD. Repeated testing shows that 2,3,7,8-TCDD is rapidly detoxified by exposure to daylight in a matter of days with a half life of about 6 hours. Pure dioxin which has penetrated below the surface of the soil will persist for years; though it, too, slowly detoxifies. Dioxin is very insoluble in water and has a low vapor pressure.

From 1965 on, there are detailed computerized records of the date, location, and amount and type of herbicide used in fixed-wing, "Ranch Hand" aerial spraying. The enclosed copies of maps, which were drawn from the records of the spraying missions, show the location of all HERBS tape "Ranch Hand" defoliation and crop destruction missions from 1965 to 1971. In addition, herbicides were used around US and RVN base perimeters and along routes of communication, again to deny concealment to the enemy for ambush and attack. There are few detailed records of this use of herbicide, which was applied by hand sprayers, from tank trucks, from riverine boats, and small helicopters. It is also known that RVN armed forces used aerially--applied herbicides, but there are no records of this usage. Also, during 1967-69, small quantities of herbicide were applied along the southern border of the Demilitarized Zone (DMZ) in Korea. This was applied by hand sprayers and from trucks by Korean Army personnel. No US troops are known to have been involved or exposed in Korea.

Because of increasing concern about the ecological, environmental, and possible health effects of Herbicide Orange, its use was curtailed near populated areas on October 29, 1969, and use of Orange was suspended on April 16, 1970. Other herbicides (blue and white) continued in use to October 31, 1971. All remaining DoD stocks of Herbicide Orange, including that returned from Vietnam (2.2 million gallons), were consolidated on Johnson Island and later (1977) safely incinerated at sea under the guidance of the Environmental Protection Agency (EPA). An extensive study of the use and effects of herbicides in Vietnam was conducted by the National Academy of Sciences (NAS) and was reported to Congress in 1974. That study did not identify any specific health problems.

One of the components of Herbicide Orange, 2,4,5-T, contains, as an unavoidable product of its normal manufacturing process, a contaminant known as 2,3,7,8-TCDD or dioxin, a very toxic chemical. In large acute doses in humans, such as result from an industrial manufacturing accident, there is a confirmed adverse effect on the skin. There are suggestions, also, that there are effects on the liver, as well as the central and peripheral nervous system. The skin manifestation of dioxin exposure, chloracne, appears as a

severe, widely distributed rash similar to, but generally much worse than, adolescent acne with an associated skin pigmentation. It is distinguishable from the very common fungus rashes and skin diseases so prevalent with duty in the tropics. These observed symptoms and findings usually clear with time although the skin problems may become chronic.

A recently released study by Monsanto Chemical Company of an accident which occurred in 1949 at their Nitro, West Virginia, facility has not shown an excess of deaths, cancer or heart disease, as compared to the general US population, for 122 male workers who were conclusively proven to be exposed to dioxin. A similar Dow study of 61 males at Midland, Michigan, in a 1964 accident likewise failed to establish any abnormal health effects. Because of the small population size in these studies, there is limited capacity to detect relatively infrequent abnormalities or effects. Reflecting worldwide interest in the subject, studies of other similar accidents, including the one at Seveso, Italy, in 1976, are being conducted. Recent studies from Europe on forestry, agriculture and railroad workers suggest that two kinds of cancer, lymphoma and soft tissue sarcoma, may result from chronic, high exposure to dioxin. In animal studies, dioxin has been shown to be capable of acting as a promoter of cancer, fetal death and congenital defects but, to date, these effects have not been confirmed in humans. The reproductive effects have so far been observed only in pregnant rats and mice from large doses of dioxin, but not in rabbits, sheep or monkeys. There are marked species differences in sensitivity to dioxin's effects. A recently completed study of male mice exposed to dioxin did not show any increase in fetal deaths or fetal abnormalities in the mated females thus reducing concern about male-transmitted congenital abnormalities.

Present interest in Herbicide Orange use in RVN centers on a wide range of actual and potential exposures from the very low to high. Much of the present difficulty with the herbicide issue arises from the fact that there is so little concrete information about exposure, especially at low dose levels, and its consequences. There are no known, proven human effects on health or reproduction from exposure to low levels of 2,4,5-T or dioxin. The health complaints voiced by those who believe they may have been exposed to Herbicide Orange do not fall into any discernible pattern; nor is there any significant marker or unusual condition such as chloracne, the rare skin condition which is a uniform sign of large, acute exposures to dioxin, to serve as a specific clue that low level exposure may have occurred. For instance, with exposure to asbestos and polyvinyl chloride, the remarkably consistent high incidence of otherwise very rare cancers substantially hastened the association of exposure to these substances and subsequent ill health. Such has

not been the case with dioxin. So, for the moment, there is no scientifically proven evidence that exposure to dioxin in very low doses leads to ill health or genetic defects. However, the matter is not being allowed to rest there.

There are many studies presently being carried on, both in and outside the Government, which are designed to investigate many of the unknown aspects of herbicide exposure. The lack of definitive information has heightened public and private concern about the possible human effects of exposure to dioxin. Within the DoD, the Air Force is conducting a study of the 1,200 men from "Ranch Hand" who performed the aerial, fixed-wing spraying of herbicides in Vietnam. The protocol for this study has been carefully screened by independent, expert scientific panels, including the National Research Council of the National Academy of Sciences. Also, the protocol has been reviewed by the Scientific Subcommittee of the Presidentially-appointed Interagency Work Group on Phenoxy Herbicides. They recommended that the Air Force conduct the study, a recommendation approved by the White House. The protocol has been modified to accommodate suggestions to improve the quality of the study. The conduct of the study will be monitored by an augmented Science Subcommittee of the Interagency WorkGroup.

Additionally, the Veterans Administration (VA), at Congressional direction, plans to conduct an epidemiological study of ground troops who served in the RVN. The design of this study will examine the matter of operational exposure Herbicide Orange, as well as the broader question of whether service in Vietnam, as a general matter, leads to subsequent ill health. This course has been decided upon, as it is now apparent that troops in Vietnam may have been exposed to other potentially toxic substances, as well. The Veterans Administration has awarded a contract to the University of California at Los Angeles to develop a proposed protocol for the completion of the major Veterans Administration epidemiological study. Also, the Centers for Disease Control (CDC) is conducting a study to examine whether there is an increased incidence of congenital abnormalities among offspring of Vietnam veterans. These studies will take several years to complete, but they offer the best hope of definitive answers to the questions for which there are no present answers.

Critical to the VA study and to concerned individuals will be information about whether a given individual was actually exposed to aerially sprayed Herbicide Orange. Over the past several months the DoD has intensively searched Army and Marine unit operational records, unit morning reports, and other related troop movement reports to determine if it appears possible to relate locations of battalion and company size units to the Ranch Hand spray mission herbicide tapes (HERBS tapes). In the studies conducted to date, we

believe it may be possible to place selected companies of troops within one kilometer distance from fixed-wing herbicide spray mission tracks within seven days after the mission. We have hopes to be able to refine these locations to within 0.5 kilometers within one day of the mission for a smaller number of units which have very good quality combat records. These records searches have demonstrated that there are substantial problems in the quality, completeness and the accuracy of data contained in many of the unit records. It was never envisioned that these records, made and compiled under combat conditions, would ever have to serve as the basis for exposure determinations or epidemiological studies.

In the aforementioned DoD records search we have determined that in some cases base camps and firebases regularly used herbicides to clear the outside perimeter areas of vegetation. This was considered necessary to protect the camps and bases from enemy infiltration and sneak attacks. Several herbicides including Orange were utilized to eliminate the jungle growth. The DoD considers this as another possible source of exposure and we are therefore searching the records to determine the locations, dates, and magnitude of this type of perimeter herbicide spraying. Such spraying was apparently accomplished by helicopters, truck mounted spray apparatus, and back-pack garden type spray tanks. There are no comparable HERBS tapes on these locally controlled and instituted perimeter spraying operations. Documenting the instances and locations of firebase perimeter spraying will be a tedious and time consuming job. Additionally, we have initiated research into spraying along land and water routes of communication.

During September 1981, DoD specialists working on the search of troop records determined that there might be another possible source of exposure of our ground personnel to herbicides. Records found to date indicate that over the several years of Ranch Hand operations there were 159 aborted missions. Aborted missions were caused by such things as engine failures, inability to locate the target because of bad weather, malfunctioning radio and navigation equipment, and, in certain cases, severe battle damage from enemy ground fire. An aborted mission did not necessarily mean that the aircraft pilot released or dumped his cargo of herbicide; however, if the aircraft lost all power from an engine while they had a full load of herbicide, the choice was to dump the herbicide or to crash. In these extreme emergency situations, different quantities of herbicides were rapidly jettisoned through an emergency dump valve in less than a minute. Our records search has found that this emergency release of herbicides took place 35 times, and 10 of these were Herbicide Orange. These 35 emergency releases of herbicides were not usually on areas occupied by our troops. Some were at high altitudes, others were over the sea or remote areas close to the

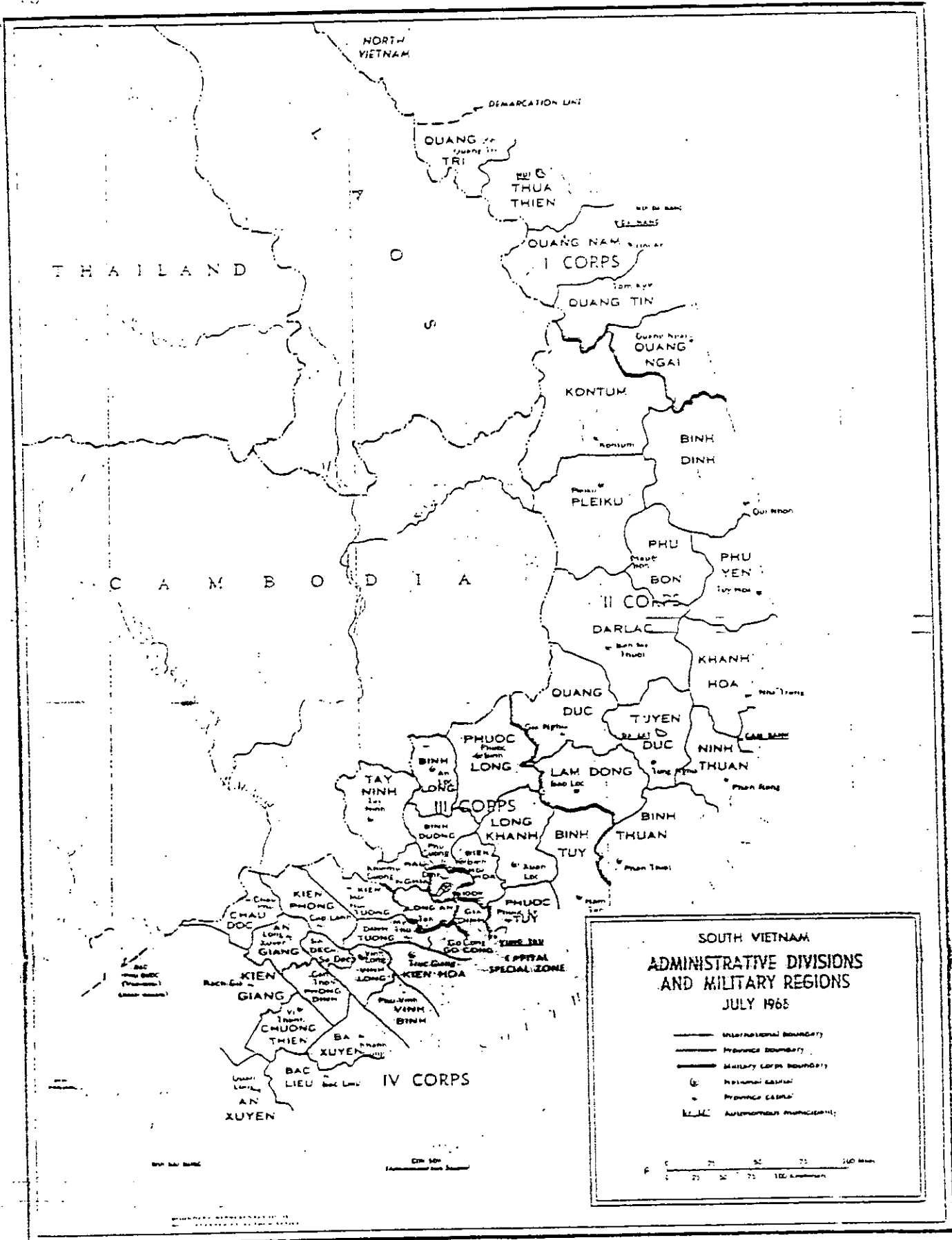
enemy held targets of the mission. At least a few occurred very near our bases.

Our research is continuing to determine which units and how many personnel were near to any of these large volume emergency herbicide releases. Information developed by the records search within DoD is reported on a monthly basis to the Chairman of the Science Panel of the Agent Orange Working Group.

After reviewing the work accomplished by the Interagency Working Group to Study the Possible Long-Term Health Effects of Phenoxy Herbicides and Contaminants, the new administration on July 17, 1981, re-established an expanded interagency working group to be known as the Agent Orange Working Group (AOWG), raised it to Cabinet Council level, and extended full membership status to the Departments of Agriculture and Labor, the Environmental Protection Agency, Action, the Office of Management and Budget, the Council of Economic Advisers, the Office of Science and Technology, and the Office of Policy Development of the White House, in addition to the original membership from the Departments of Health and Human Services (DHHS) and Defense, and the Veterans Administration. The AOWG is now chaired by Mr. James Stockdale, DHHS Deputy Under Secretary for Intergovernmental Affairs. Representatives from the Congressional Office of Technology Assessment participate as observers at meetings of the AOWG and its Science Panel. The AOWG now reports directly to the White House Cabinet Council on Human Resources which is chaired by the Honorable Richard Schweiker, Secretary of Health and Human Services. A great deal of research and evaluation is moving forward under the guidance of the Chairman, AOWG. This research activity is generally not the sensational headline grabbing activity, rather it is the quiet research inquiry of highly qualified and dedicated scientists. We can assure you that the AOWG is very diligently seeking information which will be relevant to the problems voiced by the Vietnam veterans concerning their health.

Those individuals who have unresolved health concerns from possible exposure to herbicides while serving in Vietnam may contact their nearest Veterans Administration hospital or regional office. Those persons still serving on active duty in the military services should contact their service medical facility. Any eligible individual veteran who needs medical treatment will receive care whether or not Herbicide Orange exposure can be positively proven.

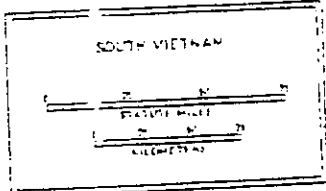
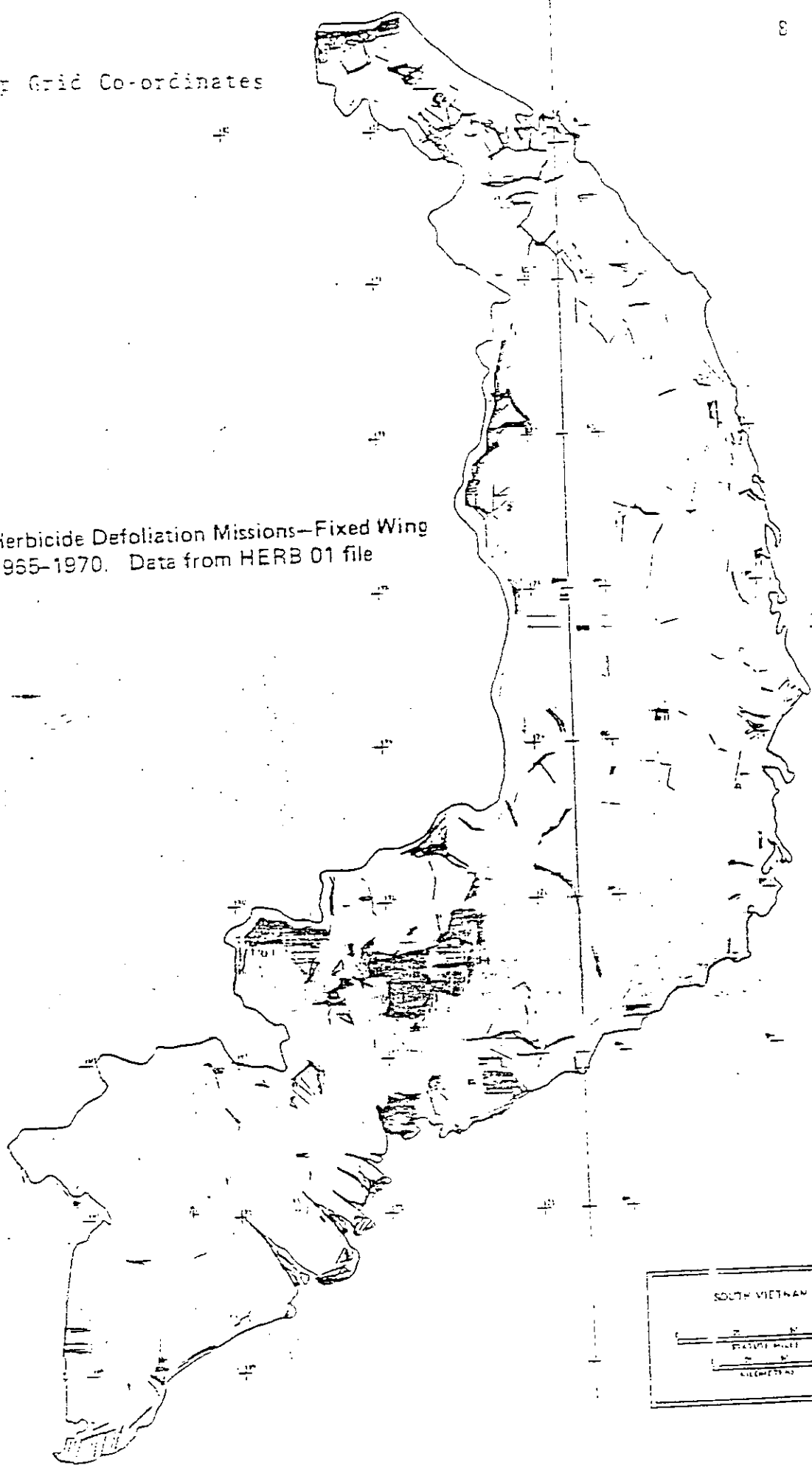
We, in DoD, remain dedicated to answering the difficult problems and questions posed by Herbicide Orange and other dioxin-contaminated substances.



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Map Grid Co-ordinates

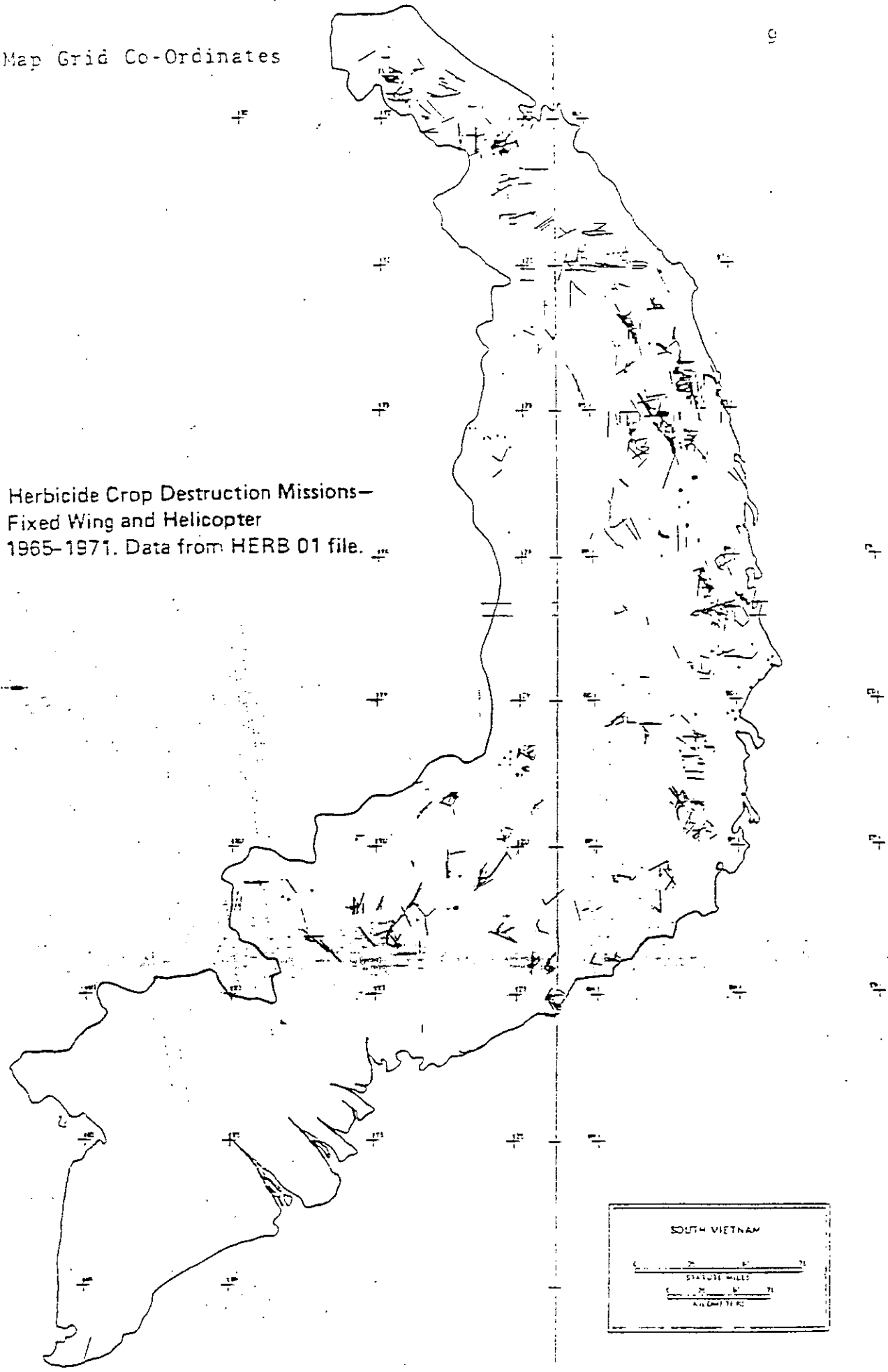
Herbicide Defoliation Missions—Fixed Wing  
1965-1970. Data from HERB 01 file





ND - Map Grid Co-Ordinates

Herbicide Crop Destruction Missions -  
Fixed Wing and Helicopter  
1965-1971. Data from HERB 01 file.



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# HHS NEWS

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Laura Genero--(202) 245-6343  
Richard McGowan--(202) 245-7204

FOR IMMEDIATE RELEASE  
Wednesday, October 21, 1981

HHS Secretary Richard S. Schweiker today made public the attached Chronology of Activities on Agent Orange.

###

#360

FROM: James S. Stockdale  
Deputy Under Secretary for  
Intergovernmental Affairs

TO : The Secretary

CHRONOLOGY OF ACTIVITIES RE: AGENT ORANGE

The first meeting of the re-established and expanded Agent Orange Working Group was held on August 28, 1981. The first task of the Working Group was to review the status of all ongoing and planned Federal research and related activities.

Each member agency was directed to provide updated reports on the status of its current or planned research activities.

A proposed protocol for the design of the Veterans Administration epidemiological study will be reviewed by the Working Group's Science Panel.

A number of veterans organizations have been briefed on the continuing military records search that is being conducted by the Army Agent Orange Task Force. Preparations are continuing for the Air Force Ranch Hand Study. That study involves pilots and maintenance personnel engaged in the spraying of herbicides during the Vietnam conflict. Concern was expressed that the fullest possible participation by Ranch Hand personnel be obtained for this study of possible health effects related to exposure to Agent Orange. This is critical because the Ranch Hands are a relatively small group of approximately 1200.

A public affairs panel was created and will develop plans for a public meeting of the Working Group to be scheduled later this year.

The Working Group also agreed to establish a resource development panel to assure adequate funding and personnel resources.

Dr Vernon Houk, Chair of the Working Group's Science Panel, has plans to review all research.

Dr. Houk and several other members of the Working Group visited the Army Agent Orange Task Force Office for a briefing on the status of the Department of Defense records search. During the briefing, it became apparent that a potentially

existed promising new concept/for the identification of people exposed to Agent Orange in addition to the Air Force Ranch Hand personnel or broadly defined units of ground troops. The full research panel was briefed on this new information.

The information may provide the basis for a new approach to finding answers to some of the serious scientific questions before the Working Group. It opens the possibility of an expanded number of potentially identifiable exposures to Agent Orange in addition to those involved in the Ranch Hand study. Further developments regarding the information will be included in the next Working Group report.

The Agent Orange Working Group's predecessor, the Inter-agency Work Group to Study the Possible Long-Term Health Effects of Phenoxy Herbicides and Contaminants (IWG), also undertook a number of activities during the transition period between April, 1981, when it transmitted its seventh report, and August, when the expanded Working Group convened.

At the May meeting of the IWG, a status report was given on the birth defects study being conducted by the Centers for Disease Control. It was reported that the Office of Management and Budget had approved the study and preparations for the study were under way, with completion likely in the summer or fall of 1983.

At the same meeting, it was reported that a representative of the Medical Follow-Up Agency of the National Academy of Sciences' National Research Council had been briefed on and had reviewed the Defense Department's records search effort and had concluded it could be difficult to identify a population of ground troops the nature and extent of whose exposure to Agent Orange could be reliably reconstructed and documented.

At its June meeting, the IWG was honored by a visit by the Australian Minister of Veterans Affairs, Senator Anthony Messner. Senator Messner told the Group of his government's Agent Orange-related research and urged continuing cooperation between our countries in the area of research. During the meeting, the IWG was assured of the Administration's strong support for Agent Orange research.

As you know, Agent Orange efforts of the various Federal bodies include research as follows:

1. The Agent Orange Working Group coordinates all Federal Agent Orange research. It does not undertake any research on its own but rather acts as the coordinator and monitor.

2. The Air Force Ranch Hand Study is to be monitored by an independent advisory committee in addition to the Agent Orange Working Group. This advisory committee will meet publicly (probably beginning in November) and will include scientists from inside and outside the Federal government.
3. The Veterans Administration Advisory Committee on Health-Related Effects of Herbicides meets periodically to review all VA herbicide-related research. The committee includes scientists from inside and outside the government as well as representatives of veterans organizations.
4. The Office of Technology Assessment of the Congress has established a scientific review panel to review the proposed protocol for the design of the VA epidemiological study and will provide the VA with its conclusions and recommendations regarding the protocol.
5. There are also a number of State-level Agent Orange commissions charged with undertaking and/or monitoring Agent Orange research.

The report notes in conclusion that a number of veterans organizations, members of the public and Congress have expressed support for the Administration's actions regarding Agent Orange and related research.

Attachments:

- (A) Memorandum of August 21, 1981, Re-establishing the Agent Orange Working Group, from HHS Secretary Richard S. Schweiker in his capacity as Chairman Pro-Tem of the Cabinet Council on Human Resources.
- (B) Opening Remarks of Agent Orange Working Group Chairman James S. Stockdale at the Working Group's August 28, 1981 meeting.
- (C) Report by Dr. Vernon Houk, Chair of the Working Group's Science Panel.



THE WHITE HOUSE

WASHINGTON

AUG 21 1981

MEMORANDUM FOR: SECRETARY OF DEFENSE  
SECRETARY OF AGRICULTURE  
SECRETARY OF LABOR  
DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET  
ASSISTANT TO THE PRESIDENT FOR POLICY  
DEVELOPMENT  
CHAIRMAN, COUNCIL OF ECONOMIC ADVISERS  
DIRECTOR OF ACTION  
ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY  
ADMINISTRATOR OF VETERANS AFFAIRS  
DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY  
POLICY

*Rich Schweiker*

FROM : SECRETARY RICHARD SCHWEIKER  
CHAIRMAN PRO-TEM, CABINET COUNCIL  
ON HUMAN RESOURCES

SUBJECT : Agent Orange Working Group

The Administration has reviewed the excellent work of the Interagency Work Group to Study the Possible Long-Term Health Effects of Phenoxy Herbicides and Contaminants and believes that it has made significant progress toward fulfilling its important mandate. By bringing together knowledgeable scientists from the various Federal departments and agencies the Work Group has identified ongoing research activities on phenoxy herbicides and contaminants and begun to develop and organize the means to carry out additional needed scientific research.

President Reagan shares the widespread public and congressional concern over possible adverse health effects among Vietnam veterans exposed to Agent Orange and other substances. The President stated, during his meeting with national veterans organization leaders at the White House on July 17, 1981, that the Administration is giving special consideration to those concerns of Vietnam veterans.

At the White House meeting, the President announced that the administration had re-established an expanded Working Group as the Agent Orange Working Group and raised its status to Cabinet Council level. The President is personally determined to assure that the full resources of the Federal government are

available to support the Working Group's continuing efforts. The decision to re-establish and expand the membership of the Working Group and to make it an integral part of the Cabinet Council on Human Resources reflects the President's commitment and accords the highest priority to its mission.

As Chairman Pro-Tem of the Cabinet Council on Human Resources, I am, accordingly, reaffirming by this memorandum the Agent Orange Working Group's mandate of December 11, 1979 and providing specific guidance as to how that mandate is to be carried out in accordance with the Cabinet Council's decisions.

The Department of Health and Human Services shall continue to have lead responsibility for overall direction and management of the Agent Orange Working Group. The Secretary of Defense and the Administrator of Veterans Affairs shall continue to assure that their respective agencies participate fully in all Working Group activities. The Departments of Agriculture and Labor and the Environmental Protection Agency, each of which have until now been observers, shall assume full membership and their respective agency heads shall assure that those agencies participate fully in all Work Group activities.

In addition, ACTION, the Office of Management and Budget, and the Council of Economic Advisers, as well as the White House Office of Science and Technology Policy and the Office of Policy Development, shall assume membership on the Working Group and the heads of those agencies and offices shall assure that the resources of their respective agency or office are fully available to support it.

Also, the congressional Office of Technology Assessment, which has been actively involved in all Working Group activities as an observer, will be invited to continue to participate in that capacity, and the General Accounting Office, which has been extremely helpful to the Working Group in the past, will continue to be kept abreast of developments and invited to advise and assist as appropriate.

The Working Group has initiated research efforts designed to find answers to many of the questions surrounding Agent Orange that have been raised. These efforts include the birth defects study being conducted by HHS' Centers for Disease Control, the Ranch Hand Study being conducted by the Air Force, the epidemiological study being planned by the Veterans Administration pursuant to P.L. 96-151, and the compilation by HHS' National Institute of Occupational Safety and Health of a national registry of workers exposed to dioxins. Each of these research activities, as well as the other important research

activities being conducted under the overall guidance of the Working Group, are to be continued without interruption or delay.

The Working Group has developed an impressive record of scientific objectivity, impartiality and integrity and it is imperative to the success of the Working Group effort that the record and the Group's credibility be maintained. In this regard, regular progress reports to the Cabinet Council, the Congress and the public will continue to be made by the Agent Orange Working Group.

To assure effective leadership of the Working Group, I am hereby appointing James Stockdale, HHS Deputy Under Secretary for Intergovernmental Affairs, as Chair. Also, I am appointing Dr. Vernon N. Houk of the Center for Environmental Health of the Centers for Disease Control as Chair of the Working Group Science Panel. In addition, I am appointing HHS Legal Counsel Leslie A. Platt, who has served as legal adviser to and staff director of the Working Group since its inception, to continue in those capacities. I know and believe you will find that these individuals share my commitment to carrying out this important mission.

Please review your representation on the Working Group to assure that your agency or office is adequately represented by appropriate technical experts, scientists and policy-level officials. In order to facilitate the Group's effectiveness, it is of course important that each agency's total membership be limited.

The first meeting of the full Working Group has been scheduled for Friday, August 28, 1981 and a meeting of the Science Panel will be scheduled for shortly thereafter. Accordingly, please let Mr. Bart Kull, Special Assistant to the Deputy Under Secretary for Intergovernmental Affairs (245-6156), or Dr. Peter Beach, HHS Director of Veterans Affairs (245-2210), know as soon as possible the name(s) of your designated representative(s) so that briefing materials may be forwarded to them.

Attached for your information is a copy of the memorandum of the Executive Secretary to the Cabinet Council on Human Resources establishing the Working Group.

Attachment

cc: Comptroller General of the United States  
Director, Congressional Office of Technology Assessment  
Mr. Robert Carleson

Agent Orange Working Group  
August 28, 1981 Meeting

Introductory Statement by James Stockdale, EHS Deputy  
Under Secretary for Intergovernmental Affairs and  
Chair, Agent Orange Working Group

Good Morning. I am James Stockdale, EHS Deputy Under Secretary for Intergovernmental Affairs and Chair of the Agent Orange Working Group. As Chair of the Working Group, I wish to express to you my beliefs about the work under way.

Many of you have known frustration in the course of time serving on this project. Occasionally there has been the concern that it would be stuffed away in some dusty corner of official memory and permitted to die of neglect.

Some of you have believed - and in that belief have held firm, and in that firmness have kept the mission and the mechanism of this group intact and alive.

The President of the United States, in his recognition of the trust this nation holds on behalf of those who have served our country in war ... in recognition of the heavy questions that eat at the minds of many who served ... has publicly and forcefully reaffirmed and reinforced the goals this working group seeks to achieve.

President Reagan recently said "we are giving special consideration to the concerns of Vietnam veterans over Agent

increase in funding for the continued study of Agent Orange. In addition to the VA's epidemiological study and the Air Force Ranch Hand Study, we have reestablished an expanded Interagency Work Group as the Agent Orange work group and, yesterday, we raised its status to Cabinet Council level."

If ever there has been a statement of genuine concern for the fears that lurk in the minds of many Vietnam veterans and their families - that was it.

Those fears of possible long term adverse health effects as a result of exposure to Agent Orange are very real. They demand answers. They demand the kind of deliberate, objective research that will provide as many answers as science can give.

There is no fear like the fear of the unknown. It is the mission of this working group to make known the unknown insofar as humanly possible.

This working group will not cave in to the hysteria of emotionalism that surrounds this issue. This working group has a responsibility to turn aside from the barrage of demands for quick and easy answers based on assumptions and fear rather than facts.

Equally so, this working group will not bow to any interests that might seek to sweep this issue under the rug - to pretend it does not exist and hope it will simply go away. This working

group will not succumb to any effort to stonewall. This issue will not go away. Efforts to stonewall it will fail.

This working group's mission is to seek truth and to reveal openly as much truth as can be found.

All of the truth may be beyond our grasp but we have a moral obligation to reach and even to stretch our reaching beyond the limits we believe imposed upon us by the nature of our finite minds and the current state of science.

On behalf of those who wonder and worry and fear we can do no less.

I am especially pleased, therefore, that we have assembled such an outstanding team for this project.

At this time, I would like to introduce some of the key people in this effort from the Department of Health and Human Services. First, I would like to introduce Dr. Vernon Houk of the Center for Environmental Health of the Centers for Disease Control, who will chair the Science Panel. Next, Leslie Platt, our legal counsel and staff director, and Bart Kull, my special assistant, who will chair the group in my absence. Also, you all know Dr. Peter Beach, the Department's director of veteran affairs who has been and continues to provide overall coordination for this effort. We all welcome you to the Department and look forward to working with you.

## Memorandum

Date September 24, 1981

From Chairman, Science Panel  
Agent Orange Working Group

Subject Report of the Science Panel to the Agent Orange Working Group

To Mr. James Stockdale  
Chairman, Agent Orange Working Group  
Deputy Under Secretary for Intergovernmental  
Affairs, HHS

Attached is the Report of the Science Panel.

  
Vernon N. Houk, M.D.

Attachment

## REPORT OF SCIENCE PANEL

TO THE

## AGENT ORANGE WORKING GROUP

The Science Panel met September 2 and September 15, 1981. A summary of these meetings and other activities is as follows:

Veterans Administration (VA) Draft Protocol for Epidemiological "Studies of Agent Orange"

The Veterans Administration Draft Protocol for Epidemiological "Studies of Agent Orange" received from the University of California at Los Angeles (VA Contract V101(93)P-842) was distributed to the members of the Science Panel. It was agreed that the review would take place in two stages.

The members are to transmit to the Chair by September 18 a general overview and general comments of what needs to be done. By October 16, detailed, specific comments and suggestions for protocol design on what needs to be done, how to do it, and suggestions on who has the capability of doing it should be transmitted to the Chair. The Chair will consolidate the comments and return it to the members of the Science Panel for review with final comments on the proposed study to be submitted to the VA before their committee meeting on this subject in November.

The present VA proposed protocol is scheduled to be reviewed by the Science Panel, the VA Committee, the Congressional Office of Technology Assessment, and the National Academy of Science, National Research Council (NRC). Dr. Honchar suggested that the document was not yet ready for review by the NRC and suggested the VA discuss with NRC that they consider withholding a review until a more detailed and specific document can be made available. The Science Panel members concurred with this suggestion.

Dr. Gough of the Congressional Office of Technology Assessment indicated that their review has been completed.

A Case Control Study of the Relationship Between Exposure to 2,4-D and Spontaneous Abortions in Humans

The Science Panel was asked to review the document "A Case Control Study of the Relationship Between Exposure to 2,4-D and Spontaneous Abortions in Humans" prepared for the National Forest Products Association and the U.S. Department of Agriculture--Forest Service by SRI International. Dr. Kimbrough and a rather large intergovernmental group has reviewed this study in detail during its route to completion. Those comments were made available to the Science Panel. The members of the Science Panel were asked to complete this review process and send written comments to the Chair by the end of October.



Mr. Platt indicated that he would send to all agencies involved the list of past, present, and anticipated activities on the subject of herbicides. The agencies will be asked to review and update that document and return to Mr. Platt within 1 month.

### Data Sets

There was considerable discussion about additional data sets that may be available. Dr. Shepard was asked to have the VA review and report back to the Science Panel specific information on the VA death certificates, any health information that may be contained in VA life insurance information, and to survey the major VA hospitals for any additional studies or information that may be available.

The Department of Defense (DOD) was asked to report on the status of the Soft Tissue Sarcoma Registry at the Armed Forces Institute of Pathology (AFIP). DOD was asked to investigate and report on the kinds and amounts of herbicides used in non-Vietnam DOD installations in various parts of the United States and the rest of the world.

The Department of Agriculture (DA) was asked to report on any information from their sources (Extension or otherwise) on the use of herbicides in the United States. Dr. Shaw of the DA was concerned that special groups in the United States, such as those involved in spraying the electrical power transmission lines rights of way, could be identified and could contain significant health information on workers involved in this activity. Drs. Rall and Landrigan felt that this information would at best be sketchy. Dr. Shaw was asked to report to the Science Panel on this subject.

### VA Mortality Study

Dr. Kimbrough suggested that the VA proceed with the review of the VA death certificates for Vietnam veterans. VA has 95 to 98 percent of death certificates of veterans who died on file in various locations around the country. The study would also include, in cooperation with DOD, individuals who died while still on active duty. Dr. Kimbrough will work with Dr. Shepard and others to explore the feasibility of this being accomplished. It was suggested by several members of the Science Panel that in order to be successful, individuals will have to be identified and trained to extract the specific information needed in a uniform manner from the records. It is unlikely to be successful simply by paying available people overtime to review records in their current installation.

### International Symposium on Chlorinated Dioxins and Related Compounds October 25-29, 1981

Dr. Shepard asked the Science Panel to endorse and various agencies to co-sponsor (without commitment of dollars) the subject conference. Dr. Landrigan felt that the speakers listed on the brochure presented only one side of the

subject material. Dr. Shepard indicated that this was not intended, and anybody with any information was invited to participate.

Attempts will be made to contact the group evaluating soft tissue sarcoma from Sweden to participate. Dr. Honchar was also asked to present her recent study on this subject.

Since the above discussion on the subject symposium, Dr. Lennart Hardell of Sweden asked to present their data on soft tissue sarcoma. He was apparently told by organizers of the conference that there was no room on the program for his paper. The Chair communicated with Dr. Shepard that this was not in accord with the previous agreement and was asked to use his influence with the symposium organizers to have Dr. Hardell's paper included in the formal program.

No governmental agency will formally co-sponsor or otherwise endorse the symposium though many will provide participation by their employees.

#### Other Groups to be Explored

Major Young suggested that there are other individuals who may have been exposed to Agent Orange in high doses that could be identified and available for study. These include approximately 50 scientists and technicians that were assigned to the Plant Sciences Laboratory, Fort Dietrick, Maryland, 1962-70; approximately 200 scientists and technicians involved in the development and evaluation of spray equipment at Eglin Air Force Base, 1962-70; and approximately 200 individuals who were involved in the disposal of Agent Orange (Project PACER-HO 1977). Major Young was asked to make a presentation at a future meeting of the Science Panel.

After the previous discussion of Data Sets above, Dr. Bricker shared with the Chair information on "aborted missions." An aborted mission is one when for various reasons the intended targeted spraying of the herbicide was not done but the material was dumped from the aircraft. The Chair asked Dr. Honchar to quickly review these data. Her report is attached. Major General Augerson formally notified the Science Panel of these data. That notification and acknowledgment of the Science Panel are attached.

On September 15 a meeting was called for the Science Panel to examine this new information.

#### Aborted Missions

Dr. Bricker and Mr. Christian presented a briefing on aborted missions. They have identified 90 between 1965-1971 and have reasonable information on 28 (MACV records). It is possible that information could be developed on the other 62 (Air Force printouts). They suggested that major attention be given to the activities at four locations in Vietnam. In addition to exposed personnel in these four areas associated with the aborted missions, there may be other groups that have had extensive exposure. These may include personnel who were involved in base perimeter spraying, by air or by land, sprayers of riverbanks, and any personnel who were used for cleanup activities when there were leaks or disruptions of the storage containers or other significant accidental spills. We would suggest that the Defense Department develop

Date September 14, 1981

From Science Panel Member

Subject Preliminary Assessment of Epidemiologic Utility of Aborted Ranch Hand Missions

Chairman, Science Panel, Agent Orange Working Group

Through: ~~X~~ Director, DSHEFS, NIOSH ~~PJK~~

Chief, IWSB, DSHEFS, NIOSH *William H. Hargrett*

On September 10, 1981, I met with Department of Defense personnel to learn about aborted Ranch Hand missions and to determine whether adequate information about these missions is available to allow identification of a cohort(s) with defined exposure for epidemiologic study. To this end, questions about both the exposure and potential cohorts were explored.

Concerning the exposure, ninety aborted missions have been identified. Of these, some documentation (e.g. date, altitude, agent, gallons, location, etc.) is available for 28, and less complete information on the additional 62 missions is contained in the HERBS tape. It will be important to assemble the original documentation for the additional 62 missions. Based on what is known about the 28, it appears that ultimately documentation for some of the missions will be incomplete. When all available data about these missions is assembled, information such as agent, altitude, gallons, time and date when available can be analyzed to estimate the area contaminated by the emergency dumps. The Army has begun to map the aborted missions; and this activity can and should continue with additional information on the emergencies.

Concerning the population exposed, it appears at this time that it will continue to be difficult to know with absolute certainty from records that a particular individual or unit was located directly under and came in contact with Agent Orange released in an emergency dump. The Army has, from preliminary mapping of the missions, begun to identify military populations in closest proximity to clusters of aborted missions. At this time, four population areas have been identified with from approximately 800 to approximately 12,000 military personnel in residence at the time of the aborted missions in the four areas.

In summary, this evaluation is preliminary. After all available information about the known aborted missions is assembled and evaluated, continued effort can be applied to identify the ground units in closest proximity. At that time, issues of potential cohort size, controls, etc. can be considered. It is very important to note, however, that further information about these aborted missions at best can be utilized to maximize the probability of exposure of a cohort; it will be difficult or probably

Information on those units that might have had the highest exposure. It is necessary to determine the duration of acute, heavy, and long term exposure to all herbicides used in Vietnam. For the herbicide Agent Orange, it would also be useful if information could be developed on the manufacturer and date of manufacture or at least whether this was one stripe or two stripe Agent. By consensus of the Science Panel, Drs. Honchar and Kimbrough were asked to work with Dr. Bricker and Mr. Christian to develop information from the Army records and other documents. Hopefully, it will be possible to identify units that have had considerable exposure to Agent Orange from these records.

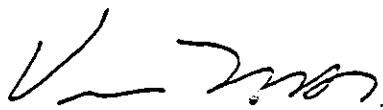
A request regarding this matter was sent to Major General Augerson on September 21. A copy of that letter is attached. The Science Panel recommends that the Chair, Agent Orange Working Group, ask the Resource Panel to explore providing the necessary resources to complete this task. By October 20, we should have a fairly good estimate of what tasks will be needed. DOD should provide a resource estimate. Not only are there groups who may have been acutely heavily exposed to these materials but the surface is likely to be heavily contaminated. It appears that at least some of these incidents occurred in places with significant populations remaining in contact with the contaminated area for a period of time. The Science Panel will explore the possibility of identifying similar non-Vietnamese areas of contamination that would lend themselves to a study of for how long and how much of the TCDD is likely to remain in the soil. It is known that TCDD degrades upon exposure to ultraviolet light. TCDD in soil on the other hand may be extremely persistent. Dr. Kearney of DA has been asked to report on this by October 20 in more detail. Dr. Kearney was also asked to determine what environmental monitoring data is available from Vietnam on 2,4,5T; 2,4D; and TCDD.

#### Laboratory Quality Monitoring

Dr. Eric Sampson of the Clinical Chemistry Division, CEH, CDC, presented to the Panel some general information on quality control procedures used by the information on new methods developed at CDC for the precise measurement of five reproductive hormones.

The Science Panel recommends for any investigations, including the Ranch Hand Study, that tight quality controls of laboratory tests be incorporated into their studies. This is even more critical when longitudinal observations are being made on groups so the data will be comparable over time.

Respectfully submitted September 24, 1981.

  
Vernon N. Houk, M.D.  
Chairman, Science Panel  
Agent Orange Working Group

impossible to define the exposure of each individual in any cohort. Questions of frequency and amount of exposure, and multiple exposures, will remain. And finally, given that the bulk of Agent Orange exposure including the aborted missions occurred in the late 1960's, the issue of inadequate latency must be addressed if a cohort mortality study is proposed.

*Pat Honchar*

Patricia A. Honchar, M.S., Ph.D.



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301 - 1200

8 August 1984

HEALTH AFFAIRS

DEPARTMENT OF DEFENSE (DOD)  
HERBICIDE ORANGE STATUS REPORT

The name, Herbicide Orange, comes from an identifying orange stripe painted on the drum of this particular herbicide, which was made up of equal portions of the commercially-available herbicides 2,4-D and 2,4,5-T. These herbicides have been used extensively and in large quantities in agriculture and forest management in the United States (US) as well as worldwide for more than three decades. Only 2,4,5-T has been implicated as causing any potential health problems due to the presence, in low concentrations (parts per million), of a toxic contaminant, dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)), formed as the result of the normal manufacturing process.

Basically, herbicides were used in Vietnam in a major role to deny cover, and minimally, to deny crops to the enemy. At the request of the President of the Republic of Vietnam (RVN), the use of herbicides was approved by the President of the United States. This was done only after testing in Florida, Hawaii, and South East Asia in the period 1961-1962, and limited operational use during 1962-65. The herbicides used had the desired effects of improving visibility in dense jungle and were then believed to be harmless to humans. From 1965 to 1970, extensive aerial spraying was carried out over approximately 10 percent of the land mass of the RVN, dispensing 11,300,000 gallons of Herbicide Orange in over 6,000 separate missions recorded on a computer tape (HERBS tape). This was carried out under the code name "Ranch Hand." Each mission was carefully approved in matching procedures within the US and RVN chains of command. The missions were often carried out in remote or enemy-controlled areas as a result of the military need to improve observations of enemy activity and to reduce the potential for ambush. The missions were flown under strict meteorological and operational conditions designed to minimize the drift of the herbicide. To the extent that troop movements were timed to foliage destruction, the troops would not normally enter the sprayed area for one to two months when Orange exhibited its maximum defoliation effect. United States and RVN commanders were also warned to keep their troops out of the target area at the time of spraying so that Vietcong groundfire might be safely returned by fighter aircraft protecting the spraying mission. Spraying did occur over US troop positions.

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In a typical spraying of the jungle, tests showed that only 6 percent of the herbicide reached the ground. At normal rates of application, this equals 4 millionths of a pound per acre of the contaminant, 2,3,7,8-TCDD. Repeated testing shows that 2,3,7,8-TCDD is rapidly detoxified by exposure to daylight in a matter of days with a half life of about 6 hours. Pure dioxin which has penetrated below the surface of the soil will persist for years; though it, too, slowly detoxifies. Dioxin is very insoluble in water and has a low vapor pressure.

From 1965 on there are detailed computerized records of the date, location, and amount and type of herbicide used in fixed-wing, "Ranch Hand" aerial spraying. The enclosed copies of maps, which were drawn from the records of the spraying missions, show the location of all HERBS tape "Ranch Hand" defoliation and crop destruction missions from 1965 to 1971. Two additional points should be emphasized with respect to these maps. First, the vast majority of Vietnam was never sprayed at all. Secondly, since the maps represent a 6 year composite, not every site was sprayed every year. Thus, not everyone who served in Vietnam was aurally exposed. In addition, herbicides were used around US and RVN base perimeters and along routes of communication, again to deny concealment to the enemy for ambush and attack. There are few detailed records of this use of herbicide, which was applied by hand sprayers, from tank trucks, from riverine boats, and small helicopters. It is also known that RVN armed forces used aurally-applied herbicides, but there are no records of this usage. Also, during 1967-69, small quantities of herbicide were applied along the southern border of the Demilitarized Zone (DMZ) in Korea. This was applied by hand sprayers and from trucks by Korean Army personnel. No US troops are known to have been involved or exposed in Korea.

Because of increasing concern about the ecological, environmental, and possible health effects of Herbicide Orange, its use was curtailed near populated areas on October 29, 1969, and use of Orange was suspended on April 16, 1970. Other herbicides (blue and white) continued in use to October 31, 1971. All remaining DOD stocks of Herbicide Orange, including that returned from Vietnam (2.2 million gallons), were consolidated on Johnson Island and later (1977) safely incinerated at sea under the guidance of the Environmental Protection Agency (EPA). An extensive study of the use and effects of herbicides in Vietnam was conducted by the National Academy of Sciences (NAS) and was reported to Congress in 1974. That study did not identify any specific health problems.

Dioxin is a very toxic chemical. In large acute doses in humans, such as result from an industrial manufacturing accident, there is a confirmed adverse effect on the skin. There are suggestions, also, that there are effects on the liver, as well as the central and peripheral nervous system. The skin manifestation of dioxin exposure, chloracne, appears as a severe, widely

distributed rash similar to, but generally much worse than, adolescent acne with an associated skin pigmentation. It is distinguishable from the very common fungus rashes and skin diseases so prevalent with duty in the tropics. These observed symptoms and findings usually clear with time although the skin problems may become chronic.

A recently released study by Monsanto Chemical Company of an accident which occurred in 1949 at their Nitro, West Virginia, facility has not shown an excess of deaths, cancer or heart disease, as compared to the general US population, for 122 male workers who were conclusively proven to be exposed to dioxin. A similar Dow study of 61 males at Midland, Michigan, in a 1964 accident likewise failed to establish any abnormal health effects. Because of the small population size in these studies, there is limited capacity to detect relatively infrequent abnormalities or effects. Reflecting worldwide interest in the subject, studies of other similar accidents, including the one at Seveso, Italy, in 1976, are being conducted. Recent studies from Europe on forestry, agriculture and railroad workers suggest that two kinds of cancer, lymphoma and soft tissue sarcoma, may result from chronic, high exposure to dioxin. In animal studies, dioxin has been shown to be capable of acting as a promoter of cancer, fetal death and congenital defects but, to date, these effects have not been confirmed in humans. The reproductive effects have so far been observed only in pregnant rats and mice from large doses of dioxin, but not in rabbits, sheep or monkeys. There are marked species differences in sensitivity to dioxin's effects. A recently completed study of male mice exposed to dioxin did not show any increase in fetal deaths or fetal abnormalities in the mated females thus reducing concern about male-transmitted congenital abnormalities.

Present interest in Herbicide Orange use in RVN centers on a wide range of actual and potential exposures from the very low to high. Much of the present difficulty with the herbicide issue arises from the fact that there is so little concrete information about exposure, especially at low dose levels, and its consequences. There are no known, proven human effects on health or reproduction from exposure to low levels of 2,4,5-T or dioxin. The health complaints voiced by those who believe they may have been exposed to Herbicide Orange do not fall into any discernible pattern; nor is there any significant marker or unusual condition such as chloracne, the rare skin condition which is a uniform sign of large, acute exposures to dioxin, to serve as a specific clue that low level exposure may have occurred. For instance, with exposure to asbestos and polyvinyl chloride, the remarkable consistent high incidence of otherwise very rare cancer substantially hastened the association of exposure to these substances and subsequent ill health. Such has not been the case with dioxin. So, for the moment, there is no scientifically proven evidence that exposure to dioxin in very low doses leads to ill health or genetic defects. However, the matter is not being allowed to rest there.



There are many studies presently being carried on, both in and outside the Government, which are designed to investigate many of the unknown aspects of herbicide exposure. The lack of definitive scientific information has heightened public and private concern about the possible human effects of exposure to dioxin. Within the DOD, Air Force scientists recently released their initial findings of the health status (morbidity) of approximately 1200 former Ranch Hand personnel who conducted herbicide spraying missions in Southeast Asia. The study is an exceedingly thorough epidemiological investigation to determine any possible adverse health effects resulting from exposure to herbicides (including Agent Orange) as a consequence of Ranch Hand spraying operations in Vietnam. Each Ranch Hand was matched by age, job, and race to another Air Force member who served in Southeast Asia but was not involved in herbicide spraying. Detailed health status questionnaires and physical examinations were accomplished on the study subjects and their comparable controls. This initial baseline report concludes that there is insufficient evidence to support a cause and effect relationship between herbicide exposure and adverse health in personnel of the Ranch Hand group at this time. No cases of chloracne, a skin condition induced by dioxin and other chlorinated compounds, were found in the Ranch Hand population. No porphyria cutanea tarda was found in either the study or control group persons. There were no cases of soft tissue sarcoma in the Ranch Handers and only one case in the control group, in fact, there were no statistically significant differences in occurrence of either malignant or benign tumors between the groups. Thus, although there were numerous medical findings, most of a minor or undetermined nature, the generally negative results were considered reassuring. Since exposure might have delayed effects, continuing detailed followup will take place at the 3 (1985), 5, 10, 15 and 20 year points for both groups of individuals. The design, conduct and interpretation of the study has been thoroughly reviewed by independent scientists and has been found to be sound.

Additionally, the Centers for Disease Control (CDC), under an agreement with the Veterans Administration (VA) will conduct an epidemiological study of ground troops who served in the RVN. The design of this study will examine the matter of operational exposure to Herbicide Orange, as well as the broader question of whether service in Vietnam, as a general matter, leads to subsequent ill health. This course has been decided upon, as it is now apparent that troops in Vietnam may have been exposed to other potentially toxic substances, as well. Also, CDC is conducting a study to examine whether there is an increased incidence of congenital abnormalities among offspring of Vietnam veterans. These studies are very time-consuming but they offer the best hope of definitive answers to the questions for which there are no present answers.

Critical to the VA study and to concerned individuals will be information about whether a given individual was actually exposed to aeriually sprayed Herbicide Orange. In 1980, the Department of Defense initiated an intensive search of Army and Marine Corps unit operational records, morning reports/unit diaries, combat after action reports, and other related troop movement records to determine if it would be possible to correlate locations of battalion and company size units with the Ranch Hand spray missions.

The enactment of PL 96-151 mandated the Veterans Administration to conduct a study of possible health effects related to Agent Orange exposure. Following subsequent Congressional hearings, it was determined, since the majority of personnel who served in Vietnam were Army affiliated, that the Army would play the foremost role in providing the Department of Defense related data to support the VA's and related studies. Consequently, on 21 May 1980, the Adjutant General of the Army established the Army Agent Orange Task Force, drawing on the expertise of staff members already experienced in research methods and intensely familiar with the organization of the Vietnam War records collection. The Army Agent Orange Task Force, originally with three full-time and two part-time members, now has a complement of 29 personnel and includes representation from the Air Force, Navy, and Marine Corps, comprising a joint services staff effort to support the veterans. The role of the Task Force involved indepth research into the Vietnam War records of all branches of the services to locate units, identify those in relation to known herbicide spray missions, identify personnel within units, record incidents of herbicide sprays found in the records and previously undocumented, and to provide support to state and federal agencies conducting Agent Orange related studies. Their work and accomplishments have been widely shared with interested agencies and groups in both the federal and private sectors.

During September 1981, DOD specialists working on the search of troop records determined that there might be another possible source of exposure of our ground personnel to herbicides. Records found to date indicate that over the several years of Ranch Hand operations, there were 159 aborted missions. Aborted missions were caused by such things as engine failure, inability to locate the target because of bad weather, malfunctioning radio and navigation equipment, and, in certain cases, severe battle damage from enemy ground fire. An aborted mission did not necessarily mean that the aircraft pilot released or dumped his cargo of herbicide; however, if the aircraft lost all power from an engine while they had a full load of herbicide, the choice was to dump the herbicide or to crash. In these extreme emergency situations, different quantities of herbicides were rapidly jettisoned through an emergency dump valve in less than a minute. Our records search has found that this emergency release of herbicides took place 35

times, and 10 of these were Herbicide Orange. These 35 emergency releases of herbicides were not usually on areas occupied by our troops. Some were at high altitudes, others were over the sea or remote areas close to the enemy held targets of the mission. At least a few occurred very near our bases.

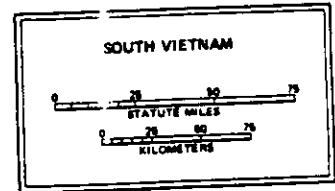
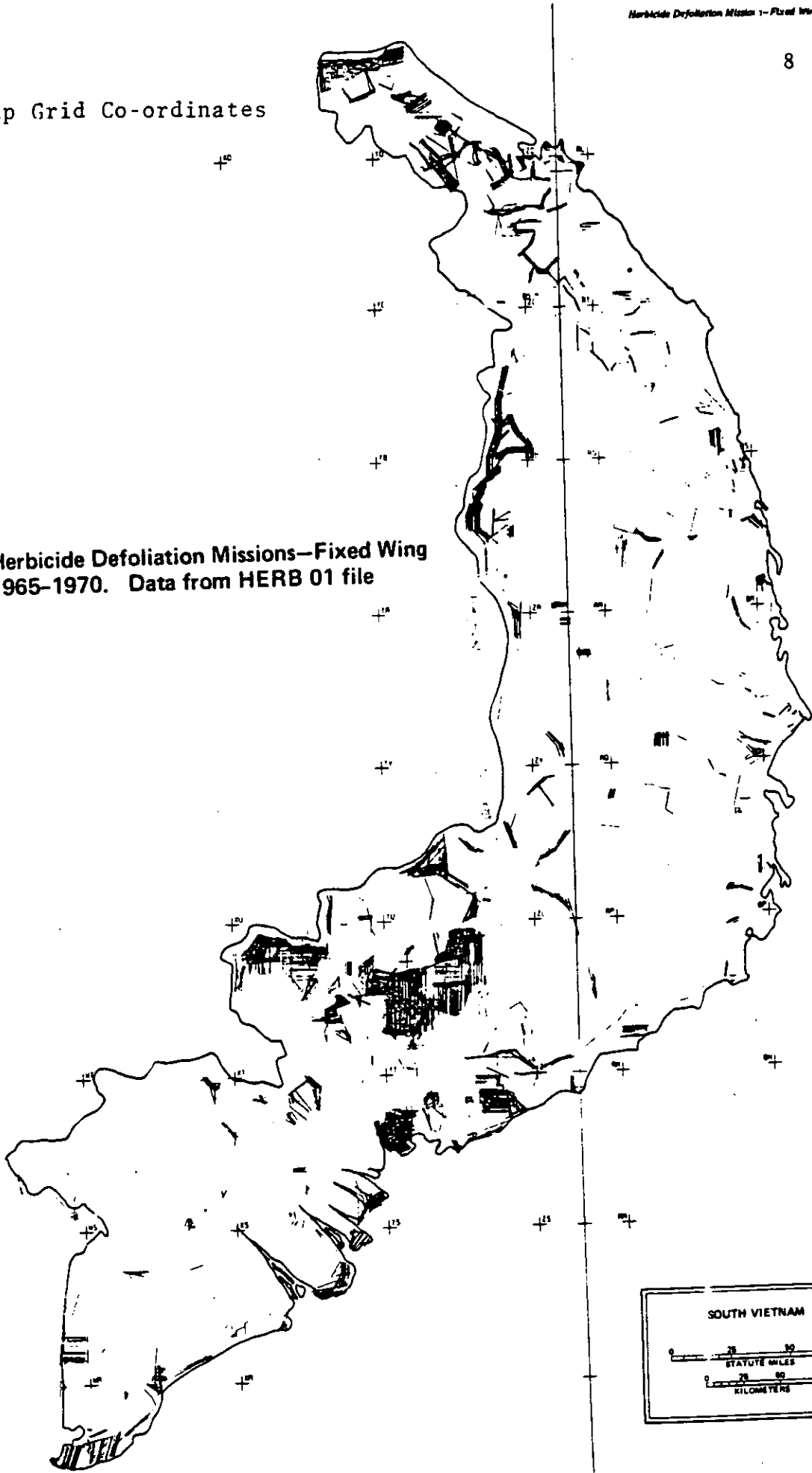
After reviewing the work accomplished by the Interagency Working Group to Study the Possible Long-Term Health Effects of Phenoxy Herbicides and Contaminants, the new Administration, on July 17, 1981, reestablished an expanded interagency working group to be known as the Agent Orange Working Group (AOWG), raised it to Cabinet Council level, and extended full membership status to the Departments of Agriculture and Labor, the Environmental Protection Agency, the Office of Management and Budget, the Council of Economic Advisers, the Office of Science and Technology, and the Office of Policy Development of the White House, in addition to the original membership from the Departments of Health and Human Services (DHHS) and Defense, and the Veterans Administration. The AOWG is now chaired by Dr Edward N. Brandt, Jr., Assistant Secretary of Health (DHHS). Representatives from the Congressional Office of Technology Assessment participate as observers at meetings of the AOWG and its Science Panel. The AOWG now reports directly to the White House Cabinet Council on Human Resources which is chaired by the Honorable Margaret Heckler, Secretary of Health and Human Services. A great deal of research and evaluation is moving forward under the guidance of the Chairman, AOWG. This research activity is generally not the sensational headline grabbing activity, rather it is the quiet research inquiry of highly qualified and dedicated scientists. We can assure you that the AOWG is very diligently seeking information which will be relevant to the problems voiced by the Vietnam veterans concerning their health.

Those individual who have unresolved health concerns from possible exposure to herbicides while serving in Vietnam may contact their nearest Veterans Administration hospital or regional office. Those persons still serving on active duty in the military services should contact their service medical facility. Any eligible individual veteran who needs medical treatment will receive care whether or not Herbicide Orange exposure can be positively proven.

We, in DOD, remain dedicated to answering the difficult problems and questions posed by Herbicide Orange and other dioxin-contaminated substances.

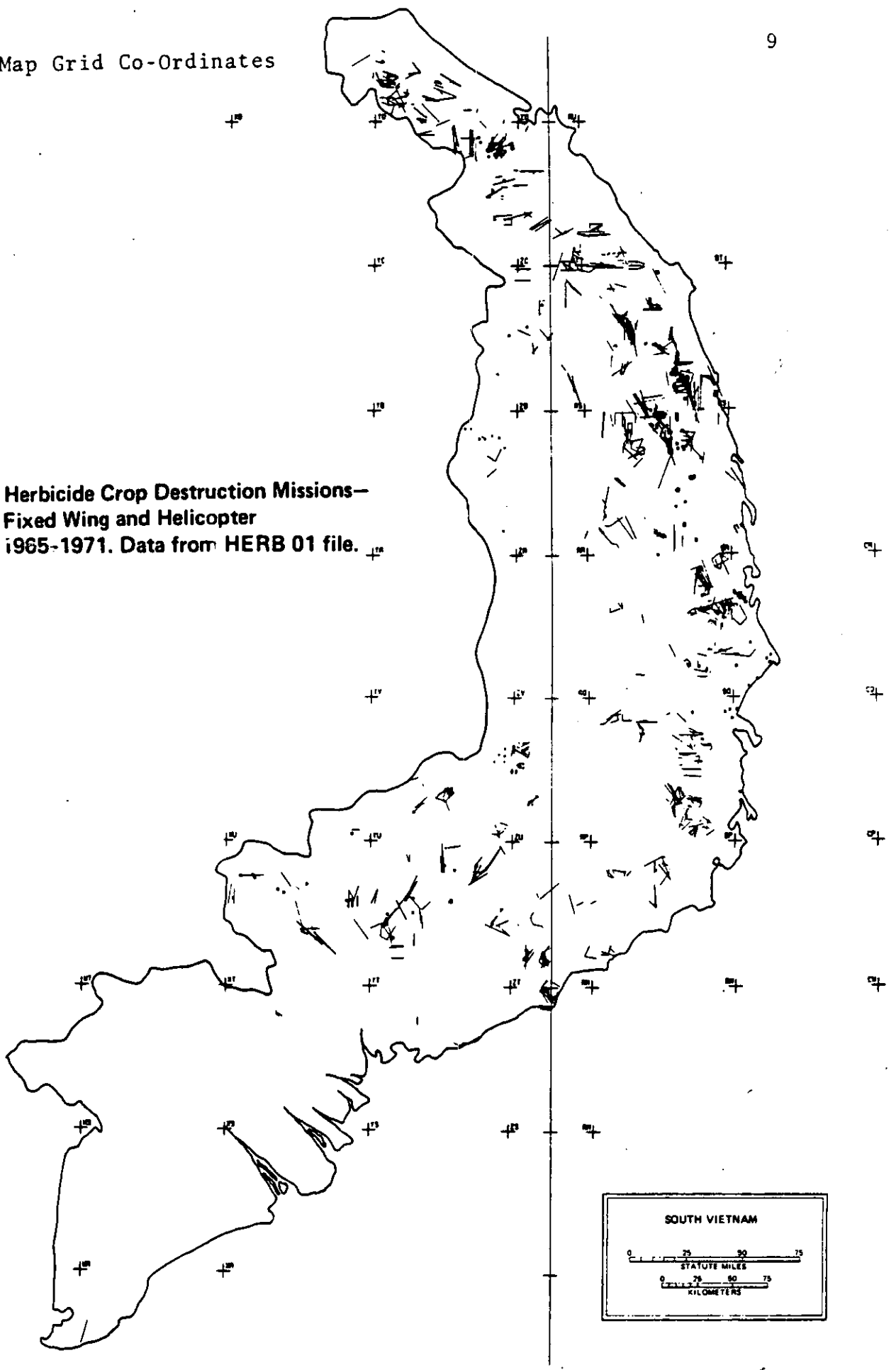
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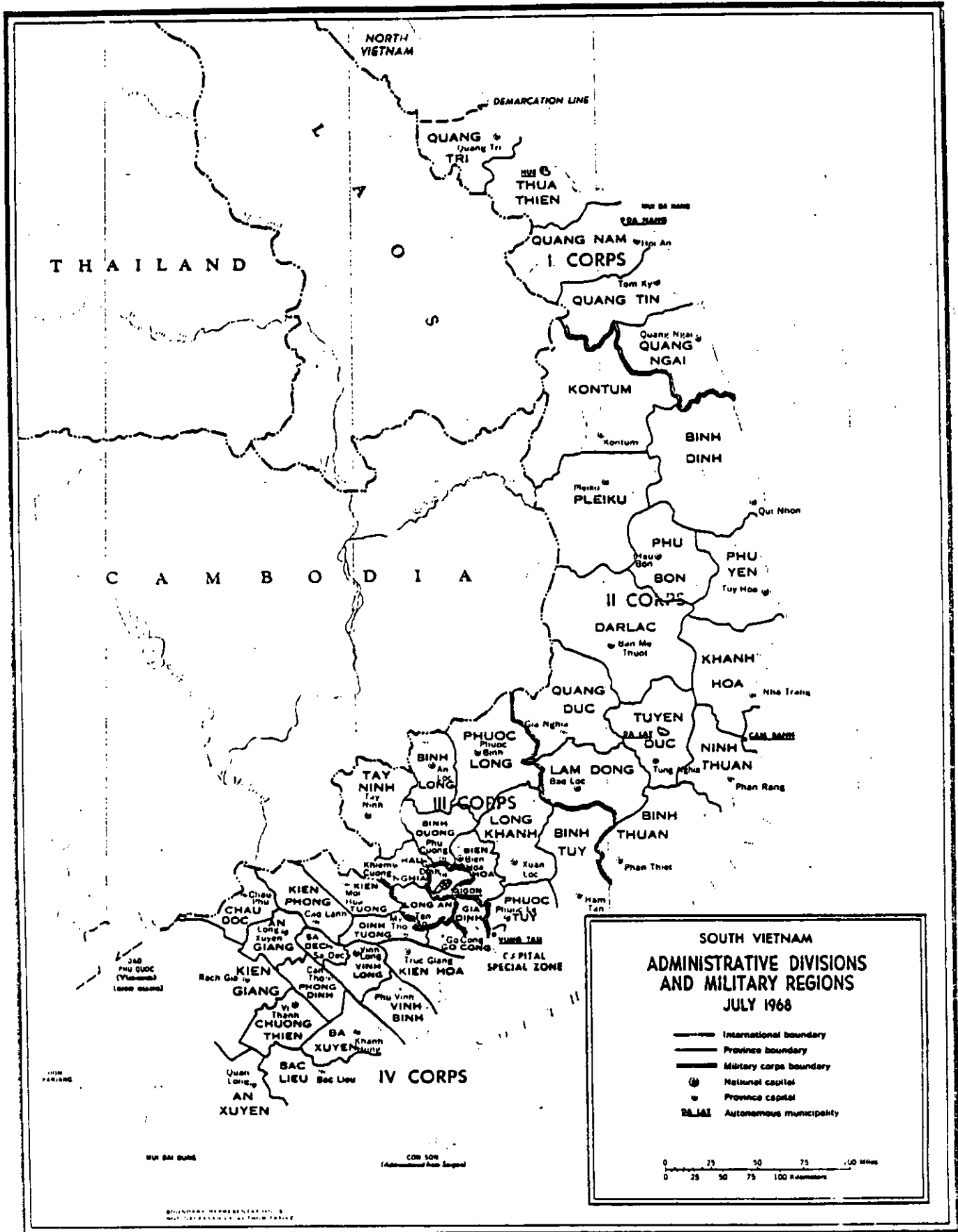
Herbicide Defoliation Missions—Fixed Wing  
1965-1970. Data from HERB 01 file



XD - Map Grid Co-Ordinates

**Herbicide Crop Destruction Missions—  
Fixed Wing and Helicopter  
1965-1971. Data from HERB 01 file.**





# HHS NEWS

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

FOR IMMEDIATE RELEASE  
Wednesday, September 23, 1981

Laura Genero - (202) 245-6343  
Dick McGowan - (202) 245-7204

HHS Secretary Richard S. Schweiker today announced that the administration's Agent Orange Working Group has received significant new data about emergency aerial dumpings of herbicides that could help scientists determine the possible long-term health effects of the defoliant on Vietnam veterans.

As part of a continuing search of Vietnam war files, Department of Defense records personnel discovered that approximately 90 chemical spraying missions had been aborted and their cargo dumped due to enemy fire or engine failure. Agent Orange apparently was involved in 41 such dumps, some directly over or near U.S. air bases and other military installations.

Until now, approximately 1,200 pilots and support personnel who sprayed Agent Orange were the only group documented and identified to have been heavily exposed to the defoliant.

Veterans groups fear it is causing a variety of illnesses among soldiers who were exposed to the chemical and birth defects in their offspring.

On July 17, President Reagan elevated a government-wide Agent Orange Working Group to cabinet council level. HHS Deputy Under Secretary James Stockdale was named chairman by Secretary Schweiker.

This new information is of particular interest to the working group's scientific panel, because it may help in identifying additional exposed populations for potential health effect study. Information is now being developed by the Department of Defense on exact locations, times, weather conditions, personnel present and the extent of possible exposure.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

"Press Briefing with Richard S. Schweiker,  
Secretary of Health and Human Services, on Agent Orange"

Washington, D. C.

September 23, 1981.



pmcc

P R O C E E D I N G S

SECRETARY SHWEIKER: On July 17th President Reagan asked me to take the lead in a new cabinet level working group on Agent Orange. I am today announcing new information about Agent Orange that can help scientists determine the possible long term effects of the defoliant on Vietnam era veterans.

We are working to get more details, but I feel it's essential to make public at the earliest opportunity the new information that's now available because of our commitment to the public's right to know generally and our recognition of the concerns of Vietnam veterans and their families specifically.

Up until now we could only identify a relatively small number of persons exposed to Agent Orange in which to base a study on its effects. Now as part of our extensive review of government records by the President's cabinet level working group on Agent Orange we found that a greater number of persons than previously thought may have been exposed to this chemical.

We have found that there were approximately 90 chemical spraying missions in Vietnam which had to be aborted and their cargo dumped due to enemy fire or engine failure. Forty-one of these dumpings may have involved Agent Orange.

A scientific panel is now working with the Department of Defense to try to determine the exact locations, times, weather conditions, personnel present and the

complete study can be made. I think at this point I'd be glad to answer any questions. Yes.

MS. : Mr. Secretary, do you have any idea how many American servicemen could have been exposed as a result of this dumping?

SECRETARY SCHWEIKER: At this point we do not. That's exactly what the working group is now focusing on, now that we've pinpointed some 90 aborted missions and 41 possible missions for Agent Orange alone. We're going back focusing on that, seeing what was involved. Obviously some of these may well be military installations and bases that are involved, so we are saying today, I guess, for the first time that a much larger population exposure exists than, unfortunately, was known or believed possible before.

And I think we don't really have any concrete figures. I want to say that this is still an ongoing investigation. For example, we have reports that we're now investigating that they used Agent Orange in base clearing procedures and would obviously need a certain amount to clear a base area, staging area. We've had reports they've used it for riverbank spraying, and my only point is that what we're saying today is as much as we know today, that it has, I think, substantially changed the people who might have been exposed to this chemical.

MR. : Mr. Secretary, you're saying that

additional people might have been exposed. It's thousands?

SECRETARY SCHEIKER: Again it's difficult to say, but I want to be candid in saying that some of these specifically now know will have been over military base installations in military residential areas. And when you start dumping 1,000 gallons of a chemical in that area, you're exposing some people to rather some severe levels.

We just don't have the figures or numbers of people at this point. It would be premature to talk about numbers of people, but --

MR. : Is the geography involved beyond Vietnam?

SECRETARY SCHWEIKER: I don't -- one of my panelists is on that.

MR. : Before you might respond to that, Mr. Secretary, the geography --

(Simultaneous remarks.)

SECRETARY SCHWEIKER: Yeah, come on up here a minute

MR. PLATTE: My name is Leslie Platte. I'm legal counsel to the Department of Health and Human Services and to the Agent Orange Working Group. The information we're talking about pertains to aborted missions in Vietnam.

SECRETARY SCHWEIKER: So we're saying at this point Vietnam only. Yes.

working panel, what has happened to these records over the years that this information was not made available before to the veterans who may have been exposed? Where was it buried, in the Defense Department records? Where did you find this information?

SECRETARY SCHWEIKER: Well, I just got commissioned for this job on July the 17th, and I think the reason that we decided to upgrade the council and make it part of my cabinet council working group working group was we felt that a high enough priority had not been given to it previously, and we didn't feel that a high enough level of inquiry was made. So I can say is I think as a result of a higher level of inquiry and our stronger focus, we did find this information. I can't answer offhand where it was buried or why it didn't occur before, but we made every effort to get it, and I think we are getting it.

MS. : But they are Defense Department records you're looking at?

SECRETARY SCHWEIKER: That's correct.

MS. : And they didn't bother to find them before this?

SECRETARY SCHWEIKER: What's that?

MS. : Did they find them before this?

SECRETARY SCHWEIKER: I don't know. I wasn't here.

that were exposed, what will you do about it?

MR. SCHWEIKER: Well, we have a series of studies that we've been looking at to put forth as part of our working group. And we are now in the process of defining, delineating and commissioning those studies. And there's about six studies now that we're going to focus on for examination.

One, whether Vietnam veterans are -- are they higher risk of siring children with birth defects which is in the Center for Disease Control presently. Another, an epidemiologic study of ranch hand personnel involved in the Agent Orange spraying operation. That's focussed in DOD. Another registry of all workers involved in the manufacture of 245-T. That's the chem. This is in NIOSH, in our department. Four, Congressionally mandated epidemiologic study of veterans exposed to Agent Orange this is with the VA. Five, a Congressional mandated review of worldwide scientific literature regarding possible health risks associated with exposure to dioxin, VA contracted for the review and analysis to be performed by a contractor. And six, the health status of Vietnam vets to determine whether service in Vietnam may have generally placed veterans at a higher risk of suffering adverse health effects, VA.

Now, I want to make clear, most of these are underway. They're not all underway yet, because we're looking into the feasibility of them as well as the scientific expertise available

studies we've looked at, these are the ones that have come most in focus that we're going to be dealing with.

MR. : My question was specifically, these individuals who you now say may have been exposed to Agent Orange once you've identified them and you know X G.I.'s were exposed, what are you going to do about it? Are you going to (inaudible) examination?

MR. SCHWEIKER: Well, in this one study we specifically are going to identify them and do whatever the scientific experts in the field tell us needs to be done to assess the impact on that particular person, personally or biologically or chemically, whatever way we can.

Let me say this, that that's not an easy thing to do. Until we get a scientific body of agreement on just what implications there are. We know about Agent Orange at this point. It's a highly toxic chemical. Beyond that, there's a lot of scientific debate and conjecture about what happens and we want to try to find it all out.

MR. : But are you going to call them in and give them physical examinations?

MR. SCHWEIKER: Well, again, it's up to each of these study groups to come in with a plan and to make a proposal, and I'll have to and (inaudible) have to okay the model and the proposal. Well, our intent is to find out, yes, to find out all

that we can.

I'll be glad to -- we're going to break up in a little while and let you talk to a few of the experts here on some of the details of these studies, so if you want to pursue some of them --. I think the answer is, we haven't evolved all the studies to the point where we can say that this is exactly the way the study will operate yet. And some we have commissioned and some we're still discussing about the priority of.

So --

MR. : Mr. Secretary, two years ago there was a study of the effects of atomic radiation fallout from above-ground tests. People were invited to call into a hotline and identify themselves, and identify an incident in which they were exposed.

Are you doing any such outreach in connection with the asking people to identify themselves and where they think they were exposed to Agent Orange?

MR. SCHWEIKER: ~ We have been working very closely with a Vietnam veterans group, who are doing this kind of outreach. And the answer is yes, we will encourage any kind of outreach like that. So far we've been proceeding. I think you'll find the Vietnam veterans up until today and I think even more so today feel that we are trying to get to the bottom of what they perceive are very real problems here.

through the Vietnam veterans groups. We'll certainly go beyond that if we feel it's necessary.

MR. : Followup, just one other question. People who then feel that they have been exposed should contact whom, the Department or veterans groups or what?

MR. SCHWEIKER: I think, contact the Department at that point. We'd be glad to hear from them, yes. Mr. Stockdale is chairman of our working group at the working Cabinet level, yes

MR. : Mr. Secretary, if you have no estimate of how many numbers of veterans who have been involved, do you have any estimates on how many bases and military installations (inaudible)?

MR. SCHWEIKER: Well, we are in the process of trying to define -- what we have to do is go back to look at missions. We have to determine what chemical was on that mission, we have to determine if the mission was aborted and was it aborted at what stage where, and what likely happened.

This is not exactly a crystal-clear record of situation. So the reason that we worded the things the way we have is that this is the records that have come to our attention so far. We are going to make every effort to get more detailed records and more specific records about where the chemicals might have fallen, what time frame, logistically they were in when they aborted the mission to try to figure out exactly where it is.



lot of specifics, because we just don't know at this point.

MS. : When do you expect it will be done?

MR. SCHWEIKER: Well, we're making every effort to do it as soon as we possibly can. I think considering that we only got started in July and considering we probably know more about what happened on exposure in the last couple of weeks than we knew for several years, I think we're making some progress. But we're just going to pursue it until we feel the job is done and I don't know what the time frame is, frankly.

MS. : Mr. Secretary, is one of the reasons for your making this information public today the feeling that perhaps there may be people out there who may be suffering health problems, who may have been exposed under these circumstances who don't know it, and hoping they --

MR. SCHWEIKER: I would say that's one of the reasons yes. I'd say there are really three reasons. When I took the chair of this group, I felt there was a responsibility to level with the American people about what was happening here, because as you know, the Vietnam vets have really criticized the government. They felt the government was not providing the information. They felt they were in fact obscuring it.

So I felt my responsibility was to put the information up front when it came to my attention. That was number one.

who are now involved, who now feel they may have an exposure. And we felt in fairness to them we had to come forward as soon we had this. And thirdly, yes, the other part of your question is, we certainly would encourage and welcome people in that third category, because now that we know there's a larger exposure area in personnel and physical than was originally admitted, we think that it's very critical that we have this information.

Yes.

MR. : (Inaudible.)

MR. SCHWEIKER: Well, what we did, we took -- there had been a group that had been working on this that I would say a lower level. And I think President Reagan in meeting with the veterans group in July gave them his assurance that he would put a high priority on getting to the bottom of this situation.

And when he made that decision he turned around then he commissioned -- I happened to chair a council on human resources. And he commissioned our Cabinet council and myself as chairman to take over this project. So the previous group was upgraded and expanded and given Cabinet council status. And frankly, at that point we began to get everybody involved who ought to be involved in terms of the Defense Department, the Air Force, the VA, et cetera.

And our results were somewhat productive.

MS. : Mr. Secretary, do you have any

any suspicions that anyone over there over the past decade or so has been sitting on this information deliberately?

MR. SCHWEIKER: I really can't make that judgment. I really can't make that judgment. The judgment I can make is that we upgraded the focus, raised the priority and did our level best to get this information.

I think we've accomplished a significant part of that role. As I said, there are still parts of the iceberg that have been seen yet. I don't want anybody to be misled that we are doing the whole thing here today. Because we do know there are reports of these perimeter clearings where chemicals were dumped to clear clearings and jungles and obviously a lot of concentrated chemicals had to be dumped there.

We hear reports of the riverbank spraying for other logistical reasons was done. We aren't to the bottom of those things yet. We just are getting there. So some of it is scratching the surface. So I don't want to make any accusations or view with concern about what happened before. I'm just glad we've got something now.

Maybe one or two more, then I'll leave and let my experts here take over. Yes.

MR. : Secretary Schweiker, you said that these dumps were over populated areas of the basin. That doesn't seem to be commonsensical. Why would the pilots dump it over a

Wouldn't they choose some barren area to give evidence to the contrary?

MR. SCHWEIKER: Well, we do have evidence to the contrary. And the reason for it is clear, and that is there was a mechanical failure of the mission. Maybe the plane -- the chopper or whatever had trouble or they were shot down by enemy fire and didn't have any choice. So these were all forced dumpings, they were forced to dump their cargo because the mission was aborted, either because of mechanical failure or because of enemy fire or some adverse situation.

Now, what we're saying is that that didn't always occur over bases. But we'd be misleading you if we didn't say that some of the evidence that's turned up indicates that some of it did occur over areas that were inhabited. So we don't want to mislead you.

MR. : Can I ask a -- not exactly a follow-up but a different question here. This phrase, this account that information is being developed by the Defense Department, on exact locations, weather conditions, personnel present and the extent of exposure. That seems to imply that it can be done. Can it be done, how long would it take to get those questions answered, or it is something that you don't know yet that you'll be able to find everybody?

MR. SCHWEIKER: Well, some of these go back pretty

talking about a mission of a helicopter and it flew out and ba we don't always have complete records on everything. So all w saying, I guess, is that we're going to get every available record that we can. We think we now have a substantial number them.

But I'm sure, with the other reports about the base perimeter clearings and the riverbank things, we do not have those yet. So we're just going to keep plugging away until we see what we can get. It's an open-ended answer because we jus want to keep going until we get as much as we can get. I don't know what the time frame -- I don't want to give you 30 days an then not have the answer. I want to say we're going to do the job until it's finished, until we're satisfied ourselves that w have used all the available information.

And, when I got this job in July, I don't think anybody quite foresaw that we would be dumping chemicals on our own people. I'll be quite honest with you. I don't think anybody quite foresaw that. Yet obviously, the Vietnam veterans have b saying something like that for some time. We were listening. But now it's clear to me that we apparently did in cases do tha

And so having just seen that being reported, I don't want to shut off something in the next 60 days and 90 days or six months and say, we have all the information. I want to get all the information.

that if you got the information from, say, the Department of Defense, and it's all related to these mechanical failures, does that mean you've got all the information on that particular kind of dumping, the accidental mechanical failures? Or in six months we're going to get another news release that says, 150 more have been found?

MR. SCHWEIKER: Well, I don't know what will happen in six months. All I do know is that we feel is that we have enough information to make a definitive statement that the number of people exposed was substantially larger than anybody expected, and that we have an obligation to alert people to that substantially larger exposure.

Now, we feel we have a reasonable handle on the first thing that we're saying here, which is the aborted mission aspect of it. We do not have a reasonable handle on the base-clearing problem or on the riverbanks problem. And we do not know whether that's a big thing or a little thing.

So, yes, you might have another release. Our job is to find out.

MR. : This news could shake up a lot of people today. What are the symptoms for a person who's been exposed to Agent Orange?

MR. SCHWEIKER: Well, at this point I think I better turn it over to our technical experts to not only answer that

questions. Let me just say -- identify the people who will be here to follow up.

Lesley Platt here is legal counsel to the Agent Orange working group in our department, Bart Call is special assistant to the deputy Under Secretary and Jim Stockdale is the chairman of the working group task force as my chairman of that working group. And all three are here to follow up, and I'll let them follow up on that technical question.

MR. : (Inaudible).

MS. : We don't have it yet.

MR. SCHWEIKER: We would list it if we had it in specific enough form to be reasonably intelligible. You have a plane that released a chemical. You're not sure exactly where he released the chemical. Nobody took a picture of him releasing the chemical over a certain ground. We don't have an aerial spy photograph looking down when he dumped the chemical.

All we know is that he was on a mission that aborted a chemical. He was in some general area. Depending on what his reported time was and whether he clocked a record of the time in plotting his chart, we're not exactly sure where he did it. So it's pretty clear to me that it would be irresponsible to pinpoint it beyond what we did today.

On the other hand it would be irresponsible of us not to

gation.

MS. : (Inaudible.)

MS. : Susan, I think they can answer your questions. We've got three people here who are part of the working group. They've been dealing with this subject for a couple of months. The ground rules in asking them questions are: we ask you to attribute their statements to HHS folks rather than mentioning them by name.

This is Jim Stockdale who's chairman of the working group. Les Platt and Bernard Cole.

MR. : Mr. Stockdale, I asked the Secretary about people volunteering information to this group. He mentioned your name as the point of contact for them, I guess. So could you give us an address where people can write?

MR. STOCKDALE: I am chair of the working group. My address is in this building, room 622E.

MR. : HHS, Room 622E.

MR. : So people should contact you if they feel (inaudible)?

MR. STOCKDALE: Let's go through this in an orderly fashion. First of all, let me introduce my colleagues who along with I will make some responses. On my right is Leslie Platt who's general counsel to the working group. And on my left is Bart Cole who's my special assistant and deputy chair of the



And the question vis a vis where should a concerned person make contacts so their name becomes known so their concern can be considered, et cetera. Les, would you respond to this whole --

MR. : Yes, sir. The Veterans Administration has a registry of all Vietnam veterans who believe they may have been exposed to Agent Orange. The appropriate thing for any concerned veteran to do first is to assure that his or her name is on that registry.

I believe approximately 60,000 people have put their names into that registry. They can put their name on the registry by contacting their local VA medical facility or VA office.

MR. : (Inaudible.)

MR. : Yes, if the purpose is to make sure that there is a recording of their possible exposure, they should contact the Veterans Administration. In addition, the Veterans Administration has a standing policy that any Vietnam veteran who would like to have a medical examination may come to the VA medical facility to get that examination.

MR. : (Inaudible.)

MR. : The appropriate information would include as much detail as they can provide about the nature of the medical condition or conditions they believe they're suffering if there are any, and any service-related information about

MS. : Can you give some information to repeat the question about symptoms that can be identified with Agent Orange?

MR. : There's a broad spectrum of disease and health effects that have been alleged to be associated with exposure to Agent Orange. I would state that the allegations run the range from birth defects, liver dysfunctions, sleeplessness, loss of sexual libido and a range of problems and multi-system disorders.

There is at this point no definitive scientific consensus in the scientific community that has been working on the Agent Orange problem within the government, as to the nature of any possible connection between presumed exposure to Agent Orange in Vietnam and health decrement that may be present in any individual veteran at this point.

What is known is what the Secretary said before, namely that dioxin, the manufacturing contaminant and 245-T is toxic. They're also known from a number of animal studies that this has been confirmed. There is a furious scientific debate abroad, not only in the United States, but also throughout the world about the possibility that exposure to Agent Orange or any of its constituent elements may have resulted in any health decrement to an individual veteran who may have been casually, accidentally exposed.

is that there simply is no good measure right now of the nature and duration of exposure of individual ground troops. Until now the only group the nature and duration of whose exposure to Agent Orange can be reliably reconstructed and documented is the group of 1200 ranch hand Air Force personnel who spread Agent Orange and whose mission assignments are recorded in detail in available military records.

One of the studies the Secretary mentioned which is to begin very shortly after multiple expensive scientific protocol reviews that have spanned several years is a study of the health status of those 1200 Air Force ranch hand personnel.

MR. : Would you say that this new information would invalidate previous studies (inaudible)?

MR. : I don't know that without further information. A scientist -- and I am not a scientist and I could not answer that question for you even with the information. I would not presume to answer that question. I don't know that a scientist could answer that question without more precise information.

MR. : Would you say this lends any more credence to the claims that the veterans groups have been making

MR. : The major point we would make is that verisimilitude of the exposure circumstances of veterans in Viet

is now being shown to be

MR. : (Inaudible.)

MR. : The first study I mentioned was the Air Force ranch hand study. That study will include detailed questionnaires to be administered to the ranch hand personnel followed up by a detailed physical examination of those persons. I would point out that the study is voluntary and that its success depends in large measure on the willingness of the 1200 to participate.

That study is about to begin. Its conduct -- it is being conducted by the Air Force. It is to be monitored, however, by an independent, formally federally chartered advisory committee which will begin to meet probably in November in public meetings to insure that the study is carried out in scientifically impeccable and unbiased manner.

The second study is a study that is being jointly funded by the Department of Health and Human Services, Department of Defense and the Veterans Administration being conducted by the Center of Disease Control of this Department to examine the issue of whether Vietnam veterans are at a higher risk of siring children with birth defects.

That study will begin shortly as well as being expected to be completed in the summer or fall of 1983. It will depend on records that are maintained in the Atlantic Congenital Defects Registry and are available to the Center for Disease Control. Th

Public Law 96151 to examine specifically the issue of possible connection between exposure to Agent Orange of Vietnam veterans in Vietnam and possible health effects.

That study is in design phase now. The Veterans Administration contracted with the school of public health of University of California at Los Angeles to design a protocol for the conduct of the study. The protocol design has been submitted to the Veterans Administration and is now under multiple scientific peer reviews.

One review is being conducted by the science panel of this working group. The second is being conducted by an advisory committee to the Veterans Administration. A third is being conducted by a science panel that has been established by Congress' Office of Technology Assessment which by the way participates as an observer in all Agent Orange working group activities under the aegis of Secretary Schweiker and this Department.

The Veterans Administration epidemiological study is somewhat off in its actual conduct because we are now in the design stage.

MS. : Any more questions?

MR. : Those are the three major studies.

MR. : Thank you very much.

(End of proceedings as recorded.)

TITLE	DATE	GALLONS	AGENT	UTM	LOCATION	NUMBER OF INVOICES
100	671029	-	W	YS4497	Long Khanh Province	8
100	680507	1000	W	YT450000	Near Xuan Loc	847
100	680630	-	B	YS140510	Xuan Loc (Rung Sat Special Zone)	847
100	681121	-	B	Bien Hoa	-	-
100	681201	1800	O	Runway	Bien Hoa	12,087
100	690129	-	W	XT907706	Dian	7,865
100	690412	1000	O	XT840100	Between Phu Cuong and Bien Hoa	21
				YT013188-		
				030219	NY Quoi Village (Bien Hoa)	12,087
				ZC150660	-	-
				YT690440-	-	-
				YT650420	-	-
				XS408800	Long An Province	1,823
				YT010180	Bien Hoa	12,087
				YT6175463	Bien Hoa	12,087
				YT25380-		
				YT080230	Bien Hoa	12,087
				YT440930	Bien Hoa	12,087
				BP220920-		
				200890		
				100840	Trung Phan (Phuoc An Village)	0-in that area
				BP635995	Mountain Road	0
				-	Near Chu Yang K'Lim	-
				-	-	-
				YD422323	-	-
				-	8KM South of KA Xuan Loc	847
				XT890500	Culong City 20 KM North of Saigon	960 7-10 from Nearest Unit
					Unit 31s at Phuoc Vinh	
				YT0724	On Target (UNKN)	-
				YT070570-	-	-
				YT080690	On Target (UNKN)	-
				YS015912	Dong Nai River 15 KM East of Saigon	10KM away Nat Be 1158
				BT133690	Over Water	0
				(Over water)		
				YS425770	Over Target (UNKN)	-
				YT995136	Bien Hoa	12,087
				YT995136-	Bien Hoa	12,087
				YT942147	Bien Hoa	12,087
				XT965166	-	-
				XT985154	-	-
				XT017192	-	-
				YT022145	-	-
				YT010137	-	-

Statement of Army Documents used as a basis for HHS Schweiker's News Release, 23 Sep 1981

DATE	CITY	MISSION	MULTI	MAINT	WARBT	DABRT	ARRPT	AGENT	GAL	TYPE	ACRAFT	UTMID	UTM
670929	1	200366		1	0	0	0	D	2000	D	0	1A	YC3329
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670216	2	200166		1	0	0	1	W	900	D	0	1A	XT5235
670817	1	020766		0	0	1	0	R	1550	C	0	1B	XT5476
670905	4	200367		1	0	0	0	D	3850	D	0	1A	YA6725
670926	1	020266		1	0	0	0	R	1700	C	0	1B	Y47305
670927	3	200366		1	0	0	0	W	2000	D	0	1A	RT3900
670927	3	200667		1	0	0	0	D	1800	D	0	1B	RT2900
670926	2	021367		1	0	0	0	D	1850	C	0	1A	VQR8596
670929	1	020167		1	0	0	0	R	2000	C	0	1A	VOR104
670930	1	020167		1	0	0	0	R	2000	C	0	1A	V07354
671002	2	020666		1	0	0	0	R	2000	C	0	1B	V07485
671002	2	021367		2	0	0	0	B	2000	C	0	1A	RS6205
671005	3	200366 D	X	1	0	0	0	D	1930	D	0	1A	RS5964
671006	2	200467		1	0	0	0	D	2000	D	0	1A	RS6275
671008	2	021267		1	0	0	0	R	1835	C	0	1A	Y12262
671009	3	200667		1	0	0	0	D	4000	D	0	1A	Y12263
671010	4	200367		1	0	0	0	D	2800	D	0	1A	Y57709
671013	3	200366 R		1	0	0	0	W	2000	D	0	1A	YU6003
671016	3	200167		1	0	0	0	W	3000	D	0	1A	YU5202

DATE  
6/10/81

Mount  
Weather  
Battle  
Miles

CONFIDENTIAL

DATE	CTZ	MISSION	MULTI	MABRT	WABRT	RABRT	ANDRT	AGFNT	GAL	TYPE	ACRAFT	UTMID	UTM
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671026	1	200467		1	0	0	0	0	2900	D	0	1A	RR24046
671027	2	200467		1	0	0	0	M	2900	D	0	1A	RR24545
671102	1	200167	B	1	0	0	0	M	3000	D	0	1A	XU91111
671104	2	200667		1	0	0	0	0	3000	D	0	1A	XT93194
671108	2	200467		1	0	0	0	0	2850	D	0	1A	Y575098
671111	1	201666	C	1	0	0	0	0	2450	D	0	1A	Y559098
671117	2	200467		1	0	0	0	0	3000	D	0	1A	Y472543
671117	3	200366		2	0	0	0	D	4850	D	0	1A	Y472526
671120	2	200467		1	0	0	0	D	2150	D	0	1A	Y444292
671122	3	200967		3	0	0	0	0	600	D	0	1A	Y44274
671128	1	200366	A	1	0	0	0	0	2000	D	0	1A	ZU22009
671130	1	200167	A	1	0	0	0	0	3900	D	0	1A	Y471047
671208	2	200467		2	0	0	0	M	3000	D	0	1A	Y471826
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671211	3	200167	A	1	0	0	0	0	1950	D	0	1A	X592766
671213	3	200167	B	1	0	0	0	0	2000	D	0	1A	Y492700
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680106	1	200267		1	0	0	0	0	1900	D	0	1A	Y644255
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680202	2	200367		1	0	0	0	0	1900	D	0	1A	Y512777

ARMY documents used as basis for HHS Schweiker's News Release, 21 Sep 1981



CONFIDENTIAL

25 AN

DATE	CTZ	MISSION	MULTI	MARRT	WARPT	RAOBT	ADORT	AGENT	GAL	TYPE	ACRAFT	UTMID
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6R0503	3	200167	A	1	0	0	0	U	5000	0	0	1A
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701216	2	020670		1	0	0	0	R	1060	0	0	1A

COUNT

PECID

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 X560424  
 X554227  
 NP09887  
 NP14488  
 NP25388



# HHS NEWS

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Laura Genero--(202) 245-6343  
Richard McGowan--(202) 245-7204

FOR IMMEDIATE RELEASE  
Wednesday, October 21, 1981

HHS Secretary Richard S. Schweiker today made public the attached Chronology of Activities on Agent Orange.

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#360

Enclosure

17 PP

FROM: James S. Stockdale  
Deputy Under Secretary for  
Intergovernmental Affairs

TO : The Secretary

CHRONOLOGY OF ACTIVITIES RE: AGENT ORANGE

The first meeting of the re-established and expanded Agent Orange Working Group was held on August 28, 1981. The first task of the Working Group was to review the status of all ongoing and planned Federal research and related activities.

Each member agency was directed to provide updated reports on the status of its current or planned research activities.

A proposed protocol for the design of the Veterans Administration epidemiological study will be reviewed by the Working Group's Science Panel.

A number of veterans organizations have been briefed on the continuing military records search that is being conducted by the Army Agent Orange Task Force. Preparations are continuing for the Air Force Ranch Hand Study. That study involves pilots and maintenance personnel engaged in the spraying of herbicides during the Vietnam conflict. Concern was expressed that the fullest possible participation by Ranch Hand personnel be obtained for this study of possible health effects related to exposure to Agent Orange. This is critical because the Ranch Hands are a relatively small group of approximately 1200.

A public affairs panel was created and will develop plans for a public meeting of the Working Group to be scheduled later this year.

The Working Group also agreed to establish a resource development panel to assure adequate funding and personnel resources.

Dr Vernon Houk, Chair of the Working Group's Science Panel, has plans to review all research.

Dr. Houk and several other members of the Working Group visited the Army Agent Orange Task Force Office for a briefing on the status of the Department of Defense records search. During the briefing, it became apparent that a potentially

existed promising new concept/for the identification of people exposed to Agent Orange in addition to the Air Force Ranch Hand personnel or broadly defined units of ground troops. The full research panel was briefed on this new information.

The information may provide the basis for a new approach to finding answers to some of the serious scientific questions before the Working Group. It opens the possibility of an expanded number of potentially identifiable exposures to Agent Orange in addition to those involved in the Ranch Hand study. Further developments regarding the information will be included in the next Working Group report.

The Agent Orange Working Group's predecessor, the Inter-agency Work Group to Study the Possible Long-Term Health Effects of Phenoxy Herbicides and Contaminants (IWG), also undertook a number of activities during the transition period between April, 1981, when it transmitted its seventh report, and August, when the expanded Working Group convened.

At the May meeting of the IWG, a status report was given on the birth defects study being conducted by the Centers for Disease Control. It was reported that the Office of Management and Budget had approved the study and preparations for the study were under way, with completion likely in the summer or fall of 1983.

At the same meeting, it was reported that a representative of the Medical Follow-Up Agency of the National Academy of Sciences' National Research Council had been briefed on and had reviewed the Defense Department's records search effort and had concluded it could be difficult to identify a population of ground troops the nature and extent of whose exposure to Agent Orange could be reliably reconstructed and documented.

At its June meeting, the IWG was honored by a visit by the Australian Minister of Veterans Affairs, Senator Anthony Messner. Senator Messner told the Group of his government's Agent Orange-related research and urged continuing cooperation between our countries in the area of research. During the meeting, the IWG was assured of the Administration's strong support for Agent Orange research.

As you know, Agent Orange efforts of the various Federal bodies include research as follows:

1. The Agent Orange Working Group coordinates all Federal Agent Orange research. It does not undertake any research on its own but rather acts as the coordinator and monitor.

2. The Air Force Ranch Hand Study is to be monitored by an independent advisory committee in addition to the Agent Orange Working Group. This advisory committee will meet publicly (probably beginning in November) and will include scientists from inside and outside the Federal government.
3. The Veterans Administration Advisory Committee on Health-Related Effects of Herbicides meets periodically to review all VA herbicide-related research. The committee includes scientists from inside and outside the government as well as representatives of veterans organizations.
4. The Office of Technology Assessment of the Congress has established a scientific review panel to review the proposed protocol for the design of the VA epidemiological study and will provide the VA with its conclusions and recommendations regarding the protocol.
5. There are also a number of State-level Agent Orange commissions charged with undertaking and/or monitoring Agent Orange research.

The report notes in conclusion that a number of veterans organizations, members of the public and Congress have expressed support for the Administration's actions regarding Agent Orange and related research.

Attachments:

- (A) Memorandum of August 21, 1981, Re-establishing the Agent Orange Working Group, from HHS Secretary Richard S. Schweiker in his capacity as Chairman Pro-Tem of the Cabinet Council on Human Resources.
- (B) Opening Remarks of Agent Orange Working Group Chairman James S. Stockdale at the Working Group's August 28, 1981 meeting.
- (C) Report by Dr. Vernon Houk, Chair of the Working Group's Science Panel.

THE WHITE HOUSE

WASHINGTON

AUG 21 1981

MEMORANDUM FOR: SECRETARY OF DEFENSE  
SECRETARY OF AGRICULTURE  
SECRETARY OF LABOR  
DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET  
ASSISTANT TO THE PRESIDENT FOR POLICY  
DEVELOPMENT  
CHAIRMAN, COUNCIL OF ECONOMIC ADVISERS  
DIRECTOR OF ACTION  
ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY  
ADMINISTRATOR OF VETERANS AFFAIRS  
DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY  
POLICY

FROM : *Richard Schweiker*  
SECRETARY RICHARD SCHWEIKER  
CHAIRMAN PRO-TEM, CABINET COUNCIL  
ON HUMAN RESOURCES

SUBJECT : Agent Orange Working Group

The Administration has reviewed the excellent work of the Interagency Work Group to Study the Possible Long-Term Health Effects of Phenoxy Herbicides and Contaminants and believes that it has made significant progress toward fulfilling its important mandate. By bringing together knowledgeable scientists from the various Federal departments and agencies the Work Group has identified ongoing research activities on phenoxy herbicides and contaminants and begun to develop and organize the means to carry out additional needed scientific research.

President Reagan shares the widespread public and congressional concern over possible adverse health effects among Vietnam veterans exposed to Agent Orange and other substances. The President stated, during his meeting with national veterans organization leaders at the White House on July 17, 1981, that the Administration is giving special consideration to those concerns of Vietnam veterans.

At the White House meeting, the President announced that the administration had re-established an expanded Working Group as the Agent Orange Working Group and raised its status to Cabinet Council level. The President is personally determined to assure that the full resources of the Federal government are

available to support the Working Group's continuing efforts. The decision to re-establish and expand the membership of the Working Group and to make it an integral part of the Cabinet Council on Human Resources reflects the President's commitment and accords the highest priority to its mission.

As Chairman Pro-Tem of the Cabinet Council on Human Resources, I am, accordingly, reaffirming by this memorandum the Agent Orange Working Group's mandate of December 11, 1979 and providing specific guidance as to how that mandate is to be carried out in accordance with the Cabinet Council's decisions.

The Department of Health and Human Services shall continue to have lead responsibility for overall direction and management of the Agent Orange Working Group. The Secretary of Defense and the Administrator of Veterans Affairs shall continue to assure that their respective agencies participate fully in all Working Group activities. The Departments of Agriculture and Labor and the Environmental Protection Agency, each of which have until now been observers, shall assume full membership and their respective agency heads shall assure that those agencies participate fully in all Work Group activities.

In addition, ACTION, the Office of Management and Budget, and the Council of Economic Advisers, as well as the White House Office of Science and Technology Policy and the Office of Policy Development, shall assume membership on the Working Group and the heads of those agencies and offices shall assure that the resources of their respective agency or office are fully available to support it.

Also, the congressional Office of Technology Assessment, which has been actively involved in all Working Group activities as an observer, will be invited to continue to participate in that capacity, and the General Accounting Office, which has been extremely helpful to the Working Group in the past, will continue to be kept abreast of developments and invited to advise and assist as appropriate.

The Working Group has initiated research efforts designed to find answers to many of the questions surrounding Agent Orange that have been raised. These efforts include the birth defects study being conducted by HHS' Centers for Disease Control, the Ranch Hand Study being conducted by the Air Force, the epidemiological study being planned by the Veterans Administration pursuant to P.L. 96-151, and the compilation by HHS' National Institute of Occupational Safety and Health of a national registry of workers exposed to dioxins. Each of these research activities, as well as the other important research



activities being conducted under the overall guidance of the Working Group, are to be continued without interruption or delay.

The Working Group has developed an impressive record of scientific objectivity, impartiality and integrity and it is imperative to the success of the Working Group effort that this record and the Group's credibility be maintained. In this regard, regular progress reports to the Cabinet Council, the Congress and the public will continue to be made by the Agent Orange Working Group.

To assure effective leadership of the Working Group, I am hereby appointing James Stockdale, HHS Deputy Under Secretary for Intergovernmental Affairs, as Chair. Also, I am appointing Dr. Vernon N. Houk of the Center for Environmental Health of the Centers for Disease Control as Chair of the Working Group's Science Panel. In addition, I am appointing HHS Legal Counsel Leslie A. Platt, who has served as legal adviser to and staff director of the Working Group since its inception, to continue in those capacities. I know and believe you will find that these individuals share my commitment to carrying out this important mission.

Please review your representation on the Working Group to assure that your agency or office is adequately represented by appropriate technical experts, scientists and policy-level officials. In order to facilitate the Group's effectiveness, it is of course important that each agency's total membership be limited.

The first meeting of the full Working Group has been scheduled for Friday, August 28, 1981 and a meeting of the Science Panel will be scheduled for shortly thereafter. Accordingly, please let Mr. Bart Kull, Special Assistant to the Deputy Under Secretary for Intergovernmental Affairs (245-6156), or Dr. Peter Beach, HHS Director of Veterans Affairs (245-2210), know as soon as possible the name(s) of your designated representative(s) so that briefing materials may be forwarded to them.

Attached for your information is a copy of the memorandum of the Executive Secretary to the Cabinet Council on Human Resources establishing the Working Group.

Attachment

cc: Comptroller General of the United States  
Director, Congressional Office of Technology Assessment  
Mr. Robert Carleson  
Mr. Edwin Gray

Agent Orange Working Group  
August 28, 1981 Meeting

Introductory Statement by James Stockdale, EHS Deputy  
Under Secretary for Intergovernmental Affairs and  
Chair, Agent Orange Working Group

Good Morning. I am James Stockdale, EHS Deputy Under Secretary for Intergovernmental Affairs and Chair of the Agent Orange Working Group. As Chair of the Working Group, I wish to express to you my beliefs about the work under way.

Many of you have known frustration in the course of time serving on this project. Occasionally there has been the concern that it would be stuffed away in some dusty corner of official memory and permitted to die of neglect.

Some of you have believed - and in that belief have held firm, and in that firmness have kept the mission and the mechanism of this group intact and alive.

The President of the United States, in his recognition of the trust this nation holds on behalf of those who have served our country in war ... in recognition of the heavy questions that eat at the minds of many who served ... has publicly and forcefully reaffirmed and reinforced the goals this working group seeks to achieve.

President Reagan recently said "we are giving special consideration to the concerns of Vietnam veterans over Agent Orange. Our fiscal year '82 budget will contain a large

increase in funding for the continued study of Agent Orange. In addition to the VA's epidemiological study and the Air Force Ranch Hand Study, we have reestablished an expanded Interagency Work Group as the Agent Orange work group and, yesterday, we raised its status to Cabinet Council level."

If ever there has been a statement of genuine concern for the fears that lurk in the minds of many Vietnam veterans and their families - that was it.

Those fears of possible long term adverse health effects as a result of exposure to Agent Orange are very real. They demand answers. They demand the kind of deliberate, objective research that will provide as many answers as science can give.

There is no fear like the fear of the unknown. It is the mission of this working group to make known the unknown insofar as humanly possible.

This working group will not cave in to the hysteria of emotionalism that surrounds this issue. This working group has a responsibility to turn aside from the barrage of demands for quick and easy answers based on assumptions and fear rather than facts.

Equally so, this working group will not bow to any interests that might seek to sweep this issue under the rug - to pretend it does not exist and hope it will simply go away. This working

group will not succumb to any effort to stonewall. This issue will not go away. Efforts to stonewall it will fail.

This working group's mission is to seek truth and to reveal openly as much truth as can be found.

All of the truth may be beyond our grasp but we have a moral obligation to reach and even to stretch our reaching beyond the limits we believe imposed upon us by the nature of our finite minds and the current state of science.

On behalf of those who wonder and worry and fear we can do no less.

I am especially pleased, therefore, that we have assembled such an outstanding team for this project.

At this time, I would like to introduce some of the key people in this effort from the Department of Health and Human Services. First, I would like to introduce Dr. Vernon Houk of the Center for Environmental Health of the Centers for Disease Control, who will chair the Science Panel. Next, Leslie Platt, our legal counsel and staff director, and Bart Kull, my special assistant, who will chair the group in my absence. Also, you all know Dr. Peter Beach, the Department's director of veteran affairs who has been and continues to provide overall coordination for this effort. We all welcome you to the Department and look forward to working with you.

## Memorandum

Date September 24, 1981

From Chairman, Science Panel  
Agent Orange Working Group

Subject Report of the Science Panel to the Agent Orange Working Group

To Mr. James Stockdale  
Chairman, Agent Orange Working Group  
Deputy Under Secretary for Intergovernmental  
Affairs, HHS

Attached is the Report of the Science Panel.

  
Vernon N. Houk, M.D.

Attachment

REPORT OF SCIENCE PANEL

TO THE

AGENT ORANGE WORKING GROUP

The Science Panel met September 2 and September 15, 1981. A summary of these meetings and other activities is as follows:

Veterans Administration (VA) Draft Protocol for Epidemiological "Studies of Agent Orange"

The Veterans Administration Draft Protocol for Epidemiological "Studies of Agent Orange" received from the University of California at Los Angeles (VA Contract V101(93)P-842) was distributed to the members of the Science Panel. It was agreed that the review would take place in two stages.

The members are to transmit to the Chair by September 18 a general overview and general comments of what needs to be done. By October 16, detailed, specific comments and suggestions for protocol design on what needs to be done, how to do it, and suggestions on who has the capability of doing it should be transmitted to the Chair. The Chair will consolidate the comments and return it to the members of the Science Panel for review with final comments on the proposed study to be submitted to the VA before their committee meeting on this subject in November.

The present VA proposed protocol is scheduled to be reviewed by the Science Panel, the VA Committee, the Congressional Office of Technology Assessment, and the National Academy of Science, National Research Council (NRC). Dr. Honchar suggested that the document was not yet ready for review by the NRC and suggested the VA discuss with NRC that they consider withholding a review until a more detailed and specific document can be made available. The Science Panel members concurred with this suggestion.

Dr. Gough of the Congressional Office of Technology Assessment indicated that their review has been completed.

A Case Control Study of the Relationship Between Exposure to 2,4-D and Spontaneous Abortions in Humans

The Science Panel was asked to review the document "A Case Control Study of the Relationship Between Exposure to 2,4-D and Spontaneous Abortions in Humans" prepared for the National Forest Products Association and the U.S. Department of Agriculture--Forest Service by SRI International. Dr. Kimbrough and a rather large intergovernmental group has reviewed this study in detail during its route to completion. Those comments were made available to the Science Panel. The members of the Science Panel were asked to complete this review process and send written comments to the Chair by the end of October.

Mr. Platt indicated that he would send to all agencies involved the list of past, present, and anticipated activities on the subject of herbicides. The agencies will be asked to review and update that document and return to Mr. Platt within 1 month.

### Data Sets

There was considerable discussion about additional data sets that may be available. Dr. Shepard was asked to have the VA review and report back to the Science Panel specific information on the VA death certificates, any health information that may be contained in VA life insurance information, and to survey the major VA hospitals for any additional studies or information that may be available.

The Department of Defense (DOD) was asked to report on the status of the Soft Tissue Sarcoma Registry at the Armed Forces Institute of Pathology (AFIP). DOD was asked to investigate and report on the kinds and amounts of herbicides used in non-Vietnam DOD installations in various parts of the United States and the rest of the world.

The Department of Agriculture (DA) was asked to report on any information from their sources (Extension or otherwise) on the use of herbicides in the United States. Dr. Shaw of the DA was concerned that special groups in the United States, such as those involved in spraying the electrical power transmission lines rights of way, could be identified and could contain significant health information on workers involved in this activity. Drs. Rall and Landrigan felt that this information would at best be sketchy. Dr. Shaw was asked to report to the Science Panel on this subject.

### VA Mortality Study

Dr. Kimbrough suggested that the VA proceed with the review of the VA death certificates for Vietnam veterans. VA has 95 to 98 percent of death certificates of veterans who died on file in various locations around the country. The study would also include, in cooperation with DOD, individuals who died while still on active duty. Dr. Kimbrough will work with Dr. Shepard and others to explore the feasibility of this being accomplished. It was suggested by several members of the Science Panel that in order to be successful, individuals will have to be identified and trained to extract the specific information needed in a uniform manner from the records. It is unlikely to be successful simply by paying available people overtime to review records in their current installation.

### International Symposium on Chlorinated Dioxins and Related Compounds October 25-29, 1981

Dr. Shepard asked the Science Panel to endorse and various agencies to co-sponsor (without commitment of dollars) the subject conference. Dr. Landrigan felt that the speakers listed on the brochure presented only one side of the

subject material. Dr. Shepard indicated that this was not intended, and anybody with any information was invited to participate.

Attempts will be made to contact the group evaluating soft tissue sarcoma from Sweden to participate. Dr. Honchar was also asked to present her recent study on this subject.

Since the above discussion on the subject symposium, Dr. Lennart Hardell of Sweden asked to present their data on soft tissue sarcoma. He was apparently told by organizers of the conference that there was no room on the program for his paper. The Chair communicated with Dr. Shepard that this was not in accord with the previous agreement and was asked to use his influence with the symposium organizers to have Dr. Hardell's paper included in the formal program.

No governmental agency will formally co-sponsor or otherwise endorse the symposium though many will provide participation by their employees.

#### Other Groups to be Explored

Major Young suggested that there are other individuals who may have been exposed to Agent Orange in high doses that could be identified and available for study. These include approximately 50 scientists and technicians that were assigned to the Plant Sciences Laboratory, Fort Dietrick, Maryland, 1962-70; approximately 200 scientists and technicians involved in the development and evaluation of spray equipment at Eglin Air Force Base, 1962-70; and approximately 200 individuals who were involved in the disposal of Agent Orange (Project PACER-HO 1977). Major Young was asked to make a presentation at a future meeting of the Science Panel.

After the previous discussion of Data Sets above, Dr. Bricker shared with the Chair information on "aborted missions." An aborted mission is one when for various reasons the intended targeted spraying of the herbicide was not done but the material was dumped from the aircraft. The Chair asked Dr. Honchar to quickly review these data. Her report is attached. Major General Augerson formally notified the Science Panel of these data. That notification and acknowledgment of the Science Panel are attached.

On September 15 a meeting was called for the Science Panel to examine this new information.

#### Aborted Missions

Dr. Bricker and Mr. Christian presented a briefing on aborted missions. They have identified 90 between 1965-1971 and have reasonable information on 28 (MACV records). It is possible that information could be developed on the other 62 (Air Force printouts). They suggested that major attention be given to the activities at four locations in Vietnam. In addition to exposed personnel in these four areas associated with the aborted missions, there may be other groups that have had extensive exposure. These may include personnel who were involved in base perimeter spraying, by air or by land, sprayers of riverbanks, and any personnel who were used for cleanup activities when there were leaks or disruptions of the storage containers or other significant accidental spills. We would suggest that the Defense Department develop



information on those units that might have had the highest exposure. It is necessary to determine the duration of acute, heavy, and long term exposure to all herbicides used in Vietnam. For the herbicide Agent Orange, it would also be useful if information could be developed on the manufacturer and date of manufacture or at least whether this was one stripe or two stripe Agent. By consensus of the Science Panel, Drs. Honchar and Kimbrough were asked to work with Dr. Bricker and Mr. Christian to develop information from the Army records and other documents. Hopefully, it will be possible to identify units that have had considerable exposure to Agent Orange from these records.

A request regarding this matter was sent to Major General Augerson on September 21. A copy of that letter is attached. The Science Panel recommends that the Chair, Agent Orange Working Group, ask the Resource Panel to explore providing the necessary resources to complete this task. By October 20, we should have a fairly good estimate of what tasks will be needed. DOD should provide a resource estimate. Not only are there groups who may have been acutely heavily exposed to these materials but the surface is likely to be heavily contaminated. It appears that at least some of these incidents occurred in places with significant populations remaining in contact with the contaminated area for a period of time. The Science Panel will explore the possibility of identifying similar non-Vietnamese areas of contamination that would lend themselves to a study of for how long and how much of the TCDD is likely to remain in the soil. It is known that TCDD degrades upon exposure to ultraviolet light. TCDD in soil on the other hand may be extremely persistent. Dr. Kearney of DA has been asked to report on this by October 20 in more detail. Dr. Kearney was also asked to determine what environmental monitoring data is available from Vietnam on 2,4,5T; 2,4D; and TCDD.

#### Laboratory Quality Monitoring

Dr. Eric Sampson of the Clinical Chemistry Division, CEH, CDC, presented to the Panel some general information on quality control procedures used by the information on new methods developed at CDC for the precise measurement of five reproductive hormones.

The Science Panel recommends for any investigations, including the Ranch Hand Study, that tight quality controls of laboratory tests be incorporated into their studies. This is even more critical when longitudinal observations are being made on groups so the data will be comparable over time.

Respectfully submitted September 24, 1981.



Vernon N. Houk, M.D.  
Chairman, Science Panel  
Agent Orange Working Group

Date September 14, 1981  
From Science Panel Member  
Subject Preliminary Assessment of Epidemiologic Utility of Aborted Ranch Hand Missions

Chairman, Science Panel, Agent Orange Working Group  
Through: ~~X~~ Director, DSHEPS, NIOSH *PJK*  
Chief, IWSB, DSHEPS, NIOSH *William H. ...*

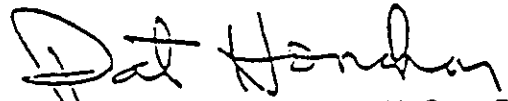
On September 10, 1981, I met with Department of Defense personnel to learn about aborted Ranch Hand missions and to determine whether adequate information about these missions is available to allow identification of a cohort(s) with defined exposure for epidemiologic study. To this end, questions about both the exposure and potential cohorts were explored.

Concerning the exposure, ninety aborted missions have been identified. Of these, some documentation (e.g. date, altitude, agent, gallons, location, etc.) is available for 28, and less complete information on the additional 62 missions is contained in the HERBS tape. It will be important to assemble the original documentation for the additional 62 missions. Based on what is known about the 28, it appears that ultimately documentation for some of the missions will be incomplete. When all available data about these missions is assembled, information such as agent, altitude, gallons, time and date when available can be analyzed to estimate the area contaminated by the emergency dumps. The Army has begun to map the aborted missions, and this activity can and should continue with additional information on the emergencies.

Concerning the population exposed, it appears at this time that it will continue to be difficult to know with absolute certainty from records that a particular individual or unit was located directly under and came in contact with Agent Orange released in an emergency dump. The Army has, from preliminary mapping of the missions, begun to identify military populations in closest proximity to clusters of aborted missions. At this time, four population areas have been identified with from approximately 800 to approximately 12,000 military personnel in residence at the time of the aborted missions in the four areas.

In summary, this evaluation is preliminary. After all available information about the known aborted missions is assembled and evaluated, continued effort can be applied to identify the ground units in closest proximity. At that time, issues of potential cohort size, controls, etc. can be considered. It is very important to note, however, that further information about these aborted missions at best can be utilized to maximize the probability of exposure of a cohort; it will be difficult or probably

impossible to define the exposure of each individual in any cohort. Questions of frequency and amount of exposure, and multiple exposures, will remain. And finally, given that the bulk of Agent Orange exposure including the aborted missions occurred in the late 1960's, the issue of inadequate latency must be addressed if a cohort mortality study is proposed.



Patricia A. Honchar, M.S., Ph.D.