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The Ranch Hand Health Effects Study

Presented by Lt. Gen. (Dr.) Paul W. Myers, Air Force Surgeon General, to the Subcommittee on Medical Facilities and Benefits of the House Veterans Affairs Committee, Washington, Sept. 16, 1980.

I appreciate the opportunity to appear before you to review Air Force activities to date in the epidemiological investigation of health effects of Ranch Hand personnel as they may relate to exposure to Herbicide Orange.

Various herbicides were used in Vietnam by the Air Force in support of tactical military operations from 1962 to 1971. The major herbicides used during this period were phenoxy compounds, 2,4-D [(2,4-dichlorophenoxy) acetic acid] and 2,4,5-T [(2,4,5-trichlorophenoxy) acetic acid], which were both registered by the U.S. Department of Agriculture. These two herbicides were used under four code names, the most prominent of which was Herbicide Orange. Herbicide Orange was a defoliant consisting of a 50:50 mixture of 2,4,-D and 2,4,5-T. The component 2,4,5-T contained a contaminant, TCDD (dioxin), which developed during the manufacturing process and is highly toxic in its pure form. The name, Herbicide Orange, came from an identifying orange stripe painted on the drum of the herbicide.

Vietnam: Ranch Hand

During the period 1962 to 1970, 44 million pounds of 2,4,5-T contained in approximately 11 million gallons were disseminated over 6.5 percent of the land mass of Vietnam. This was carried out under the code name "Ranch Hand." The missions were generally conducted 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 and to destroy the enemy food supply.

In October 1969, the Department of Defense restricted the use of Herbicide Orange to areas remote from population. This action was prompted by the National Institutes of Health report that 2,4,5-T could cause malformations and stillbirths in mice. In April 1970, the Department of Defense suspended further use of Herbicide Orange in Vietnam. All remaining stocks of Herbicide Orange were incinerated at sea in 1977.

In late 1977, the Veterans Administration began receiving complaints from veterans who felt that their medical problems may have been caused by exposure to herbicides in Vietnam. These problems included cancer, birth defects in offspring, fatigue and nervousness.

Commitment to Congress

Because of increasing public concerns, the Air Force made a commitment to the Congress and to the public in October 1978 that it would assess the health of Ranch Hand personnel exposed to Herbicide Orange. These airmen were selected because of likely heavy exposure and they could be readily identified.

Air Force medical scientists developed an extensive protocol for an

in-depth epidemiologic investigation. The results would hopefully determine whether a casual relationship could be established between exposure to Herbicide Orange and changes in the long-term health status of the individuals involved. There are three integrated elements in the investigation: (1) a mortality study, (2) a morbidity study (including birth defects) and (3) a follow-up study. As initially conceived, the investigation was to be a six-year project with options to extend based on results obtained during that period.

The protocol was subjected to extensive scientific review. The Air Force wanted to be certain that it would make the best scientific effort possible. The first submission for review was in June 1979 to the University of Texas School of Public Health at Houston. Subsequently, it was submitted to and reviewed by the Air Force Scientific Advisory Board (civilian scientists); the Armed Forces Epidemiological Board (civilian scientists); and the National Academy of Sciences.

Academy of Sciences Report

The report from the National Academy of Sciences was received in May this year. Each report raised a number of technical issues with respect to the proposed Air Force protocol. In addition, the National Academy of Sciences' review expressed concern over public *perception* of credibility if the Air Force conducted the study. They did not question the ability of the Air Force investigators to conduct the study.

The concern about credibility led to a referral of the academy's recommendations, along with the other peer review observations, to the Interagency Work Group to study the possible

long-term health effects of of phenoxy herbicides and contaminants for a determination of how the study should be conducted and by whom. The merits and the methods of the study were reviewed by the Interagency Work Group beginning June 17, 1980. A recommendation was made by that group on Aug. 1, 1980, to the assistant to the president for domestic affairs and policy that the study be done by the Air Force.

In summary, the work group recommended that the Ranch Hand study, with appropriate protocol modifications and with outside peer review and monitoring, be commenced by the Air Force as soon as possible. These recommendations are a matter of public record. On Sept. 10, 1980, these recommendations were reaffirmed by the Interagency Work Group to the Air Force.

Ranch Hand Study Actions

The following actions on the Ranch Hand study have already been taken:

- Extensive research of the scientific literature has been conducted.

- Contact has been made and maintained with leading Herbicide Orange experts in the country.

- Extensive interagency coordination has been accomplished with the Veterans Administration, the Department of Defense and other governmental agencies with interests in this issue.

- The Ranch Hand organization has been briefed, and endorsed the study.

- Fifteen million Air Force personnel records have been screened.

- Basic statistical formats and data repository fundamentals have been established.

- 1,198 Ranch Hand members have been identified and addresses obtained. Currently, 245 of the Ranch Hand

members are on active duty (134 officers and 111 enlisted).

- The process of matching the control group to the Ranch Hand participants is under way. A review of the records of approximately 30,000 potential controls has begun. The participants will be matched by age, job, time in Vietnam and race.

- The morality study is ongoing. To date, there have been 49 deaths in the Ranch Hand group. Fifty-seven percent of these were from aircraft accidents or hostilities in Vietnam.

- The questionnaire is being refined to include the major points addressed by the peer review agencies. The procurement process has begun to acquire the assistance of a recognized health survey organization for the purpose of administering the expanded and more comprehensive health survey instrument. A similar procurement plan will

be followed for the physical examinations.

- Drafts of the initial contact letters to the Ranch Hand study participants are being refined.

- A fact sheet is being developed for each participant explaining the purpose and general content of the study and the role of the participant.

- Privacy Act statements have been prepared.

- The informed consent form is being reviewed by the Air Force legal staff.

- This is a brief overview of progress in the development of the Ranch Hand study.

- I plan to attend the Ranch Hand organization meeting next month to give them a progress report. I will, on behalf of the Air Force, extend a personal as well as written invitation to participate in this study and answer any questions that may be asked by the Ranch Hand group.

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‘Readiness Begins in the Mind’

In several speeches recently, Secretary of the Air Force Hans M. Mark has been emphasizing “the most vital element of the military equation . . . the people who serve in uniform.” Speaking to Air Force people, he says:

“Much has been made of the readiness of our Armed Forces to fight. But this has usually been translated into the maintenance of hardware and into the purchase of new spare parts for our equipment. I submit that readiness begins in the mind, and this is where we must start. The military profession must, once again, hold a place of honor in our society. And this place must be accompanied by enough compensation to make it attractive for high-quality people to make a career out of military service . . .

“It is absolutely essential to remember the fundamental purpose of the military — which is to fight if necessary to preserve our national interests. That is the reason for our existence, and I know that this is sometimes forgotten by the public at large. As members of the military, you have been and you will be called upon to take extraordinary risks. You have been and you will be called upon to tap reservoirs of courage that I know you all possess. It is important above all to remember that this is why you are special, why you are cast in a mold different from other people. It is this thought that must sustain you.”

— *Air Force Policy Letter for Commanders*