Document Appendix:

NVLSP And VLSC White Paper
Confirming That Veterans Who Served in Guam from 1958-1980 Were Likely Exposed to Dioxin-Containing Herbicide Agents Including Agent Orange

Part 1

February 12, 2021
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in mortality profiles between men and women, and the information provided by Kang and colleagues may not necessarily apply to the majority of American Vietnam veterans who are male. VA informed the committee that an updated mortality study was underway as of 2017 (Davey, 2017), but no results were available at the time the committee completed its work.

**MILITARY USE OF HERBICIDES IN VIETNAM**

Military use of herbicides in Vietnam took place from 1962 through 1971. Specific herbicides were selected based on tests conducted in the United States and elsewhere that were designed to evaluate defoliation efficacy (IOM, 1994; Young and Newton, 2004). Four compounds were used in the herbicide formulations in Vietnam: 2,4-dichlorophenoxyacetic acid (2,4-D); 2,4,5-trichlorophenoxyacetic acid (2,4,5-T); 4-amino-3,5,6-trichloropicolinic acid (picloram); and dimethylarsinic acid (DMA, or cacodylic acid). These herbicides were used to defoliate inland hardwood forests, coastal mangrove forests, cultivated lands, and zones around military bases. Whereas the chlorinated phenoxy acids 2,4-D and 2,4,5-T persist in soil for only a few weeks, picloram is much more stable and can persist in soil for years, and cacodylic acid is nonvolatile and stable in sunlight (NRC, 1974). More details on the herbicides used are presented in Chapter 4.

However, other toxic compounds were also present in these herbicide formulations. Specifically, polychlorinated dibenzo-p-dioxins (PCDDs), which includes 75 different congeners that vary by the number and placement of the chlorine atoms, can be formed during the manufacture of 2,4,5-T and the half-lives of these in subsurface soil may exceed 100 years (Sinkkonen and Paasivirta, 2000). One contaminant of particular concern is 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). This compound is an unintentional byproduct of the production of 2,4,5-trichlorophenol (NRC, 1974). The structures of the chemicals of interest (COIs) identified above are shown in Figure 2-1.

Herbicides were identified by the color of a band on 55-gallon shipping containers and were called Agent Pink, Agent Green, Agent Purple, Agent Orange, Agent White, and Agent Blue. Table 2-2 shows the herbicides used in Vietnam by color code name and summarizes the chemical constituents, concentration of active ingredients, years used, and estimated amount sprayed, based on original and revised estimates. Two different formulations of Agent Orange were used in the course of military operations in Vietnam. All agents were liquid except Agent Blue, which was used in powder form in 1962–1964 and as a liquid in 1964–1971. Agent Pink, Agent Green, Agent Purple, Agent Orange, and Agent Orange II all contained 2,4,5-T and were contaminated to some extent with TCDD. Agent White contained 2,4-D and picloram. Agent Blue (powder and liquid) contained cacodylic acid.
Andersen AFB's Legacy: Operation Linebacker II

By Jeffrey N. Meyer, 36th Wing Historian / Published December 18, 2017

ANDERSEN AIR FORCE BASE, Guam -- Thirty-nine years ago, Andersen Air Force Base became involved in Operation Linebacker II, an operation that would arguably be the most significant event in the installations long and distinguished history. Andersen AFB became the site of the most immense buildup of air power in history. More than 12,000 Airmen and 153 B-52s took up five miles of ramp space on the flight line. This article is about the operation that had many names, to include "The Eleven Day War", "11 Days of Christmas", "December Raids or Bombings" and "The Christmas Bombings"- but whatever moniker is used, it boils down to the massive bombing effort of North Vietnam from December 18-29, 1972.

For there to be an Operation Linebacker II there must have been a Linebacker I. The first operation was in response to the "Easter Offensive" when North Vietnamese Army invaded South Vietnam. From May 9 to Oct. 23, 1972, units of the Air Force and Navy bombed targets in throughout North Vietnam. Although the B-52s were minimally used in these northern bombings they continued their traditional Arc Light missions of bombing Vietcong positions south of the Seventeenth Parallel.

As part of the build-up for Linebacker I, Strategic Air Command (SAC) launched Operation Bullet Shot, which sent 124 more B-52s from bases in the U.S. to Guam; bringing the total B-52 strength available for operations in Southeast Asia to 207. One hundred fifty three B-52s were at Andersen AFB (55 B-52Ds and 98 B-52Gs) and another 54 B-52Ds were based at U-Tapao, Thailand. Over 12,000 airmen on Guam were packed into the dorms, with spill-overs residing in temporary steel dorms called Tin City. Canvas Courts, a collection of tent shelters and available off base hotels, and even the base gymnasium were converted to living quarters to house all of the Airmen. The last time there were this many bombers and Airmen on Guam was 1945, for World War II air operations against Japan.

After the Linebacker I bombings halted, Secretary of State Kissinger announced that "peace is at hand." It seems that history has a bad habit of repeating itself. Similarly, after the Munich Conference with Adolf Hitler in 1939, British Prime Minister Neville Chamberlain declared, "peace for our time" right before World War II started. The North Vietnamese rebuilt their military strength during this "peace". On December 13, 1972, the North Vietnamese delegates walked out of the Paris peace talks, and two days later President Nixon (a big football fan, thus the operation's name "Linebacker") ordered the implementation of Linebacker II and the continuation of airstrikes against North Vietnam. However, these new bombing missions would be much different; the big B-52 bombers would have the central role in the operation. The majority of U.S. Air Force personnel stationed on Guam and in Thailand were surprised by the new air offensive, but most air crews agreed that it was about time that B-52s were used in this capacity.

On the first night of the operation 129 bombers launched, 87 from Andersen AFB and another 42 from U-Tapao. There were an additional 39 support aircraft from Seventh Air Force, Navy's Task Force 77 (Six aircraft carriers in the era) and Marine Corps F-4 fighter escorts, F-105 Wild Weasel SAM-suppression missions, Air Force EB-66 and Navy EA-6 radar-jamming aircraft, chaff drops, KC-135 refueling capability, and search and rescue aircraft. The skies over North Vietnam were dominated by U.S. airpower to guarantee the success of the operation and the safety of the aircraft involved.

Even with these precautions, three B-52s were shot down the first night after being hit by SA-2 surface-to-air
missiles (SAMs). Tragically, an Andersen crew aboard a B-52G, call sign Charcoal 01, seconds after dropping bombs on target, would be hit by a SAM. The pilot, Col. Donald L. Rissi (who should have been safely in states), and gunner, Master Sgt. Walt Ferguson, were killed. Three other crew members: Maj. Dick Johnson, radar navigator; Capt. Bob Certain, navigator; and, Capt. Dick Simpson, electronic warfare officer, survived the attack, but were captured. They were later released from captivity in 1973 as part of Operation Homecoming, the return of U.S. service members held as POWs in North Vietnam. The remains of Lt. Robert J. Thomas, copilot, were later identified and returned to his family in 1978.

Another B-52D from U-Tapao, Rose 1, was shot down the first night and crashed into a lake in the Hanoi suburbs. Two of her Airmen are still listed as missing-in-action (MIA) and four became Prisoners of War (POW). The wreckage of the aircraft has been left in the lake, part of its fuselage and the landing gear visible above the water, and it serves as memorial for the Vietnamese people's war effort against the United States. Today, Huu Tiep Lake is also known as B-52 Lake. The list of Airmen killed, MIA, and captured would repeat itself almost daily until the last day of operations.

The third day of operations was the deadliest of the entire operation. The North Vietnamese were learning the repetitive tactics used on the B-52s bombing runs. As waves of B-52s were approaching Hanoi, North Vietnamese MiGs would keep their distance and not attack. This was because the MiGs were reporting the B-52s heading, altitude, and air speed to SAM sites on the ground. Heavy SAM launches followed and they flew directly into the bombers paths resulting in six B-52s shot down. Five of the aircraft lost were from Andersen AFB and of those five, four were G models. Only about half of the B-52Gs models during Linebacker II were modified for Southeast Asian operations as the B-52D. The G models did not have the EW systems and robust jamming capabilities of the veteran D models, which led to dire consequences. This resulted in Andersen's B-52s being returned to their traditional Arc Light missions in South Vietnam and U-Tapao's aircraft taking the bulk of the North Vietnam bombings until the eighth day of operations. Besides the EW issues with the G model, U-Tapao's location was much closer to its targets, meaning quicker turnaround and no mid-air refueling.

After a 36-hour Christmas break, aircraft had completed maintenance checks and air tactics were changed. Day Eight would be the second largest attack of the whole campaign as 120 B-52s from Andersen and U-Tapao attacked military areas around Hanoi and Haiphong. Though the Air Force lost two additional B-52s from U-Tapao, the mission was a huge success because North Vietnam contacted Washington D.C. afterwards to resume peace talks. However, President Nixon would not call off the bombings until talks had actually resumed. The final two days of Linebacker II would see two more B-52s lost. One of those was from the Andersen's 43d Strategic Wing.

Linebacker II ended on December 30 1972 and on January 23, 1973, the cease-fire was signed effectively ending the war for the U.S.

Overall Air Force losses during Operation Linebacker II included fifteen B-52s, two F-4s, two F-111s, and one HH-53 search and rescue helicopter. Navy losses included two A-7s, two A-6s, one RA-5, and one F-4. Seventeen of these losses were attributed to SA-2 missiles, three to daytime MiG attacks, three to antiaircraft artillery, and three to unknown causes. Bombers stationed at Andersen flew 729 sorties, each one a long 12 to 18 hour mission over the 11 days.

More than 20,000 tons of bombs were dropped on targets in and around Hanoi and Haiphong, with relatively few civilian casualties. The was because the operation was focused on military sites and not on striking
civilians. During Linebacker II, 1,624 people were killed in North Vietnam, 1,318 in Hanoi and 306 in Haiphong. By comparison, during nine days of bombing on Hamburg, Germany in 1944, less than 10,000 tons were dropped and more than 30,000 people died.

Andersen AFB will hold a Linebacker II memorial ceremony at the 36th Wing Headquarters on Wednesday, Dec. 20, 2017 at 2:00 p.m.

Of final note, there are still eight Airmen from Andersen AFB's MIA who flew in Linebacker II missions.

On to the Next Mission: A B-52 bomber takes off from Andersen Air Force Base in support of Linebacker II. (Photo courtesy of U.S. Air Force)
LST Hospital Corpsmen Undergo Training

As a part of the continuing education program for hospital corpsmen assigned to ships in Landing Ship Squadron Three, the Squadrone Medical Office, Lieutenant Donald L. Melman, MC, USN(E), recently conducted a weeklong instructional tour of the Naval Hospital Guam. By discussing medical problems in the crew and preparing medical reports required by the Command, the Squadrone Medical Office lends assistance and guidance on medical needs of each of the corpsmen as the need arises.

Take Fire, Add Water, Get Huge Water Shortage

Last week, Squadrone reported that the fire department of Guam fought over 40 fires. We also suggested that these fires could affect everyone on Guam. This particular statement was re-emphasized last Friday after Guam's biggest fire, which started last weekend, and the fire was never contained. Water conservation is crucial to the community.

Navy DA

Rescues Surfer

A Navy Dental Technician from the Dental Clinic demonstrated what simple training can do in an emergency. After a weekend, Dr. Paul Sibley of the Prosthodontic Department of the Dental Clinic, accompanied by a friend, was enjoying a day at the beach near Talofofo when a surface surfer lost his balance and was thrown from his board. Without thought, Sibley (Continued on Page...)
Fire threat still remains

The dry season is almost over on Guam. Yet the threat of boongie fires still remains. What does the boongie fire mean to NCS personnel?

The NCS fire department has recorded 23 alarms from the first of April, an average of about one per day. Of the 23, grass fires account for 19 alarms. The rest are automobile fires and miscellaneous alarms.

Carelessness is the main cause for the grass fires, said Fire Captain O. Knox. A tossed cigarette butt dropped while boongie stomping can end in a big fire.

One night this past month, a fire started between the executive officer’s house and Sat-Comm. Movie-goers watching the show at NCS theater could see the glow of the fire as it burned. The fire proved difficult to reach. Firemen and men from “I” division were called in. Once the site was reached it took an hour and a half to put the fire out.

“Some fires require the assistance of Government of Guam fire departments,” Captain Knox said. A recent example of this was the fire near Wetzenberg Elementary School, at the junction of the NCS road and Marine Drive, in the Harmon Village area this last weekend.

Boongie fires resulted in the prohibition of hunting for a short time in the past two months. They also require water which is short at NCS this month.

Butts and carelessly thrown matches are not the only causes of boongie fires. Last year, it was reported, the heat of an exhaust from a motorcycle was enough to start a fire.

The grass fires usually damage very little except coconut trees, grass and other flora. But, in some cases, the fires burn power poles, destroy livestock and damage houses.

“If we let the fires burn,” said Captain Knox, “we risk the chance of burning down a power pole.” That could inconvenience a lot of people.

The NCS fire department is a division of the Naval Station fire department.
EPA Superfund
Record of Decision:

ANDERSEN AIR FORCE BASE
EPA ID: GU6571999519
OU 07
YIGO, GU
12/01/2003
THE UNITED STATES AIR FORCE
INSTALLATION RESTORATION PROGRAM

FINAL
RECORD OF DECISION
FOR
URUNAO DUMPSITES 1 AND 2
URUNAO OPERABLE UNIT

ANDERSEN AIR FORCE BASE, GUAM

December 2003
This Record of Decision presents the rationale for selecting Excavation and Offsite Disposal as the preferred cleanup alternative for Urunao Dumpsites 1 and 2 located west of Northwest Field, Andersen Air Force Base, Guam. This Record of Decision summarizes the history, environmental background, extent of contamination, associated human health and ecological risks, evaluation of remedial alternatives, public involvement, and rationale for selecting the preferred remedy for the Urunao Operable Unit.
1. DECLARATION

1.1 Site Name and Location

Urunao Dumpsites 1 and 2 are located on private property west of the Andersen Air Force Base (AFB) Northwest Field in Guam. The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) identification number for Andersen AFB is GU6571999519. Prior to 1986, Urunao Dumpsites 1 and 2 were not included in any of the four Andersen AFB Installation Restoration Program (IRP) Operable Units (OUs). A fifth OU (Urunao OU) was established in October 1999 to include Urunao Dumpsites 1 and 2.

1.2 Statement of Basis and Purpose

This Record of Decision (ROD) is a legal technical document prepared for the Urunao OU. The purpose of this ROD is to present the public with a consolidated source of information regarding the history, environmental background, extent of contamination, associated human health and ecological risks, evaluation of remedial alternatives, public involvement, and the proposed Excavation and Offsite Disposal as the preferred alternative to clean up Urunao Dumpsites 1 and 2.

The United States Air Force (USAF), the United States Environmental Protection Agency (USEPA) Region IX, the Guam Environmental Protection Agency (GEPA), and affected property owners have all agreed that Excavation and Offsite Disposal is the preferred alternative to clean up Urunao Dumpsites 1 and 2. This ROD was prepared in accordance with the Administrative Record for the sites and in compliance with 40 Code of Federal Regulations (CFR), Part 300. The CFR included the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the Hazardous and Solid Waste Act of 1982 (HSWA), the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan of 1990 (NCP).

1.3 Assessment of the Site

Constituents of concern (COCs) that were identified in surface and subsurface soils at Dumpsite 1 include antimony, arsenic, barium, cadmium, lead, manganese, and dioxins. These COCs pose risks to human health and the environment. Additionally, solid waste materials and deteriorated ordnance and explosives (OE) materials were observed at Dumpsite 1 that may pose safety risks to human health and the environment. COCs that were identified in surface and subsurface soils at Dumpsite 2 include benzo(a)pyrene, polychlorinated biphenyl (PCB) Arochlor-1254, antimony, lead, and manganese. These COCs pose potential risks to human health and the environment. Solid waste materials were also observed at Dumpsite 2 that may pose safety risks to human health and the environment.

The preferred Excavation and Offsite Disposal cleanup alternative presented in this ROD is a necessary response action to protect human health and the environment, including the underlying groundwater, at Urunao Dumpsites 1 and 2.
1.4 Description of the Selected Remedy

Urunao Dumpsites 1 and 2 are located on steep slopes, over the cliffline and outside the boundary of Andersen AFB. The Dumpsite 1 study area covers approximately 16.5 acres and the Dumpsite 2 study area covers approximately 6.2 acres. Near the end of 2001, an unpaved public access road was constructed within ½ mile of the northwestern portion of Dumpsite 2. Construction of this access road was integral in making the Excavation and Off-Site Disposal cleanup alternative feasible. This access road will be improved by the USAF for the purpose of the cleanup at Dumpsites 1 and 2.

Under the Excavation and Off-Site Disposal cleanup alternative, all solid waste debris and OE materials will be removed from the Dumpsite 1 prior to excavating and removing any remaining COC-impacted soils. Some deteriorated OE fragments will be burned at Dumpsite 1 using a steel burn pan. Ashes and slag remaining from the burn operation will be removed and disposed of properly, based on laboratory analyses. Other OE materials will be transported to the Andersen AFB Explosive Ordnance Disposal (EOD) facility for proper disposal. A screening of specific procedures and controls for handling OE materials will be included as part of the remedial design, including the handling of OE materials that may be deemed unsafe to remove from the site. All OE material handling will be in accordance with Department of Defense Explosive Safety Manual (DDESM) guidelines and in consultation with the Department of Defense Explosive Safety Board (DDESB). The OE material handling will also be coordinated with GEPA to meet any permit conditions for open burning and to minimize the effects associated with airborne material generated from the burning of OE materials. The remedial design will incorporate procedures that will include, but not be limited to, monitoring ambient atmospheric conditions to ensure that burns are only performed during optimal conditions.

After removing the solid waste debris and OE materials from Dumpsite 1, COC-impacted soils will be excavated and temporarily stockpiled onsite. Composite samples of stockpiled soil will be collected and analyzed for Toxicity Characteristic Leaching Procedure (TCLP) parameters to determine whether the COC-impacted soil is considered hazardous waste for disposal purposes. All COC-impacted soils with concentrations exceeding the cleanup standards, but not characterized as Resource Conservation and Recovery Act (RCRA) hazardous waste, will be transported to the Andersen AFB Landfill for disposal. Any COC-impacted soils with concentrations exceeding the cleanup standards that are also characterized as RCRA hazardous waste will be shipped to a USEPA-certified off-island hazardous waste disposal facility. Once the COC-impacted soils, OE materials, and solid waste materials are removed, the areas disturbed by the cleanup activities will be revegetated with native plants and trees. The cleanup of Dumpsite 2 is similar to Dumpsite 1, except that surface OE materials are not present at Dumpsite 2.

By selecting Excavation and Off-Site Disposal as the preferred cleanup alternative, all solid waste debris, OE materials, and COC-impacted soils will be removed from Dumpsites 1 and 2, allowing for unlimited use and unrestricted exposure for the future use of the land.
1.5 Statutory Determination

The preferred *Excavation and Offsite Disposal* cleanup alternative meets the CERCLA statutory requirements, and to extent practicable the NCP, and site-specific experience gained in the Superfund program. The *Excavation and Offsite Disposal* cleanup alternative will also comply with Applicable or Relevant and Appropriate Requirements (ARARs), including the Maximum Contaminant Levels (MCLs) for groundwater, the Coastal Zone Management Act, the Endangered Species Act, RCRA Part 261 Subpart C Characteristics of Hazardous Waste, and CERCLA Removal Action regulations.

Using the preferred *Excavation and Offsite Disposal* cleanup alternative, the source of the solid waste debris, OE materials, and COC-impacted soils will be removed from Dumpsites 1 and 2, thereby eliminating the exposure pathways for human and ecological receptors. The *Excavation and Offsite Disposal* cleanup alternative is a permanent solution that eliminates the potential for offsite migration of contaminants or migration of contaminants from the subsurface to groundwater. Due to the steep slopes at Dumpsites 1 and 2, the implementation of the *Excavation and Offsite Disposal* cleanup alternative will be difficult. However, as compared with other remedial alternative capital and operation and maintenance (O&M) costs, the *Excavation and Offsite Disposal* cleanup alternative will be more cost effective in the long-term because the O&M costs will be eliminated.

A 5-year review of this ROD will be unnecessary because no residual COCs will remain at Dumpsites 1 and 2 at concentrations exceeding cleanup levels after implementation of the *Excavation and Offsite Disposal* cleanup alternative. In addition, this cleanup alternative will allow for unrestricted use of the land.

1.6 ROD Data Certification Checklist

The following information is included in the Decision Summary, Part 2 of this ROD, along with reference tables, figures, and section numbers.

- COCs and their respective concentrations for Dumpsites 1 and 2 are presented in Tables 2-6, 2-7, 2-8, and 2-9 and Figures 2-12 and 2-13.

- The baseline human health risks represented by each COC are presented in Tables 2-10 through 2-37; and the baseline ecological risks are presented in Tables 2-38 through 2-58 and Figures 2-5 and 2-11. The summary of site risks is presented in Section 2.7.

- The established cleanup levels for each COC are presented in Tables 2-59 and 2-60 and Figures 2-12 and 2-13.

- The principal threats from COC sources are discussed in Section 2.11.
• The current and reasonably anticipated future land use and current and potential future uses of groundwater in are presented in Section 2.6.

• The potential future land and groundwater uses that will be available at the dumpsites following implementation of the preferred remedial action are presented in Section 2.12.

• The estimated present-worth remedial costs, including the projected number of years over which the remedial cost was estimated, are presented in Tables 2-62 and 2-63 and in Sections 2.10 and 2.12.

• Key factors that led to selection of *Excavation and Offsite Disposal* as a preferred cleanup alternative are presented in Section 2.13.

Additional background information regarding the environmental investigation for Dumpsites 1 and 2 can be found in the Administrative Record files.

**1.7 Authorizing Signatures and Supported Agency Acceptance of the Remedy**

The following signature pages document that the USAF, USEPA Region IX, and GEPA supported acceptance of the *Excavation and Offsite Disposal* cleanup alternative for Urunao Dumpsites 1 and 2 (Urunao OU).
INSTALLATION RESTORATION PROGRAM

PHASE I: RECORDS SEARCH

ANDERSEN AIR FORCE BASE, GUAM

PREPARED FOR:

UNITED STATES AIR FORCE
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OFFUTT AFB, NEBRASKA

WITH THE ASSISTANCE OF:

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TYNDALL AFB, FLORIDA

SUBMITTED BY:

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JACKSONVILLE, FLORIDA

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.
GAINESVILLE, FLORIDA

MARCH 1985

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86 2 3 131
### Title:
Installation Restoration Program, Phase I Records Search for Andersen AFB, GU

A search of USAF, state and federal agency records and interviews with past and present base personnel and agency representatives were conducted to identify past hazardous waste generation and disposal practices at Andersen AFB, Guam. Andersen AFB is located on the northeastern end of the island of Guam, Mariana Islands, in the southwest region of the Pacific Island (3,318 miles west of Hawaii, 1,499 miles east of the Phillipines, and 1,563 miles southwest of Japan). Twenty locations and/or facilities were identified as potential hazardous waste sites. Follow-on recommendations included alternate techniques for handling hazardous wastes, confirmation studies and in some cases, closure of existing hazardous waste disposal sites.

### Abstract Security Classification
Unclassified
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INSTALLATION RESTORATION PROGRAM

PHASE I: RECORDS SEARCH

ANDERSEN AIR FORCE BASE, GUAM

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With the Assistance of:
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Tyndall AFB, Florida

Submitted by:
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Jacksonville, Florida

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.
Gainesville, Florida

March 1985
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dichloromethane). The waste rags containing small amounts of these solvents are usually disposed of in the landfill.

43rd AMS Photographic Laboratory
This operation produces only small quantities of rags saturated with methyl alcohol that are used to clean the photographic equipment, including lenses, mounted on aircraft. These rags are disposed of in the sanitary trash. No problems are anticipated from this disposal technique.

Arts and Crafts Photographic Laboratory
This operation, located in Bldg. 25005, generates small quantities of waste fixer and developer, which are disposed of in the sanitary sewer.

4.1.3 PESTICIDE HANDLING, STORAGE, AND DISPOSAL
Pesticides and herbicides are currently being used by the 43rd CES Entomology Section to maintain grounds and structures and to prevent pest-related health problems. Before 1984, the 43rd CES Roads and Grounds Shop was responsible for herbicide applications. Pest-control measures include health-related and structural insect and rodent-control programs; weed-control at security fences, parking areas, and utility and antenna sites; and landscape maintenance programs.

Pesticides have been stored and handled in Bldg. 20010 since 1978. During the same period, herbicides have been stored and handled in Bldg. 20021. Prior to 1978, pesticide handling and storage had been conducted in a building which was located where the present MAC terminal stands. For an undetermined length of time up to approximately 1976, pesticides had been stored in an igloo (No. 8479) in the northwestern portion of AAFB.
Records of types and quantities of pesticides used are available from 1982 to present. No record or recollection of disposal of excess or outdated pesticides is available.

Until about 1977, pesticide wastewaters, generated by rinsing spray equipment, were disposed of on the ground at various rinse water sources. Since no designated area was used for repeated disposal of rinse water and due to the dilute concentration of pesticides in these wastes, no significant pesticide residuals are anticipated from these disposal practices. Since 1977, rinse waters have been used as diluent for subsequent formulations of the same pesticides. Empty pesticide containers have always been landfilled. Prior to the mid-1970s, the containers were landfilled without rinsing; subsequent to that time, all containers have been triple-rinsed and punctured or crushed prior to landfilling.

Two incidences of accidental pesticide and herbicide spills have occurred. The most recent spill occurred at the Haruon Annex tank farm on Feb. 8, 1984, when 1,500 gal of a Diuron/water mixture were released from a herbicide sprayer. The spill resulted from a broken hose and created a stream of herbicide which covered approximately 1/3 acre before seeping into the ground. The residual herbicide left on the ground surface was placed in metal drums and removed from the site for subsequent disposal. The spill posed no significant threat to humans or wildlife. There was no water in proximity to the spill. The herbicide spreader was taken for repairs and modifications of the valve system to avoid another incident. The Guam Environmental Protection Agency (GEPA) was notified after the spill occurred and offered guidance and inspected the site upon completion of the cleanup. It was found that the cleanup was complete, and no further action was needed (43rd CES, 1984).

Another incident occurred in 1972 at the intersection of Tarague Beach Rd. and Patti Point Rd. At this location, approximately 100 gal of
3-percent malathion were drained from a tank trailer. No report of this incident or related action is available.

4.1.4 PCB HANDLING, STORAGE, AND DISPOSAL

The 43rd CES Electrical Shop performs electrical inspection, maintenance, and installation procedures on AAFB. However, the Public Works Center on the Naval Station (NS) has performed maintenance of transformers on AAFB, including those containing PCB fluids. Reworking has taken place on NS facilities since initial operation of AAFB. In 1976, a program to replace equipment containing PCB dielectric fluid with mineral-oil-filled equipment was initiated by the Navy Public Works Center. A list of transformers containing PCB fluids, transformer locations, and volume of fluid in each transformer is maintained by AAFB. An open storage area (Pad No. 20013, adjacent to Bldg. 20011) is currently used for storage of out-of-service electrical components. An inspection of this area revealed that all transformers had been removed. No evidence of dielectric fluid residues was observed at the site. Several minor leaks have occurred, as noted on the inspection sheet. Any fluids which have leaked are cleaned up by Navy personnel and taken to the Navy Public Works Center for disposal. No past PCB spill sites were identified.

4.1.5 POL HANDLING, STORAGE, AND DISPOSAL

The types of POL used and stored at AAFB include MOGAS, diesel fuel No. 2 (DF-2), fuel oil, kerosene, JP-4, liquified petroleum gas (LPG), petroleum-based solvents, hydraulic fluid, and lube oil.

In addition to fixed storage tanks, drums and smaller containers are used for aboveground storage of incoming and waste materials, mainly solvents, hydraulic fluid, and lube oil.

POL spill management is addressed in the Spill Prevention Control and Countermeasure (SPCC) Plan. This plan is revised regularly to ensure
HAZARDOUS WASTE

DOD Installations in Guam Having Difficulty Complying With Regulations
# Executive Summary

## Purpose

Hazardous waste can seep into water supplies, contaminate soil, and be released into the air, thereby posing potential threats to the environment or public health. The Department of Defense (DOD) generates large quantities of hazardous wastes.

The Chairman of the Subcommittee on Environment, Energy and Natural Resources, House Committee on Government Operations, as part of the Subcommittee's oversight responsibilities, asked GAO to review DOD's efforts to dispose of hazardous waste generated at DOD installations in Guam.

## Background

The Resource Conservation and Recovery Act of 1976 (RCRA), as amended, regulates management of hazardous waste including the generation, transportation, treatment, storage, and disposal of such waste. The Environmental Protection Agency (EPA) has issued implementing regulations and has authorized Guam's EPA to carry out inspection and enforcement activities in Guam. Under DOD policy, installation commanders are responsible for ensuring that their operations comply with RCRA. The Defense Logistics Agency, through its Defense Reutilization and Marketing Service and its local offices, has responsibility for assisting the commanders by disposing of hazardous waste and constructing required storage facilities.

## Results in Brief

DOD installations in Guam were not in compliance with RCRA because inadequate emphasis has been placed on (1) the importance of complying with the procedures for handling, storing, and disposing of hazardous waste, (2) education and training programs for personnel on the dangers of mishandling these wastes, and (3) the need for sufficient inspection and enforcement activities at base level.

DOD has begun actions to address the causes of noncompliance. In addition, the installations are trying to improve hazardous waste management.

## GAO's Analysis

### Compliance With RCRA

Andersen Air Force Base, a hazardous waste generator, and five of six generators located on the Guam Naval Complex were inspected by
Guam's EPA and found to be out of compliance with RCRA. Installation officials attributed noncompliance to factors similar to those GAO and DOD's Inspector General identified in earlier reports, including lack of (1) cooperative tenants, (2) attention to administrative matters, (3) storage facilities, and (4) sufficient staff to regularly inspect generators.

Of 79 violations identified by Guam's EPA during 1985 and 1986, 39 were considered to be serious. These constituted a threat of releasing hazardous waste to the environment or involved the failure to (1) protect groundwater, (2) store the waste in proper containers, or (3) ensure that the hazardous waste was delivered to approved facilities. The two most common types of violations involved pretransport and container use and management. Pretransport violations involve the failure to meet packaging, labeling, marking, and placarding requirements. These violations could lead to improper handling or disposal because it would be difficult to later identify the contents. Container use and management violations involved storage of waste in damaged or leaking containers.

Improper Dumping

Although Air Force and Navy installations in Guam have established procedures and provided training programs on how to manage and dispose of hazardous waste, GAO observed instances where maintenance activities improperly dumped or spilled hazardous waste. Improper dumping or spilling of hazardous waste at the Naval Complex damages the environment on base and contaminates the ocean near the shore. Groundwater contamination is of less concern at the Naval Complex because the Complex's groundwater is not used for drinking water.

Dumping or spilling hazardous waste is a greater concern at Andersen because Andersen is located over a major portion of Guam's aquifer. The storm water drainage system at Andersen consists of more than 100 storm drains, which rapidly remove surface runoff water into the aquifer. Of the nine base maintenance shops and facilities GAO toured, it found that eight were still discharging pollutants into storm drains or directly on the ground.

No Disposal Contract

The Defense Reutilization and Marketing Service has had difficulties providing timely disposal of hazardous waste because it has been unable to find a capable contractor willing to bid on the disposal contract. As a result, wastes have been stored improperly. To deal with the accumulated hazardous waste, the Defense Reutilization and Marketing Service arranged for shipments of the waste to a disposal site in the United States.
Executive Summary

States using Military Traffic Management Command contract ships and continued its attempts to finalize a contract with a commercial disposal contractor.

Manifest Problems

GAO's analysis of the last shipment of hazardous waste from Guam showed significant discrepancies in what was recorded on the various disposal documents, including the manifests. The Defense Reutilization and Marketing Office had not reconciled any of the discrepancies GAO found in these documents.

Recommendations

GAO recommends that the Secretary of Defense direct

- Air Force and Navy officials in Guam to take actions to ensure that all personnel handling hazardous waste know the proper procedures for disposing of the waste so as to eliminate the dumping of wastes in ways that could contaminate the environment and
- the Defense Reutilization and Marketing Office in Guam to place more emphasis on its procedures for reconciling discrepancies on disposal documents for hazardous waste, including delivery orders, pickup orders, manifests, and the Integrated Disposal Management System.

Agency Comments

As requested, GAO did not obtain official comments, but it did discuss its findings with agency program officials during the course of its review.
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<tr>
<td>AFB</td>
<td>Air Force Base</td>
</tr>
<tr>
<td>DOD</td>
<td>Department of Defense</td>
</tr>
<tr>
<td>DRMO</td>
<td>Defense Reutilization and Marketing Office</td>
</tr>
<tr>
<td>DRMS</td>
<td>Defense Reutilization and Marketing Service</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>GAO</td>
<td>General Accounting Office</td>
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<tr>
<td>MTMC</td>
<td>Military Traffic Management Command</td>
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<td>RCRA</td>
<td>Resource Conservation and Recovery Act of 1976</td>
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Chapter 1

Introduction

Hazardous wastes can seep into water supplies, contaminate soil, and escape into the air, thereby posing potential threats to the environment or public health. The Resource Conservation and Recovery Act of 1976 (RCRA), as amended, provides for regulatory controls over the generation, transportation, treatment, storage, and disposal of hazardous wastes. The Department of Defense (DOD), being a generator of large quantities of hazardous waste and an operator of treatment, storage, and disposal facilities, must comply with RCRA requirements.

The Environmental Protection Agency (EPA) has primary responsibility for implementing RCRA. EPA regulations, initially published in May 1980, govern hazardous waste generators, as well as transporters, and owners and operators of hazardous waste treatment, storage, and disposal facilities.

RCRA allows EPA to authorize state and territorial regulatory agencies to administer and enforce hazardous waste programs in lieu of a federal program provided they are at least as stringent and comprehensive. In January 1986, EPA authorized Guam's EPA to carry out the responsibility for issuing permits and inspecting and regulating hazardous waste generators, transporters, and storage, treatment, and disposal facilities in Guam. As a result, Guam's EPA carries out inspection and enforcement activities at DOD installations there.

On October 21, 1980, DOD issued its overall policy guidance for implementing RCRA regulations. DOD designated each installation commander as responsible for ensuring that all operations, including those of tenants, comply with RCRA requirements. The Defense Logistics Agency, through its Defense Reutilization and Marketing Service (DRMS), was assigned responsibility for providing hazardous waste storage and disposal services to installation commanders. By 1984 the local DRMS offices, including the Defense Reutilization and Marketing Office (DRMO) in Guam, were accepting and disposing of DOD's hazardous waste.

According to Guam's EPA records, Andersen Air Force Base (AFB) and the Guam Naval Complex are the major hazardous waste generators in Guam. Andersen AFB is considered one generator by EPA, while the Guam Naval Complex has six EPA-designated generators, including the DRMO as a tenant. During 1985, the seven generators produced 161 tons of hazardous waste. Records at the Defense Reutilization and Marketing Region, Honolulu, Hawaii, show that waste paint comprises the largest

1A generator is an individual or organization whose act or process produces hazardous waste.
quantity of waste. Other wastes generated in large quantities are (1) non-polychlorinated biphenyl oil, (2) hydraulic fluid, and (3) trichlorofluorethane.

Objectives, Scope, and Methodology

On July 1, 1986, the Chairman of the Subcommittee on Environment, Energy and Natural Resources, House Committee on Government Operations, requested that we review DOD's efforts to dispose of the hazardous waste generated at DOD installations in Guam. Our objectives were to determine (1) the extent to which DOD installations were meeting RCFU requirements and (2) the effectiveness of DRMS's disposal and storage functions, including the tracking of hazardous waste from receipt to disposal.

To accomplish our objectives, we:

- reviewed EPA, DOD, Air Force, and Navy regulations governing the handling and disposal of hazardous waste;
- interviewed officials in Guam at Andersen AFB, the Navy's Public Works Center and Ship Repair Facility, the DRMO, and Guam's EPA;
- reviewed manifest files at Andersen AFB, the Navy Public Works Center and Ship Repair Facility, and the DRMO in Guam to determine amounts and types of wastes being disposed of and disposal sites being used;
- reviewed Guam's EPA inspection files and reports on the hazardous waste manifest system for DOD generators in Guam;
- accompanied Guam's EPA inspectors on inspections of Andersen AFB, the Navy's Public Works Center and Ship Repair Facility, and the DRMO;
- interviewed EPA regional officials in San Francisco concerning their role in the overall management of hazardous waste in Guam;
- interviewed command headquarters officials from the Naval Facilities Engineering Command, Pacific Division, and from the Defense Reutilization and Marketing Region in Honolulu, Hawaii, which services the Pacific area, concerning their role in the overall management of hazardous waste in Guam; and
- interviewed DRMS operations and contracting officials in Battle Creek, Michigan, and Ogden, Utah, concerning their role in contracting for disposal contractors.

The comments of officials responsible for managing the disposal of hazardous waste were sought during the course of our review, and their comments are included where appropriate.
Our review was conducted between August 1986 and January 1987 in accordance with generally accepted government auditing standards.
DOD Installations Are Not in Compliance With RCRA Requirements

Andersen AFB, a hazardous waste generator, and 5 of 6 generators located on the Guam Naval Complex in Guam were not in compliance with RCRA requirements, according to Guam’s EPA inspectors. Most of the violations causing noncompliance were of a serious nature, and many were repetitive. Our review also disclosed other problems that either violated RCRA or could lead to violations. These included (1) maintenance activities at both installations improperly dumping waste, (2) discrepancies in disposal documentation, (3) inability of DRMO to provide adequate disposal service, and (4) storage facilities that did not meet RCRA requirements.

Air Force and Navy installation officials attributed noncompliance to a number of factors, including (1) uncooperative tenants, (2) inattention to administrative matters, (3) lack of capable disposal contractors, (4) inadequate storage facilities, and (5) insufficient staff to regularly inspect generators.

Most Generators Were Not in Compliance With RCRA Requirements

Andersen AFB is one generator, and the Guam Naval Complex has six generators, including DRMO, a tenant organization. Inspection reports by Guam’s EPA for the seven DOD hazardous waste generators showed that one, the Naval Station, was in compliance with RCRA requirements during 1985 and 1986. The remaining six generators were not in compliance, as each had been cited for one or more violations.

To determine the installations’ compliance status, we asked Guam’s EPA to inspect the DOD activities that generate the most hazardous waste in Guam—Andersen AFB, the Ship Repair Facility, the Public Works Center, and the DRMO. The inspections showed that all four generators were not in compliance with RCRA. Table 2.1 shows the number of violations by installation identified by Guam’s EPA inspections made during calendar years 1985 and 1986 including the inspections we requested.

1 A violation is one or more deficiencies as prescribed by EPA regulations.
Table 2.1: RCRA Violations Found in Four Inspections, by Installation

<table>
<thead>
<tr>
<th>Installation</th>
<th>1985</th>
<th>1986</th>
<th>GAO requested</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson Air Force Base</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Guam Naval Complex Generators:</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Ship Repair Facility</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Public Works Contor</td>
<td>8</td>
<td>5</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Naval Air Station, Agana</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Naval Magazine</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Naval Station</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>DRMU</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>18</td>
<td>8</td>
<td>25</td>
</tr>
</tbody>
</table>

Many Violations Were Serious

EPA defines a Class I violation as one that results in a release or serious threat of release of hazardous waste to the environment or involves the failure to ensure that (1) groundwater will be protected, (2) proper containerization and identification activities will be undertaken, or (3) hazardous wastes will be destined for and delivered to approved facilities. These violations include such things as leaking containers; improper storage; incorrect manifests; and improper labeling, placarding, and marking of containers. About half of the 79 violations were Class I violations.

Class II violations are those that do not meet Class I criteria and are less serious. An example of a Class II violation is a bloated or excessively rusted drum.

As shown in table 2.2, the two most common Class I violations involved inadequate pretransport measures and improper container use and management. Pretransport violations involve the failure to meet the packaging, labeling, marking, and placarding requirements. These violations could lead to improper handling or disposal because the contents would be unknown. Container use and management violations involved storage in damaged or leaking containers.
Table 2.2: Types of Violations in 1985 and 1988

<table>
<thead>
<tr>
<th>Requirements</th>
<th>1985</th>
<th>1986</th>
<th>GAO requested</th>
<th>Total violations</th>
</tr>
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<tbody>
<tr>
<td>Use/management of containers</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Pretransport</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Manifest</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Contingency plan</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>General facility standards</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Disposal</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Preparedness/prevention</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Recordkeeping/reporting</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td>5</td>
<td>5</td>
<td>14</td>
</tr>
</tbody>
</table>

Figure 2.1 illustrates a Class I violation of both the use and management of containers and general facilities requirements—an improperly stored drum containing a hazardous waste solvent. Adequate steps had not been taken to keep the waste from entering the ground in the event of a leak: the waste had not been stored on an impermeable floor, there were no raised edges or dikes to contain a spill, and there was no protection from the weather, as required by RCRA. Figure 2.2 shows a punctured container of hazardous waste, which is a violation of the requirements associated with the use and management of containers.
Figure 2.1: Hazardous Waste (in foreground) Improperly Stored at Navy Ship Repair Facility in Guam
Chapter 2
DOD Installations Are Not in Compliance
With RCRA Requirements

Figure 2.2: Drum of Calcium
Hypochlorite Bleach in a Punctured
Container Awaiting Shipment From the
DRMO in Guam
Pollutants Discharged Into Storm Drains or Directly on the Ground

Although the Air Force and Navy installations in Guam have established procedures and provided training programs on how to handle, store, and dispose of hazardous waste, we observed instances where maintenance activities had improperly dumped or spilled hazardous waste. The improper dumping or spilling of hazardous waste at the Guam Naval Complex damages the environment on base and contaminates the ocean near the shore. With the exception of the Naval Air Station, contamination of the groundwater on base is of less concern because the groundwater at the Guam Naval Complex is not used as drinking water.

Since the Naval Air Station and Andersen AFB are located over Guam's aquifer, the dumping or spilling of hazardous waste is of more concern at Andersen AFB because there are a large number of dry wells located on base. (See figure 2.3.) The storm water drainage system at Andersen AFB consists of more than 100 storm drains, which rapidly remove surface runoff water into the aquifer through dry wells. As a result, these storm drains and dry wells can act as direct conduits for contaminants to enter the aquifer. Of the nine base maintenance shops and facilities we toured, we found that eight were still discharging pollutants, such as ethylene glycol (antifreeze) and cleaning solution (detergent), into storm drains or directly on the ground.

2In 1978, the groundwater resources of northern Guam were designated a "principal source aquifer" in recognition of their extraordinary importance as the primary source of drinking water for about three fourths of the island's population. The designation noted that aquifers are vulnerable to contamination and consequently require constant attention to protect against degradation.

3Dry wells are holes drilled into the ground to facilitate the recharge of the aquifer by rainwater runoff.
Figure 2.3: Map of Guam Showing DOD Installations and the Aquifer

Island of GUAM

Naval Air Station

Ship Repair Facility

Public Works Center

Naval Station

DRMO

Naval Magazine

Andersen Air Force Base

North

Drinking Water Supply Wells

Aquifer
During our tour of the vehicle maintenance shop, we observed antifreeze and other contaminant spills, which drained either into the storm drain system or directly on the ground. We followed the storm drain from the vehicle maintenance shop and found that it empties into an area located over the aquifer. Figure 2.4 shows that contaminant spills at Andersen AFB's vehicle maintenance shop drain directly into the ground.
Figures 2.5 and 2.6 show pollutants from the aircraft ground maintenance shop being discharged directly into the storm drain system that empties into the aquifer. Andersen AFB had built a retaining wall around the maintenance area to trap any spilled hazardous waste. This retaining wall permitted the collection and proper disposal of the hazardous waste before it reached the environment. However, as shown, a hole had been made in the retaining wall, thus permitting the waste to run out on the ground and into the drainage system that empties into the aquifer.

Figure 2.5: Pollutants Being Discharged into the Drainage System That Empties into the Aquifer
Chapter 2

Failures Installations Are Not in Compliance
With RCRA Requirements

While the vehicle maintenance shop obtained a work order to correct the drainage problem, other maintenance shops and facilities continued to discharge pollutants on the ground or into the storm drains. Officials at Andersen AFB stated that efforts had been made to educate maintenance personnel on the possible adverse effects of improperly discharging pollutants. They also stated that the constant turnover of maintenance personnel and the lack of staff to adequately inspect the hazardous waste generators were major causes of the improper handling of hazardous waste.

Figure 2.6: GAO and Air Force Officials Inspect a Dry Well Where Pollutants From the Ground Maintenance Shop Could Enter the Aquifer
In the case of DRMO, there was a lack of monitoring and record-keeping of the waste. The audits revealed that the records did not always accurately reflect the waste generated or disposed of. Specifically:

- More detailed records were needed to accurately track the waste.
- Better records were needed to ensure that all waste was properly disposed of.
- The placement of inaccurate records hindered the ability to conduct effective audits.

Chapter 2

IMID

Injections Are Not in Compliance
With RCRA Requirements

waste. They agreed that more should be done to prevent these improper practices, such as (1) making training in hazardous waste handling procedures part of the indoctrination procedures for incoming personnel who will be working in areas that could generate hazardous waste, (2) providing adequate collection containers and storage space in the maintenance shops, and (3) revising inspection procedures and job descriptions to ensure that someone is designated as the hazardous waste inspector and conducts inspections on a regular basis.

Manifest Problems

Regulations implementing RCRA require that the transfer of hazardous waste to a disposal facility be documented using the EPA's manifest system. The manifest document is the EPA-required form used for recording the shipment of hazardous wastes from the generator to the disposal site. Hazardous waste generators are responsible for preparing the manifests and confirming that the waste is delivered to the designated disposal site. A copy of the manifest accompanies the shipment, is used by the disposal site to record wastes received, and is returned to the generator to allow confirmation that the wastes reached the disposal site.

DRMO has primary responsibility for disposing of hazardous waste generated by DOD in Guam. As such, DRMO is responsible for preparing manifests and confirming that the quantities of wastes recorded on the manifests are delivered to the designated disposal sites. To determine if DRMO adequately tracks the transfer of waste to disposal sites, we examined the seven manifests and other disposal documentation for its last contract shipment, which left Guam in January 1986.

Disposal Documentation

The first step in shipping hazardous waste off the island is for the DRMO to develop a detailed list of waste on hand to be shipped. This list is converted into a delivery order and forwarded to the DRMO contracting officer at the Defense Reutilization and Marketing Region in Ogden, Utah. The contracting officer then sends the delivery order to the contractor, who has a specified period of time to pick up the wastes. From the delivery order the contractor prepares pickup orders, which list the material by type of waste he intends to pick up for each shipment.

When the disposal contractor arrives at the DRMO, he works with the DRMO staff to prepare the required EPA manifests.
According to the seven manifests for the last commercial disposal contract shipment from Guam, the DRMO shipped 13,588 pounds of bulk hazardous waste and 14,216 gallons of hazardous waste in 460 drums. Our review of the manifests and other disposal documentation showed that the disposal site had received the bulk waste with little variation from what was listed on the manifests. However, on two of the seven manifests, we found significant discrepancies in that the net number of containers noted as having been received at the disposal site was less than what was listed by DRMO as having been shipped. As an example of a significant discrepancy, one line item on one of the seven manifests listed five drums of waste battery acid as having been shipped, while only one drum was shown as having been received at the disposal facility.

According to EPA regulations, when significant discrepancies are discovered, the owner or operator of the disposal facility is required to attempt to reconcile the discrepancies with the waste generator or transporter. Discrepancies that cannot be resolved within 15 days must be reported by the disposal facility to EPA. As of October 1986, 9 months after receipt of the shipment, the discrepancies noted on the manifests had not been reported by the disposal site officials to EPA.

As of September 1986, the DRMO had not reconciled the discrepancies between the amount listed on the manifests as having been shipped and the amount recorded on the manifests as having been received by the disposal site operator. DRMO officials stated that they do not attempt to reconcile the differences because they use the Integrated Disposal Management System in addition to EPA's manifest system to track the waste. They believe that their management system is more accurate than EPA's system.

DRMO officials told us that the Integrated Disposal Management System, a computerized system for tracking DRMS materials, including hazardous waste, permits DRMS to track each container of hazardous waste from the time the DRMO receives the waste until it is disposed of. The delivery orders and pickup orders, which list each container, are used to record the movement of the waste in the system.

4EPA regulations state that significant discrepancies in quantity are (1) for bulk waste, variations greater than 10 percent in weight and (2) for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload.
As part of the Integrated Disposal Management System, DRMO maintains an inventory of all hazardous waste on hand, ready for shipment, and shipped for disposal. During our examination of the hazardous waste stored at the DRMO, we tried to trace some of the items in the storage area to the Integrated Disposal Management System inventory. In addition, we tried to trace items from the inventory to the actual containers in the storage area.

We could not find listings in the inventory of several items located in the storage area. Also, we could not locate in the storage area some of the items listed in the inventory. These problems indicate that the Integrated Disposal Management System may not adequately track the waste as suggested by DRMO officials. DRMO officials stated that they had procedures for accounting for all hazardous waste, but they were aware that the lack of adherence to procedures on the part of some of their staff has in the past caused some problems in accounting for all of the hazardous waste.

Our review of the disposal documentation showed that no reconciliation had been made between what was listed on pickup orders, what was manifested, what was actually loaded on the disposal contractor's ship, and what was recorded in the Integrated Disposal Management System.

Because the hazardous waste disposal documentation had been inadequately maintained and discrepancies in documentation had not been reconciled, we could not determine if drums shown on the manifests as shipped by DRMO but not recorded as received by the disposal site had been disposed of properly.

Inadequate Disposal Service

In order to comply with the RCRA regulation limiting temporary storage to 90 days and to limit the need for storage facilities, DOD requires timely disposal of hazardous waste. In 1980, this responsibility was transferred from DOD installations to DRMS. DRMS has encountered difficulties in providing timely service for the disposal of hazardous waste from the Guam installations because of a lack of capable contractors in the Pacific area willing to bid on the disposal contracts. A DRMO report showed that, as of July 31, 1986, 97 percent of the containers of hazardous waste awaiting disposal had been in storage for over 90 days.

The DRMO has been cited for various RCRA violations involving improper storage. Our inspection of the DRMO storage area showed that hazardous
waste was being stored in facilities that did not conform to EPA requirements, such as protection from the weather and spill containment.

DRMS has taken steps to improve contracting for commercial disposal services. It has worked with the contractors who submitted bids in response to the latest solicitation to try and solve the technical deficiencies of their proposals.

While DRMS has been working with the bidders, the Guam DRMO has contracted with the Military Traffic Management Command (MTMC) to ship hazardous waste to the continental United States for disposal.

Most Violations Were Repetitive

In commenting on our observations, unit commanders stated that violations we had noted were of a transitory nature. We agree that some violations may have lasted briefly or violations may have been corrected shortly after Guam's EPA inspections. However, as noted previously, the Air Force and Navy installations have often been cited for the same category of violations in succeeding semiannual inspections. Our analysis of Guam's EPA inspection reports showed that 21 of the 33 violations, or 64 percent, cited in calendar year 1986 were in the same categories as the 1985 violations.

Unit commanders at the two DOD installations gave us their opinions of why their particular installations were in violation of RCRA. Though not necessarily applicable to each installation, the causes cited by the commanders were (1) lack of cooperation by tenants who report to commands other than the one to which the installation commander reports, (2) inattention to administrative matters by base personnel handling hazardous waste, (3) insufficient staff to make regularly scheduled inspections, (4) high staff turnover, (5) lack of storage facilities that meet RCRA requirements, and (6) climatic conditions (high humidity and rain) on Guam which cause rusting.

Prior GAO and DOD Reports

The RCRA violations documented during our review of the two DOD installations in Guam were similar to the violations cited in our May 1986 report and a July 1986 DOD Inspector General's report. Our report, Hazardous Waste: DOD's Efforts to Improve Management of Generation, Storage, and Disposal (GAO/NSIAD-86-60, May 19, 1986), noted that many
DOD installations in the United States have yet to achieve full compliance with RCRA requirements and that DOD could do more to reduce the volume of waste requiring disposal. Reasons cited for noncompliance included the lack of command level emphasis on management of hazardous waste, the lack of storage facilities conforming to RCRA requirements, and the installation commanders' lack of authority over tenants. Officials at DOD installations located in the United States stated that, in addition to the above reasons, noncompliance was caused by (1) inattention to administrative matters by installation personnel handling hazardous waste and (2) insufficient staff to inspect generators regularly.

DOD, at the time we issued our 1986 report, issued a policy directive for hazardous waste management, and the services were implementing it worldwide. The policy incorporated the proposals we had made in a draft of the report sent to DOD for its comment. DOD's efforts to improve the hazardous waste management program are still in progress.

The July 1986 DOD Inspector General's report summarized the results of a worldwide review of DOD's hazardous waste management, including installations in Guam. It found that DOD was not in compliance with RCRA and that DOD's management of hazardous materials and hazardous waste was unsatisfactory. Specifically, the Inspector General cited:

- limited DOD hazardous waste technical guidance (it is a broad policy statement only, and the major command and installation guidance implementing this policy is fragmented and at times inconsistent with RCRA requirements);
- lack of effective structured management (at various levels management is by committee, often without adequate guidance);
- lack of command awareness/emphasis and limited technical expertise of people handling the waste; and
- lack of communication at all levels.

Efforts to Improve

Air Force, Navy, and DRMO officials stated that, during the last year, they have initiated several actions to improve hazardous waste management. These include:

- instituting new inspection and accountability procedures for waste transferred to the DOD;
- using alternatives to disposal such as selling, reusing, and recycling the waste;
- building new storage facilities that conform to RCRA requirements; and
using nonhazardous materials instead of hazardous materials, thereby reducing the amount of hazardous waste generated.

Conclusions

Despite instructions on the proper procedures for managing and disposing of hazardous waste, most DOD activities in Guam which generate hazardous waste are repeatedly cited for RCRA violations. We believe that inadequate emphasis has been placed on (1) the importance of complying with the procedures for handling, storing, and disposing of hazardous waste, (2) education and training programs for personnel on the dangers of mishandling these wastes, and (3) the need for sufficient inspection and enforcement activities at the base level.

Although RCRA requires that the transportation and disposal of hazardous waste be tracked using the EPA manifest system, the Guam DEMO relies on its Integrated Disposal Management System to track hazardous waste shipments rather than using the required EPA manifest system. Our analysis showed that the Integrated Disposal Management System contained some inaccurate information and variances in disposal documentation and Integrated Disposal Management System data were not reconciled. As a result, we believe the DEMO is not assured that the quantities of hazardous waste shipped are being disposed of properly.

Recommendations

We recommend that the Secretary of Defense direct

- Air Force and Navy officials in Guam to take actions to ensure that all personnel handling hazardous waste know the proper procedures for disposing of the waste so as to eliminate the dumping of wastes in ways that could contaminate the environment and
- DEMO officials in Guam to place more emphasis on their procedures for reconciling discrepancies between what is listed on each disposal document for hazardous waste including delivery orders, pickup orders, manifests, and the Integrated Disposal Management System.
Requests for copies of GAO reports should be sent to:

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Recharge is intermittent and fluctuates with rainfall. The discharge at or near the shore fluctuates less because of storage in the aquifer.

Pollutant migration along hydrologic route is possible due to high annual rainfall which may exceed 100 inches per year. The majority of the rainfall on the northern portion of Guam percolates rapidly downward to the water table which is slightly above sea level. The rainfall penetrates 150 to 500 feet of overlying limestone and moves laterally to a point of discharge usually to the ocean, spring or pumped well. Any soluble or miscible pollutant may be transported with the ground water to any of these discharge points. While the travel time of the rainfall from the ground surface to the water table has not been documented, minimum travel time may be a few days and maximum travel time is on the order of a few months. For the more porous, cavitated section of the island, the estimated velocity within the limestone aquifer was on the order of ten feet per day (Navy, 1983). Thus, is can be assume that no area in northern Guam is more than two miles from a discharge point and that pollutant transport by ground water can be rapid.

About 70 percent of the drinking water on Guam comes from groundwater and is pumped from the northern lens. The lens is estimated to have a total average daily recharge of 111.9 million gallons. Because of the high permeability of the limestone plateau, no perennial streams exist on the northern portion of Guam. Drainage occurs generally downward through numerous cracks, crevices, fissures, joints and sinkholes to the water table. The water then moves laterally through the aquifer to points of discharge along the sea shore. In time of heavy rains or prolonged rains, standing water occur in the coastal lowlands.

The NAVCAMS Finegayan area lies directly to project site and can be used to describe the hydrology of the project area. Drainage is generally downward percolation of rainfall into the porous limestone substrata. Portions of the project area flows over the cliffs to the coastal terraces below. Approximately 30 inches of rainfall infiltrates to the water table and the has the potential for mixing with or dissolving surface or near surface pollutants and introducing them to the ground water. These pollutants would be generally moved seaward to discharge points. The groundwater gradient of NAVCAMS Finegayan is saline and therefore unusable for domestic supply (Navy, 1983). Therefore, the project area is not within a recharge area.

11. Aesthetics. The project site is bordered by a white coral sand beach with several points by rocky limestone outcroppings extending nearly to the sea. Spectacular view planes atop the ridge with virtually unspoiled appearance of steep cliffs, sand beach, varied coastline and shallow water reefs. Trail access down the cliff face is obscured by dense vegetation.- No road for vehicular access to the property exists.

12. Air Quality. Overall, the air quality at the project site is generally good except when heavy use of Andersen Air Force Base by military aircraft particularly in the morning hours when smoke and exhaust fumes hover close to the ground by temperature differentials, abnormal conditions may occur.
13. Noise Quality. Man-made noise of the site is virtually nonexistent due to the fact that the project area is uninhabited. The only human activities with a significant impact on ambient noise levels are the aircraft operations at Andersen Air Force Base. Usually aircraft noise is of short duration and infrequent, since the restricted use of the Northwest Field. The site is also outside the Air Installation Compatible Use Zones established by AAFB (see Figure 9).

14. Electronic Emissions. A complex of military communication installations surround the project area. The Air Force satellite tracking station facility on the Northwest Field of AAFB and the Naval Communication Station Finegayan operate highly sensitive radiowave and microwave communications equipment. The highly sensitive nature of the equipment and the close proximity to the proposed project requires that no device can be used on the site which causes interference for frequency bands 225-260 MHz, 399.5-401.5 MHz, 1227-1575 MHz, 2.2-2.3 GHz and 8-16 GHz. Interference is defined as:

a. For MHz frequency bands. The man-made noise shall not exceed atmospheric noise measured at the receiving antenna during low noise periods.

b. For GHz frequency bands. The maximum permissible power flux densities (calculated according to International Telecommunications Union Radio Regulations) are:

(1) 2.2-2.3 GHz = -154 dBW/m²
(2) 8.025-11.7 GHz = -150 dBW/m²
(3) 12.50-12.75 GHz = -148 dBW/m²
(4) antenna sensitivity = -172 dbm for all bands

These frequency bands are utilized 24 hours per day, 365 days per year. The only use of the project area is when explosives are being transported near the facility. Coordination will be required for the transport of unexploded ordnance or for explosives to be used in order to detonate the unexploded ordnance.

15. Solid Waste. The sanitary landfill at Andersen Air Force Base receives about 16 tons of solid waste per day. The site is located about one mile northeast of the main gate at approximately 13 degrees 34 minutes 34 seconds and 45 seconds north latitude and 144 degrees 53 minutes 30 seconds east longitude. The landfill occupies about 41 acres and has a projected lifespan of 8 years (Figure 10). Bulky waste, construction debris, etc. are disposed in a hardfill which is in the same vicinity but separate from the landfill. Since the landfill is located on limestone, there is concern for potential leachate contamination of the groundwater. A monitoring well provides data for quarterly reports to indicate whether contamination has occurred. Table 2 gives the groundwater monitoring data for AAFB sanitary landfill.

present with member of the Pacific Strike Team and Technical Assistance Team. EPA reported that 50-80 55-gallon drums were observed of which all were empty and most were rusted out. EPA indicated that empty deteriorated drums or gas cylinders do not constitute an imminent or substantial threat to public health or the environment. EPA took no further action on this project.

The 55-gallon drums are in such deteriorated condition that the contents no longer remain and have evaporated or leached into the ground. Any contaminants from the drums would quickly migrate to the groundwater table. Since much of the debris has been dumped over the cliff 30 years ago and more, the chances of detecting any contamination would be minimal. The length of time in which the leachate reaches the groundwater table and moved to the ocean is weeks. No monitoring well exists at the site.

17. Missions Requirements. The U.S. Navy is proposing the construction and operation of electronic installations on Tinian, Commonwealth of the Northern Mariana Islands and the Guam. The action in Guam consists of the construction and operation of receiver antenna arrays, ground screens and support facilities at the Naval Communications Area Master Station of the Western Pacific and in Northwest Field, Andersen AFB in northern Guam. The electronic installations are integral parts of the US surveillance network commonly referred to as the Relocatable Over The Horizon Radar. The project area would encompasses approximately 200 acres for each sites. The Navy's project is located directly adjacent to this proposed action. The cleanup action may have direct and indirect impacts to the mission of the Navy's project and consideration on the mission effect will need to be evaluated.

C. BIOLOGICAL ENVIRONMENT

1. Terrestrial Environment.
   a. Flora. In March of 1975, Phillip H. Moore conducted a botanical survey of the project for the environmental impact statement for Seibu Leisure (Guam) Inc. Moore divided the native vegetation into four zones and indicated that the zones are fairly uniform within each zone except the forest area which is in a stage of development and can be called a "typhoon forest." Of the many species encountered in the four zones, Moore considered six species which could be considered rare or quite rare on the island. No endangered species were found. A list of the species found is indicated in Appendix C.

On July 15-18, 1986, a walk-through reconnaissance survey was made by Dr. Derral Herbst of the U.S. Fish and Wildlife Service. The project site was divided into three geographical units. The first unit consisted the area between the cliff edge to the vegetation line back to the beach. It is comprised of limestone forest, coconut forest and coastal or strand...
Entitlement to service connection for Hodgkin's disease, claimed as due to in-service herbicide exposure.

Appellant represented by: Katrina J. Eagle, Attorney

WITNESS AT HEARING ON APPEAL
Appellant

ATTORNEY FOR THE BOARD
M. Zawadzki, Counsel

The Veteran served on active duty from July 1970 to July 1992.

This matter comes before the Board of Veterans' Appeals (Board) on appeal from a June 2008 rating decision issued by the Department of Veterans Affairs (VA) Regional Office (RO) in Waco, Texas in which the RO, in pertinent part, denied service connection for Hodgkin’s disease.

In March 2013, the Veteran testified before the undersigned Veterans Law Judge at the RO; a transcript of the hearing has been associated with the Virtual VA e-folder. The e-folder does not include any additional relevant documents.

Subsequent to issuance of the most recent supplemental statement of the case (SSOC), the Veteran submitted additional evidence in support of his claim. This evidence was accompanied by a waiver of RO consideration. See 38 C.F.R. § 20.1304 (2013).

FINDINGS OF FACT
1. Resolving all reasonable doubt in his favor, the Veteran was exposed to herbicides during service.
2. The Veteran was diagnosed with Hodgkin’s disease in May 2007.

CONCLUSION OF LAW
REASONS AND BASES FOR FINDINGS AND CONCLUSION

Duty to Notify and Assist


The United States Court of Appeals for Veterans Claims (Court), in Dingess/Hartman v. Nicholson, 19 Vet. App. 473 (2006), has held that the VCAA notice requirements apply to all elements of a claim.

Given the favorable disposition of the claim on appeal, the Board finds that all notification and development actions needed to fairly adjudicate this claim have been accomplished.

Analysis

The Veteran asserts that his Hodgkin's disease is related to herbicide exposure during service, specifically, his service at Andersen Air Force Base in Guam from December 1972 to May 1973.

If a veteran was exposed to an herbicide agent (to include Agent Orange) during active military, naval, or air service, certain diseases shall be service-connected if the requirements of 38 C.F.R. § 3.307(a)(6) are met, even if there is no record of such disease during service, provided further that the rebuttable presumption provisions of 38 C.F.R. § 3.307(d) are also satisfied. 38 C.F.R. § 3.309(e). These diseases include Hodgkin's disease. 38 C.F.R. § 3.309(e). Thus, a presumption of service connection arises for a veteran with in-service herbicide exposure who develops Hodgkin's disease.

Veterans who served in the Republic of Vietnam during the period beginning on January 9, 1962, and ending on May 7, 1975 shall be presumed to have been exposed to an herbicide agent, unless there is affirmative evidence to establish that the Veteran was not exposed to any such agent during that service. 38 U.S.C.A. § 1116(f); 38 C.F.R. § 3.307(a)(6)(iii). The Veteran in this case has not asserted, nor does the record indicate, that he served on land in the Republic of Vietnam. Accordingly, the presumption of herbicide exposure does not apply and actual, direct exposure to herbicides must be shown. See Combee v. Brown, 34 F. 3d 1039, 1042 (Fed. Cir. 1994).

The Veteran has repeatedly described exposure to Agent Orange on Andersen Air Force Base in Guam between December 1972 and May 1973. He has reported loading and unloading drums of Agent Orange from his truck, with leaking fluids sometimes getting on his person. He testified during the March 2013 hearing that the drums were generally black with an orange (or in some cases blue or silver) band around them. He stated that his superiors instructed him to pick up "drums of Agent Orange" from the Navy Base. He reported driving drums to the Uranao dumpsites where there was a small cliff over which he and fellow service members would push the drums off the back of the truck. The Veteran added that some drums were deteriorating; so the contents would splash on them. He reported dumping at these sites on approximately five occasions during his time in Guam, with about another five or ten trips to the Naval base to retrieve or deliver drums. During the hearing, the Veteran's attorney submitted a Board decision regarding another veteran, documenting that the veteran in that case reported transporting 55-gallon drums to Andersen Air Force Base, with several barrels of Agent Orange falling onto the road.

The RO attempted to verify the Veteran's reported in-service herbicide exposure, and made a request to the National Personnel Records Center (NPRC) for documents showing exposure to herbicides. In February 2008, the NPRC responded that there were no records of exposure to herbicides.

However, the Veteran has submitted a number of pieces of evidence in support of his assertion that he was exposed to herbicides during his service in Guam. The Veteran provided an Environmental Protection Agency (EPA) December 2003 Superfund Record of Decision regarding Andersen Air Force Base. The Record of Decision states that, based on accounts by former Air Force personnel, wastes were dumped at the Uranao dumpsites; by being pushed over a cliff. The Record of Decision states that there were no documented accounts of waste disposal practices, duration, volume, or the types of disposed materials. Another EPA document regarding Andersen Air Force Base provided by the Veteran discusses numerous hazardous
substances associated with the base and states that most soil contamination problems were either the result of nearby industrial activity or the result of material being placed into scattered dump sites. The report also discusses the Uranao dumpsite, located over a cliff line in the northwest portion of the base. According to the report, crashed aircraft were pushed off the runways over this cliff throughout the Vietnam War.

The Veteran submitted a Public Health Assessment from the Department of Health and Human Services Agency for Toxic Substances & Disease Registry (ATSDR) regarding Andersen Air Force Base. This assessment reports that base activities had resulted in numerous fuel, pesticide, and chemical spills, with contamination identified at several areas of the base.

The Veteran also provided a copy of a May 2003 letter from a congressman to the Secretary of Defense, from the internet, in which the congressman reported that a "Public Health Assessment" received by his staff indicated that dioxin levels had been detected in the soil at Andersen Air Force Base. The congressman added that he had received information from veterans who were stationed on Guam who reported the use of Agent Orange, Agent Blue, and Agent White during the Vietnam era. The report finding dioxin contamination in the soil at Andersen Air Force Base, provided by the congressman to the Secretary of Defense, is also mentioned in another internet article the Veteran submitted in support of his claim.

The Veteran has furnished photographs of sprayed vegetation on Guam and large drums at Andersen Air Force Base. The Veteran stated that, although these were not his photographs, they were typical photographs of Agent Orange and other "rainbow agents" stored and used on Guam. He provided an article, presumably obtained on the internet, entitled "Guam...The Land of the Rosaries" which discusses the presence of dioxin in Guam. Another document presumably printed from the internet reports that Guam was a storage area for Agent Orange during the Vietnam era. This article states that an environmental study and subsequent clean-up were later done at Andersen Air Force Base.

In a May 2010 letter, the Veteran’s private physician, Dr. B.R., wrote that he was treating the Veteran for residuals of his Hodgkin’s disease. The physician stated that the Veteran had shown him his Air Force service records, photographs showing that he was stationed at Andersen Air Force Base in Guam in 1972-1973, and documents stating that Agent Orange was used at Andersen Air Force Base at that time. Dr. B.R. opined that it was as likely as not that the Veteran’s Hodgkin’s disease is etiologically due to his exposure to Agent Orange while stationed at Andersen Air Force Base in Guam in 1972-1973.

A May 1973 Performance Report for the period from June 1972 through May 1973 confirms that the Veteran served on temporary duty at Andersen Air Force Base in Guam as a Vehicle Operator. His duties included operating general purpose vehicles; supervising the loading and off-loading of personnel and cargo; and performing operator maintenance as required.

The Board accepts the Veteran’s assertions of driving, loading, and off-loading drums as credible and consistent with the circumstances of his service. See 38 U.S.C.A. § 1154(a).

The Board, having considered all the evidence of record, finds that the evidence is at least evenly balanced regarding the question of whether the Veteran was exposed to herbicides during service. In such a situation, the question is to be resolved in favor of the veteran. See Gilbert v. Derwinski, 1 Vet. App. 49, 53-54 (1990).

Accordingly, considering the totality of the evidence, in light of the Veteran’s consistent and credible statements, and resolving all doubt in his favor, the Board accepts that the Veteran was exposed to herbicides during his service in Guam.

A May 2007 pathology report reflects that the Veteran was diagnosed with Hodgkin’s disease. He subsequently underwent chemotherapy for this condition until December 2007. Given that Hodgkin’s disease is a disease that is presumed related to herbicide exposure under 38 C.F.R. § 3.307 and 3.309, service connection is warranted on this basis. 38 U.S.C.A. § 5107(b).

ORDER

Service connection for Hodgkin’s disease, claimed as due to in-service herbicide exposure, is granted, subject to the laws and regulations governing the award of monetary benefits.
JOHN Z. JONES
Veterans Law Judge, Board of Veterans' Appeals

Department of Veterans Affairs
UDT Men Stage Big Blow-up On NCS Beach

Deep Hole Dug
By Explosives

The jungle setting below was quiet, serene, peaceful. The palm trees reached to the edge of the beach that seemed to be growing into the sea. To the left, a high cliff overlooked the scene as a mighty protector. A road wound down to the beach, passing several lanes as it flattened out on the white sand. The beach air was still, light showers alternating with bright, hot sunbeams.

Then down, on the beach, a movement. A bright flash, and a crash, moaned like a whip snapping too close to the ear. Suddenly, a gray mass of water makes its waylike way to the cliff, rushing a height even with the over-200-foot cliff, then flooding half again as high to reach a point where it can go no higher, but must tumble back to the sea bubbles.

This isn’t an account from some fiction book from the library, or a description of a battle. No, this event involves the building of a swimming hole at the NCS Beach. The men building the structure were the Underwater Demolition Team.

Dressed in shorts, some saddled with a knife, looking for all the world like a surreptitious team from old war movies, the UDT men planted over 1200 lbs. of explosives to dig a hole in the coral about 20 yards out from the beach.

Following the big blow-up, the men dragged the bottom of the small inlet, clearing away rock, coral and other debris. Their efforts resulted in a larger area for NCS swimmers, plus uncovering many shellfish for snorkelers to seek.

MEMBERS OF THE UDT Team drag the explosives gently into the water. The charges were set to go off at a fraction of a second intervals, sounding like one big explosion.

THROWING WATER OVER 300 FEET in the air, the geyser from the explosion dwarfs the tall palm trees on NCS Beach.

THE FUSE LINE FOLLOWS the men into the water as they plant charges to build a swimming hole for NCS beach goers.

NCS Guam Communicator

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NOVEMBER 1, 1962

A Supplement to the Crossroads
INSTALLATION RESTORATION PROGRAM

PHASE I: RECORDS SEARCH

ANDERSEN AIR FORCE BASE, GUAM

PREPARED FOR:

UNITED STATES AIR FORCE
HQ SAC / DEPV
OFFUTT AFB, NEBRASKA

WITH THE
ASSISTANCE OF:

HQ AFESC / DEVP
TYNDALL AFB, FLORIDA

SUBMITTED BY:

REYNOLDS, SMITH AND HILLS, INC.
JACKSONVILLE, FLORIDA

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.
GAINESVILLE, FLORIDA

MARCH 1985
# Installation Restoration Program, Phase I Records Search for Andersen AFB, GU

A search of USAF, state and federal agency records and interviews with past and present base personnel and agency representatives were conducted to identify past hazardous waste generation and disposal practices at Andersen AFB, Guam. Andersen AFB is located on the northeastern end of the island of Guam, Mariana Islands, in the southwest region of the Pacific Island (3,318 miles west of Hawaii, 1,499 miles east of the Phillipines, and 1,563 miles southwest of Japan). Twenty locations and/or facilities were identified as potential hazardous waste sites. Follow-on recommendations included alternate techniques for handling hazardous wastes, confirmation studies and in some cases, closure of existing hazardous waste disposal sites.
EXECUTIVE SUMMARY

INTRODUCTION

The Department of Defense (DOD) has developed a program to identify and evaluate past hazardous material disposal sites on DOD property, to control the migration of hazardous contaminants, and to control hazards to health or welfare that may result from these past disposal operations. This program is known as the Installation Restoration Program (IRP) and consists of four phases: Phase I--Initial Assessment/Records Search, Phase II--Confirmation and Quantification, Phase III--Technology Base Development, and Phase IV--Operations/Remedial Actions. Environmental Science and Engineering, Inc. (ESE), as a subsidiary of Reynolds, Smith and Hills, Inc. (RS&H), conducted the Phase I study for Andersen Air Force Base (AAFB), with funds provided by the Strategic Air Command (SAC), under Contract No. F08637-83 GO010 5004.

INSTALLATION DESCRIPTION

AAFB is located on the northeastern end of the island of Guam, Mariana Islands, in the southwest region of the Pacific Ocean. The island of Guam is located 3,318 miles west of Hawaii, 1,499 miles east of the Philippines, and 1,563 miles southwest of Japan. The island of Guam is approximately 30 miles in length and varies from approximately 4 to 8.5 miles in width. Communities located near the main base include Yigo and Dededo. In addition to the main base area, other Air Force properties include Northwest Field, Andersen Petroleum Product Storage Annexes 1 and 2, Andersen Water Supply Annex (two locations), Andersen Air Force Station, AAFB South (also known as Andersen Administration Annex and Marbo Annex), Andersen Radio Beacon Annex, Andersen Communication Annexes 1 and 2, and various Andersen family housing annexes. The Air Force currently controls 20,811.12 acres of real property, with the largest section (13,483.28 acres) consisting of the AAFB main base, storage area, and Northwest Field. Many property
holdings have been declared excess and are in the process of being transferred to the Navy and various agencies of the Government of Guam.

After U.S. Forces recaptured Guam during World War II, the Army Air Force constructed three bases: Harmon Field—an aircraft repair and maintenance facility; Northwest Field—a fighter plane base; and North Field—a base designed for B-29 bombers. At the end of the war, Harmon and Northwest Fields were closed. North Field was redesignated AAFB in 1949. Throughout the years of operation, AAFB has been a base of operations for bomber aircraft and their support activities.

Historically, aircraft stationed at Guam have included B-29s, B-50s, B-36s, B-47s, B-52s, and KC-135s. Currently, aircraft assigned to AAFB include B-52s and KC-135s. The B-52 aircraft are permanently assigned to AAFB, whereas the KC-135 aircraft and their associated support units are assigned on a rotational basis. The base is currently under the command of SAC’s 3rd Air Division, and support functions are provided by various support groups of the 43rd Strategic Wing.

ENVIRONMENTAL SETTING
Environmental setting data relevant to the evaluation of past waste management practices at AAFB are described in the following paragraphs.

AAFB is located on a limestone plateau on the northern end of Guam. Elevations on the base range from mean sea level (msl) to more than 620 feet (ft) msl. The northern end of the island is characterized by steep limestone cliffs. The northern limestone plateau is relatively flat, except for two hills of volcanic origin [Mount Santa Rosa (858 ft msl) and Mataguac Hill (630 ft msl)] and one limestone dome (Barrigada Hill, 665 ft msl). The area also has numerous sinkholes and natural depressions.

No surface streams exist on the northern end of Guam. Storm water on AAFB is channeled relatively short distances into natural or manmade
depressions in which dry injection wells have been drilled. These dry wells allow infiltration of surface waters into the aquifer. More than 100 of these injection wells have been installed on AAFB.

The major aquifer underlying AAFB is known as the Northern Lens Aquifer and consists of a parabasal unit, a basal unit, and a transition zone. The aquifer consists of a wedge of up to 150 ft of fresh water overlying salt water. Recharge occurs through the downward percolation of precipitation through the highly porous limestone overlying the aquifer and also through the dry injection wells.

Soils on AAFB are very thin and are residuals of weathered limestone and volcanic materials. The soils are very porous, have relatively high levels of organic materials (4 to 6 percent), and are locally known as Guam clay. These soils are highly susceptible to infiltration of contaminants.

Average annual rainfall at AAFB is 90.8 inches, with more than 60 percent occurring during the local wet season (July to November) at an average rate of more than 11 inches per month. Average monthly temperatures are relatively stable throughout the year, varying from a mean low of 75°F to a mean high of 84°F. An extreme minimum of 66°F in January and an extreme maximum of 91°F in August have been recorded.

Several threatened or endangered species are known to occur on AAFB and in the area, including Mariana fruit bat, Guam broadbill, Mariana crow, Micronesian kingfisher, Guam rail, and bridled white-eye. AAFB personnel, working with the Guam Aquatic and Wildlife Resources Division, are trying to both identify and maintain the habitat of the Guam rail. In known habitat areas, a trapping program has been established in an attempt to control the Philippine rat snake, a potential predator of the Guam rail.

As a result of the geohydrological environment and soil characteristics, conditions on AAFB are conducive to contaminant migration. Potential
contaminant migration would occur both vertically and laterally through the porous limestone into the Northern Lens Aquifer, the largest freshwater aquifer used as a potable water source on Guam.

METHODOLOGY
During the course of this investigation, interviews were conducted with base personnel (past and current) familiar with past waste disposal practices; file searches were performed for past hazardous waste activities; interviews were held with local, state, and Federal agencies; and field inspections were conducted at past hazardous waste activity sites.

Sites identified as potentially containing hazardous contaminants resulting from past activities have been assessed using the Hazard Assessment Rating Methodology (HARM), in which factors such as site characteristics, waste characteristics, potential for contaminant migration, and waste management practices are considered. The details of the rating procedure are presented in App. G. The HARM system is designed to indicate the relative need for followup action (Phase II).

CONCLUSIONS
The goal of the IRP Phase I Study is to identify sites where there is a potential for environmental contamination resulting from past waste disposal practices and to assess the potential for contaminant migration from these sites. Twenty sites were identified at AAFB as having potential for environmental contamination and have been evaluated using the HARM system. The relative potential of the sites for environmental contamination was assessed, and sites which may require further study and monitoring were identified. These sites, dates of operation or occurrence, and the HARM results are given in Table 1. Site locations are shown in Figs. 1, 2, and 3. Sites of primary concern are those with higher HARM scores which have a higher potential for environmental contamination and should be investigated in Phase II. Sites of secondary concern are those with lower HARM scores and moderate
Table 1. Priority Ranking of Potential Contamination Sources on AAFB

<table>
<thead>
<tr>
<th>Rank</th>
<th>Site</th>
<th>Figure</th>
<th>Designation</th>
<th>Date of Operation or Occurrence</th>
<th>Score</th>
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<tr>
<td>1</td>
<td>Landfill No. 25</td>
<td>2</td>
<td>LF-25</td>
<td>1945-1962</td>
<td>66</td>
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<tr>
<td>2</td>
<td>Landfill No. 1</td>
<td>1</td>
<td>LF-1</td>
<td>1945-present</td>
<td>65</td>
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<tr>
<td>3</td>
<td>Landfill No. 2</td>
<td>1</td>
<td>LF-2</td>
<td>1947-1974</td>
<td>65</td>
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<tr>
<td>4</td>
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<td>LF-10</td>
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<tr>
<td>5</td>
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<td>LF-3</td>
<td>1947-1977</td>
<td>64</td>
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<tr>
<td>6</td>
<td>Stormwater Drainage System, Zone No. 1</td>
<td>1</td>
<td>SDS-1</td>
<td>Late 1940s-present</td>
<td>62</td>
</tr>
<tr>
<td>7</td>
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<td>LF-13</td>
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<td>1</td>
<td>FTA-1</td>
<td>1945-1958</td>
<td>59</td>
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<td>9</td>
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<td>1950s-1983</td>
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<td>SDS-3</td>
<td>Late 1940s-present</td>
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<td>11</td>
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<td>SDS-2</td>
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<tr>
<td>13</td>
<td>Chemical Disposal Site No. 1</td>
<td>1</td>
<td>CS-1</td>
<td>1970s</td>
<td>55</td>
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<td>14</td>
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<td>LF-16</td>
<td>Late 1950s-early 1960s</td>
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<td>15</td>
<td>Drum Storage Area No. 2</td>
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<td>DS-2</td>
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<td>1</td>
<td>DS-1</td>
<td>7?-present</td>
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Table 1. Priority Ranking of Potential Contamination Sources on AAFB
(Continued, Page 2 of 2)

<table>
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<tr>
<th>Rank</th>
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<th>Score</th>
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<tbody>
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<td>CS-3</td>
<td>1950s-1970s</td>
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<td>LF-22</td>
<td>Mid-1950s-early 1960s</td>
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</tr>
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<td>20</td>
<td>Chemical Disposal Site No. 4</td>
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<td>CS-4</td>
<td>1950s</td>
<td>37</td>
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</tbody>
</table>

Installation Restoration Program
Andersen Air Force Base

Figure 1
Locations of Potential Contamination on Eastern Part of AAFB
Figure 3
LOCATIONS OF POTENTIAL CONTAMINATION ON WESTERN PART OF AAFB AND NORTHWEST FIELD

INSTALLATION
RESTORATION PROGRAM
Andersen Air Force Base
Figure 2.1-2
LOCATIONS OF AAFB PROPERTIES

INSTALLATION
RESTORATION PROGRAM
Andersen Air Force Base
(sent to DPDO), infectious wastes and noncontrol out-of-date pharmaceuticals (sent to the landfill after autoclaving the infectious wastes), infectious materials (incinerated at Bldg. 23003 prior to 1981; now sent to the Naval Base for incineration and disposal), and dilute chemical solutions and solvents and controlled pharmaceuticals (disposed of in the sanitary sewer system). The clinic has been located in Bldg. 26000 since 1956. The veterinary activity, currently located in Bldg. 20011, was located in Bldg. 26000 from 1956 to 1964.

43rd AMS PMEL
The 43rd AMS PMEL operates a laboratory to check the calibration of various instruments. The major waste produced by this operation is metallic mercury removed from various instruments. The mercury is recovered and sent to DPDO for disposal. PMEL is located in Bldg. 286 on AAFB South.

43rd CSG Photographic Laboratory
The 43rd CSG operates photographic laboratories for the processing of black-and-white film, color print film, color slides, and motion picture film. The primary base photographic laboratory has been located in Bldg. 21001 since 1948. Prior to 1968, all wastewaters generated by the laboratory were disposed of in the sanitary sewer system. In 1968, a silver recovery program was initiated. Silver is now recovered from fixing bath solutions (75 gal/mo) and from scrap film, negatives, pictures, and print papers. After silver recovery, the fixing bath solutions and other chemical solutions used in the developing and printing process are disposed of to the sanitary sewer system.

43rd CSG Reproduction Shop
This activity, currently located in Bldg. 25018, was in Bldg. 21000 from 1948 to 1973. Wastes produced by this activity include rags saturated with Blankerolla® solvent, deglazing solvent, multilith solution, and dichloromethane used to clean the reproduction equipment. Solvents contained in these solutions are usually chlorinated (e.g., TCE,
dichloromethane). The waste rags containing small amounts of these solvents are usually disposed of in the landfill.

**43rd AMS Photographic Laboratory**
This operation produces only small quantities of rags saturated with methyl alcohol that are used to clean the photographic equipment, including lenses, mounted on aircraft. These rags are disposed of in the sanitary trash. No problems are anticipated from this disposal technique.

**Arts and Crafts Photographic Laboratory**
This operation, located in Bldg. 25005, generates small quantities of waste fixer and developer, which are disposed of in the sanitary sewer.

### 4.1.3 PESTICIDE HANDLING, STORAGE, AND DISPOSAL

Pesticides and herbicides are currently being used by the 43rd CES Entomology Section to maintain grounds and structures and to prevent pest-related health problems. Before 1984, the 43rd CES Roads and Grounds Shop was responsible for herbicide applications. Pest-control measures include health-related and structural insect and rodent-control programs; weed-control at security fences, parking areas, and utility and antenna sites; and landscape maintenance programs.

Pesticides have been stored and handled in Bldg. 20010 since 1978. During the same period, herbicides have been stored and handled in Bldg. 20021. Prior to 1978, pesticide handling and storage had been conducted in a building which was located where the present MAC terminal stands. For an undetermined length of time up to approximately 1975, pesticides had been stored in an igloo (No. 8179) in the northwestern portion of AAFB.
Records of types and quantities of pesticides used are available from 1982 to present. No record or recollection of disposal of excess or outdated pesticides is available.

Until about 1977, pesticide wastewaters, generated by rinsing spray equipment, were disposed of on the ground at various rinse water sources. Since no designated area was used for repeated disposal of rinse water and due to the dilute concentration of pesticides in these wastes, no significant pesticide residuals are anticipated from these disposal practices. Since 1977, rinse waters have been used as diluent for subsequent formulations of the same pesticides. Empty pesticide containers have always been landfilled. Prior to the mid-1970s, the containers were landfilled without rinsing; subsequent to that time, all containers have been triple-rinsed and punctured or crushed prior to landfiling.

Two incidences of accidental pesticide and herbicide spills have occurred. The most recent spill occurred at the Harmon Annex tank farm on Feb. 8, 1984, when 1,500 gal of a Diuron/water mixture were released from a herbicide sprayer. The spill resulted from a broken hose and created a stream of herbicide which covered approximately 1/3 acre before seeping into the ground. The residual herbicide left on the ground surface was placed in metal drums and removed from the site for subsequent disposal. The spill posed no significant threat to humans or wildlife. There was no water in proximity to the spill. The herbicide spreader was taken for repairs and modifications of the valve system to avoid another incident. The Guam Environmental Protection Agency (GEPA) was notified after the spill occurred and offered guidance and inspected the site upon completion of the cleanup. It was found that the cleanup was complete, and no further action was needed (43rd CES, 1984).

Another incident occurred in 1972 at the intersection of Tarague Beach Rd. and Pati Point Rd. At this location, approximately 100 gal of
3-percent malathion were drained from a tank trailer. No report of this incident or related action is available.

4.1.4 PCB HANDLING, STORAGE, AND DISPOSAL

The 43rd CES Electrical Shop performs electrical inspection, maintenance, and installation procedures on AAFB. However, the Public Works Center on the Naval Station (NS) has performed maintenance of transformers on AAFB, including those containing PCB fluids. Reworking has taken place on NS facilities since initial operation of AAFB. In 1976, a program to replace equipment containing PCB dielectric fluid with mineral-oil-filled equipment was initiated by the Navy Public Works Center. A list of transformers containing PCB fluids, transformer locations, and volume of fluid in each transformer is maintained by AAFB. An open storage area (Pad No. 20013, adjacent to Bldg. 20011) is currently used for storage of out-of-service electrical components. An inspection of this area revealed that all transformers had been removed. No evidence of dielectric fluid residues was observed at the site. Several minor leaks have occurred, as noted on the inspection sheet. Any fluids which have leaked are cleaned up by Navy personnel and taken to the Navy Public Works Center for disposal. No past PCB spill sites were identified.

4.1.5 POL HANDLING, STORAGE, AND DISPOSAL

The types of POL used and stored at AAFB include NOGAS, diesel fuel No. 2 (DF-2), fuel oil, kerosene, JP-4, liquified petroleum gas (LPG), petroleum-based solvents, hydraulic fluid, and lube oil. In addition to fixed storage tanks, drums and smaller containers are used for aboveground storage of incoming and waste materials, mainly solvents, hydraulic fluid, and lube oil.

POL spill management is addressed in the Spill Prevention Control and Countermeasure (SPCC) Plan. This plan is revised regularly to ensure
that it accurately reflects storage capacity and spill prevention/containment.

Existing Aboveground POL Storage
The aboveground storage tanks range in capacity from 50 to 5,250,000 gal. Total aboveground storage tank capacity for MOGAS, DF-2, fuel oil, and JP-4 is approximately 45,836,000 gal. There were 40 aboveground tanks identified basewide, with spill-containment structures ranging from no containment to complete concrete enclosures. The POL types, capacities, facility numbers, and containment structures (if any) are listed in Table 4.1-3. The majority of the large aboveground tanks were constructed by USAF in the late 1940s.

Existing Underground POL Storage
A total of 110 existing underground storage tanks were identified at AAFB, with a total capacity of 18,580,000 gal. The number of tanks, POL types, capacities, and facility numbers are listed in Table 4.1-4. The majority of the large underground tanks are used for storing JP-4 for aircraft use and MOGAS and DF-2 for vehicular use.

Abandoned POL Storage
Only one abandoned tank was reported at AAFB. The 210,000-gal fuel oil storage tank is located at the old power plant (Bldg. 2618). This aboveground tank was completed in 1976. The tank is empty and does not represent any potential threat to the environment.

Waste POL Storage, Handling, and Disposal
Waste POL at AAFB include waste fuel, lube oil, petroleum-based solvents, and hydraulic fluid. The generation and disposal of waste POL are summarized in Table 4.1-1 (in Sec. 4.1-1).

Wastes are stored at their generation points in drums, aboveground tanks, and underground tanks until the maximum storage capacity is reached. Until 1969, the typical disposal practice for waste POL was...
Dioxin Facts

Answers to Commonly Asked Questions

What is dioxin?
The word dioxin is a generic term for a group of 75 related compounds known as polychlorinated dibenzo-p-dioxins (PCDDs), but in popular use it usually refers to the most toxic and carefully studied of these compounds — 2,3,7,8-tetrachlorodibenzo-p-dioxin, or 2,3,7,8-TCDD, or simply TCDD.

Where does dioxin come from?
Nobody produces dioxin (TCDD) on purpose. It is an unwanted but almost unavoidable by-product that comes from manufacturing several commercial substances, chiefly the pesticide 2,4,5-trichlorophenol (2,4,5-TCP). This pesticide is then used as a basic ingredient in the manufacture of several other pesticides, including the herbicides 2,4,5-T and silvex, and the bactericide hexachlorophene. (Pesticide is a general term for chemical products used to control unwanted insects, plants, fungi, mites, rodents, bacteria, or other organisms.)

How does dioxin get into the environment?
TCDD can enter the environment in several ways; through chemical products contaminated with dioxin; as a component of the wastes that are produced in manufacturing these products; and through the widespread use of contaminated products. Combustion is another possible source of dioxin contamination.

Dioxin can enter waterways and soil in stormwater runoff, through industrial discharges, or by seeping from landfills that contain dioxin-contaminated wastes. Dioxin's solubility in water makes it highly mobile; the chemical attaches itself to soil particles, thus making it more likely to be found in the sediment than in the water itself.

Once in the environment, dioxin can be very persistent. Its half-life in soil is on the order of 5-10 years. Under special circumstances, however, the ultraviolet radiation in sunlight can degrade it over a shorter amount of time.

How does dioxin affect people?
Although scientists disagree on the long-term health effects of exposure to 2,3,7,8-TCDD, tests on laboratory animals indicate that it is one of the most toxic man-made chemicals known. Because information on effects to humans has come mostly from accidental exposures, the data are not definitive. Scientists do agree, however, that exposure to TCDD can cause a persistent skin rash called chloracne, as experienced by some workers exposed to dioxin in the workplace or through industrial accidents. Tests on laboratory animals also indicate that exposure may result in a rare form of cancer called soft tissue sarcoma, liver dysfunction, elevated blood cholesterol, nervousness, and other problems.

Much controversy still exists over the use of Agent Orange, a dioxin-contaminated defoliant used during the Vietnam War, and whether some veterans and their children may be suffering from delayed effects of the chemical.

How do people generally come in contact with dioxin?
There are two exposure routes that present the greatest possibilities for health risks. One is through contact with dioxin-contaminated soil and the other is through eating contaminated fish. Dioxin-contaminated soil presents a particular risk to children who ingest it.

At what levels is dioxin a danger to people?
The Centers for Disease Control (CDC) considers 1 part per billion (ppb) of dioxin in soil to be a level of concern in residential areas. (CDC is the federal agency EPA relies on to conduct site-specific exposure and risk assessments whenever hazardous pollutants are found in soil at high levels.) The Food and Drug Administration recommends limiting consumption of fish with 28 parts per trillion (ppt) or greater of dioxin to no more than one meal per week and not eating any fish with greater than 50 ppt of dioxin. EPA, in conjunction with these federal agencies and State and local health agencies, will issue health advisories and alert people to any precautions they need to take whenever dioxin is detected at these levels. They will also decide what further actions are necessary.

Is it safe to swim or boat in water that contains dioxin?
Local health agencies post signs to alert people when they should not be using a particular body of water for recreational purposes. Since dioxin does not readily dissolve in water, but instead attaches to particles and eventually settles to the bottom, it is not likely to pose a threat to human health unless you disturb any sediment in which dioxin has settled. However, if you have any concerns whatsoever about the safety of the water, for any reason, ask the advice of your local health officials before swimming or boating.

Is it safe to drink water that contains dioxin?
Any drinking water that is suspected of being contaminated with dioxin or any other hazardous chemical should not be consumed. You should contact your local health department to find out the facts, or heed any advice they have given you. They will also advise you on whether or not you should be using an alternative drinking water source. Most water treatment plants can eliminate dioxin during the water treatment process by removing the sediment in which it collects.

Does dioxin affect animals?
The only known incident in the U.S. occurred in Missouri in 1971 when horse arenas were sprayed with high levels of dioxin-contaminated oil. Hundreds of horses became sick and 65 of them died.

What federal agencies are involved in dioxin detection and cleanup?
EPA regulates dioxin under the Toxic Substances Control Act and the Federal Insecticide, Fungicide, and Rodenticide Act and is developing regulations to control it in wastes under the Resource Conservation and Recovery Act. The Food and Drug Administration issues health advisories for dioxin in products for human consumption. The Occupational Safety and Health Administration has jurisdiction over dioxin exposure in the workplace. Issues associated with dioxin in
Agent Orange involving military personnel are handled by the Veterans Administration (VA) and the Department of Defense, although the VA has relinquished control of a project to investigate a link between dioxin and Vietnam veterans to the Centers for Disease Control.

What has industry done about the dioxin problem?

By 1965, some companies had changed their production processes and increased quality control practices in an attempt to reduce the levels of TCDD in the pesticide 2,4,5-T. As the controversy over dioxin increased, these companies instituted practices to further lower dioxin levels, and some companies ceased manufacturing the controversial product altogether. Today there is no domestic manufacturer of the pesticide 2,4,5-T.

What has the federal government done about the dioxin problem?

In 1970, the Department of Health, Education, and Welfare (now the Department of Health and Human Services), the Department of Agriculture, and the Department of Interior suspended many uses of the herbicide 2,4,5-T as a result of a report by the National Institute for Environmental Health Services that is caused birth defects in laboratory mice.

In 1979, the Department of Defense halted the spraying of Agent Orange in Vietnam and in 1978, the Veterans Administration created the Agent Orange Registry to identify veterans who are concerned about possible exposure to Agent Orange.

In 1979, on the basis of experimental evidence that linked forest spraying of 2,4,5-T with an increase in miscarriages among some Oregon women, EPA suspended use of silvex and 2,4,5-T on forests, rights-of-way and pastures, but still allowed spraying on rice fields, fence rows, vacant lots and lumberryards.

In 1981, the Centers for Disease Control began a study to determine if Vietnam veterans are at a greater risk of having children with birth defects.

In 1981, the Food and Drug Administration banned the use of hexachlorophene in nonprescription soaps and deodorants.

In 1981, the Food and Drug Administration recommended that people not eat fish with dioxin levels greater than 50 ppt, and limit their consumption of fish with 25-50 ppt of dioxin. Fish with dioxin below the 25 ppt level are considered safe to eat.

In 1982, EPA required some industries to certify that they were no longer using chlorophenol-type compounds as slime control agents.

In 1983, EPA proposed cancellation of all remaining 2,4,5-T and silvex products. This action was appealed at a hearing by a number of pesticide registrants and users. Until the hearings are completed, as required by law, limited use of 2,4,5-T and silvex may continue.

In 1983, EPA initiated a National Dioxin Strategy to look for areas throughout the country where 2,3,7,8-TCDD may be present in the environment. The strategy provides a systematic framework under which the agency will study the nature of dioxin contamination throughout the U.S., and the risks to people and the environment; clean up dioxin-contaminated sites that threaten public health; find ways to prevent future contamination; and find ways to destroy or dispose of existing dioxin. A National Dioxin Study to investigate the nature and extent of dioxin contamination in the environment will begin this summer and take from 12-15 months. Air, water, soil, and fish sampling will take place in over 1,000 locations across the country.

In 1984, EPA issued a water quality criteria document for 2,3,7,8-TCDD.

Are there ways to safely dispose of or destroy dioxin?

EPA is currently evaluating methods of disposing of or destroying dioxin-contaminated soils and wastes. Established technologies include incineration, chemical degradation, and biological treatment measures, but EPA is working to find other methods of disposal as well. One promising technique is to treat soil with a chemical compound and sunlight. This method holds promise for actually detoxifying the dioxin molecule. Another alternative being investigated involves the use of solvents to change dioxin into a soluble form capable of destruction.

Some temporary methods to limit exposure include: excavating highly contaminated soil and removing it to a secure landfill or concrete vault; securing and capping the contaminated area; and using high efficiency vacuums and liquid dust suppressants.

Who can I contact if I have more questions about dioxin?

Each of EPA's 10 regional offices has a community involvement contact who can answer your questions about dioxin. Following are their names, addresses, and telephone numbers.

| Debra Pyvia | (617) 223-4906 | Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont |
| Richard Cahill | (202) 264-2515 | New Jersey, New York, Puerto Rico, Virgin Islands |
| Joe Donovan | (215) 597-9370 | Delaware, Maryland, Pennsylvania, Virginia, West Virginia, District of Columbia |
| Hagan Thompson | (404) 881-3004 | Alabama, Georgia, Florida, Mississippi, North Carolina, South Carolina, Tennessee, Kentucky |
| Vanessa Musgrave | (312) 886-6128 | Illinois, Indiana, Ohio, Michigan, Wisconsin, Minnesota |
| Betty Williamson | (214) 767-9986 | Arkansas, Louisiana, Oklahoma, Texas, New Mexico |
| Steven Wurtz | (816) 374-5894 | Iowa, Kansas, Missouri, Nebraska |
| Nola Cook | (303) 837-5927 | Colorado, Utah, Wyoming, Montana, North Dakota, South Dakota |
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THE UNITED STATES NAVY
INSTALLATION RESTORATION PROGRAM

FINAL
REMEDIAL INVESTIGATION
FOR
IRP SITE 78
SITE-WIDE OPERABLE UNIT

ANDERSEN AIR FORCE BASE, GUAM

VOLUME I of II

June 2010
3.1.3.2 Geophysical Survey

An EM geophysical survey was performed during the Phase II RA to define the horizontal extent of suspected buried wastes at the site. The results of the geophysical survey indicated that the locations of most of the anomalies were consistent with the locations of the metallic debris found at the surface or partially buried within mounds (Figures 3-1 and 3-2). Based on the topography of the site, the mounds appear to be the result of construction and regrading of the facilities and the buried materials are an accumulation of debris from across the site. A linear anomaly running east-west across the site appears to correlate with a deposit of clay-rich soil as determined during drilling in the fire training pit (Figures 3-1 and 3-2).

3.1.3.3 Phase II Release Assessment Soil Gas Sample Results

As presented in Table 3-1, soil gas samples were collected during the Phase II RA; their results did not show the presence of compounds above the reporting limits.

3.1.3.4 Phase II Release Assessment Surface Soil Sample Results

As part of the Phase II RA, 15 surface soil samples (including one field duplicate) were collected at areas where there were suspected sources of contamination, such as the former fire training burn pit, drum areas, and any suspected mounds or bermed areas. These surface soil samples were analyzed for SVOCs including PAHs, PCBs, pesticides, total metals, dioxins, and furans.

As presented in Tables 3-2 and 3-3 and Figures 3-1 and 3-2, none of the surface soil samples contained SVOCs, pesticides, or PCB concentrations exceeding the preliminary screening criteria, and six analytes were detected at concentrations exceeding the respective screening levels:

- Benzo(a)anthracene was detected in one surface soil sample at a concentration of 1,300 micrograms per kilogram (μg/kg), exceeding the residential PRG of 620 μg/kg.
- Benzo(a)pyrene was detected in two surface soil samples at concentrations of 870 and 1,800 μg/kg, exceeding the industrial PRG of 210 μg/kg.
- Benzo(b)fluoranthene was detected in two surface soil samples at concentrations of 740 and 1,500 μg/kg, exceeding the residential PRG of 620 μg/kg.
- Dibenzo(a,h)pyrene was detected in two surface soil samples at concentrations of 100 and 160 μg/kg, exceeding the residential PRG of 62 μg/kg.
- Lead was detected in four surface soil samples at concentrations ranging from 720 to 940 mg/kg, exceeding the residential PRG of 400 mg/kg. Two of these samples also exceeded the industrial PRG of 800 mg/kg.
- 2,3,7,8-Tetrachlorodibeno-p-dioxin (TCDD) toxicity equivalent (TEQ) was detected in eight surface soil samples at concentrations ranging from 4.40 to 37.8 nanograms per
kilogram (ng/kg), exceeding the residential PRG of 3.6 ng/kg. Seven of these samples also exceeded the industrial PRG of 16 ng/kg.

3.1.3.5 Phase II Release Assessment Subsurface Soil Sample Results

As part of the Phase II RA, 18 subsurface soil samples (including two field duplicates) were collected at Site 78 at suspected sources of contamination, such as the former fire training burn pit, drum areas, and any suspected mounds or bermed areas. These subsurface soil samples were analyzed for VOCs, SVOCs including PAHs, PCBs, pesticides, total metals, dioxins, and furans.

As presented in Tables 3-2 and 3-3 and Figures 3-1 and 3-2, none of the subsurface soil samples collected contained VOCs, SVOCs, PCBs, pesticides, or total metals at concentrations exceeding the preliminary screening criteria. Only one analyte, TCDD TEQ, was detected in one subsurface soil sample at a concentration of 8.66 ng/kg, exceeding the residential PRG of 3.6 ng/kg.

3.1.4 2005 Delineation Sample Results (EA, August 2006)

Based on the 2003 analytical results, additional surface soil samples were collected in November 2005. Three surface soil samples were collected and analyzed for SVOCs, PAHs, PCBs, pesticides, and total metals. Eighteen surface soil samples (including two field duplicates) were collected in the vicinity of the former firefighter training burn pit and were analyzed for dioxins and furans.

As presented in Tables 3-4 and 3-5 and Figures 3-1 and 3-2, none of the surface soil samples collected contained SVOCs, PAHs, pesticides, or total metals at concentration exceeding the preliminary screening criteria. The following analytes were detected at concentrations exceeding the respective screening levels:

- The PCB Aroclor-1260 was detected in one surface soil sample at a concentration of 5,360 µg/kg, exceeding the residential PRG of 220 µg/kg (Table 3-4).

- TCDD TEQ was detected at 17 surface soil samples at concentrations ranging from 5.59 to 121 ng/kg, exceeding the residential PRG of 3.9 ng/kg. Nine of these samples also exceeded the industrial PRG of 16 ng/kg (Table 3-5).

3.2 Remedial Investigation Results

3.2.1 Site Reconnaissance

During the 2007 RI, several areas of empty drums were identified on the eastern boundary of the site. In addition, a 2-inch underground drain line was discovered and traced to approximately 200 feet of the northwest portion of the former fire training burn pit (Photographs 3-10 and 3-11). The drums are located at the eastern portion of the site where PCBs were reported in surface soil above the industrial PRG. The five intact 55-gallon drums observed during the Phase I RA were not observed during the RI site reconnaissance. The fate of the drums is unknown. Also, a
mound was identified east of the former fire training burn pit that may be an aboveground storage tank berm. None of these areas had been previously identified for sampling.

3.2.2 Remedial Investigation Surface Soil Sample Results

Based upon the results of the previous investigations, additional sampling and analysis were performed in 2007 during the RI to further delineate the extent of contamination. In June 2007, three surface soil samples were collected and analyzed for PCBs and 23 surface soil samples (including two field duplicates) were collected and analyzed for dioxins and furans.

As presented in Table 3-6, PCBs were not detected.

As presented in Table 3-7 and Figures 3-1 and 3-2, TCDD TEQ was detected at concentrations exceeding the preliminary screening level. TCDD TEQ was detected in 17 surface soil samples at concentrations ranging from 4.38 to 300 ng/kg, exceeding the residential PRG of 3.9 ng/kg. Twelve of these soil samples also exceeded the industrial PRG of 16 ng/kg.

To further investigate the site, 12 surface soil samples (including one field duplicate) were collected and analyzed for PAHs, PCBs, and/or total metals. An additional nine surface soil samples (including one field duplicate) were collected and analyzed for dioxins and furans. No PAHs or PCBs were detected at concentrations exceeding the preliminary screening levels.

As presented in Tables 3-8 and 3-9 and Figures 3-1 and 3-2, the following analytes were reported at concentrations exceeding the respective screening levels:

- Lead was detected in three surface soil samples at concentrations ranging from 424 to 1,350 mg/kg, exceeding the residential PRG of 400 mg/kg. One of these soil samples also exceeded the industrial PRG of 800 mg/kg.

- TCDD TEQ was reported in five surface soil samples at concentrations ranging from 9.8 to 108 ng/kg, exceeding the residential PRG of 3.9 ng/kg. Two of these soil samples also exceeded the industrial PRG of 16 ng/kg.

3.2.3 Remedial Investigation Test Pit and Test Trench Results

Four test pits were excavated in June 2007 to depths ranging up to approximately 3 feet bgs. The excavations ranged from 6 to 10 feet in length (Figures 3-1 and 3-2). No debris was noted in any of the test pits. The soil in the test pits consisted primarily of silty clay (Appendix B). One subsurface soil sample was collected from one of the test pits.

To further investigate the site, 11 test trenches were excavated in January 2009 to depths ranging up to approximately 3.5 feet bgs. The excavations ranged from 12 to 50 feet in length (Figures 3-1 and 3-2). Debris in the trenches included burnt wood, miscellaneous metal, plastic, and an outfall pipe in TT-04, TT-05, TT-06, and TT-07. A grayish substance that appeared to be...
corroded metal was noted in TT-06. Five subsurface soil samples were collected from four of the test trenches (Photographs 3-12 and 3-13).

The results of these subsurface soil samples are presented below.

3.2.4 Remedial Investigation Subsurface Soil Sample Results

In June 2007, one subsurface soil sample was collected and analyzed for dioxins and furans; the results were below the preliminary screening level (Table 3-7).

To further investigate the site, five subsurface soil samples were collected in January 2009 and analyzed for VOCs, PAHs, PCBs, and total metals. One of the subsurface soil samples was a sample of opportunity collected to characterize a corroded metallic substance encountered in TT-06. As presented in Table 3-8 and Figures 3-1 and 3-2, none of the subsurface soil samples collected contained VOCs, PAHs, or PCBs at concentrations exceeding the preliminary screening criteria. Three analytes were detected at concentrations exceeding the respective screening levels:

- Aluminum was detected in two subsurface soil samples at concentrations of 190,000 and 289,000 mg/kg, exceeding the BTV of 173,500 mg/kg. One of the subsurface samples was the sample of opportunity collected in TT-06.
- Copper was detected in one subsurface soil sample at a concentration of 4,810 mg/kg, exceeding the residential PRG of 3,100 mg/kg.
- Lead was detected in one subsurface soil sample at a concentration of 550 mg/kg, exceeding the residential PRG of 400 mg/kg.

3.2.5 Groundwater Sampling

Although no groundwater monitoring wells are located within Site 78, one monitoring well located in the vicinity has been used to assess groundwater quality (Figure 1-3). The closest monitoring well, IRP-63, is located approximately 1,000 feet southwest (crossgradient) of the site. IRP-63 is sampled twice annually as part of the Andersen AFB LTGM Program. The samples are analyzed for VOCs (including MTBE) and chlorides. Depth to water level at IRP-63 was calculated at 320 feet bgs.

In the 27th sampling round, taken in the fall of 2008, none of the target analytes were detected above MCLs in samples collected from IRP-63. Groundwater monitoring is being handled as a separate issue as a part of the ongoing Basewide Andersen AFB LTGM Program and will not affect the conclusions of the RI (EA, 2009).

3.2.6 Topographic Survey

A topographic survey was performed at the site to provide geospatial reference to support investigative findings. A registered land surveyor completed the surveying activities to
THE UNITED STATES AIR FORCE
INSTALLATION RESTORATION PROGRAM

FINAL

PRELIMINARY ASSESSMENT/SITE INSPECTION WORK PLAN FOR IRP SITES 56, 57, 58, 70, 71, 72, 73, 74, 75, AND 76 AT NORTHWEST FIELD

ANDERSEN AIR FORCE BASE, GUAM 0000266498

September 2006
2. PREVIOUS ENVIRONMENTAL INVESTIGATION RESULTS

Previous investigations conducted at Sites 56, 57, 58, 70, 71, 72, 73, 74, 75, and 76 have included a Records Search (ICF, 1996b) and an ESI Visual Site Inspection (VSI) (ICF, 1996a). Results of the previous investigations conducted at the sites are summarized in the following reports:

- Installation Restoration Program, Final Records Search for Andersen Air Force Base, Guam (ICF, 1996b)
- Final Expanded Source Investigation Visual Site Inspection Report, Andersen Air Force Base, Guam (ICF, 1996a)

The ESI evaluation included a visual inspection of the area, a records search to determine the operational history of the area, and a regulatory review to evaluate the appropriate program under which the USAF should maintain these sites. These sites were discussed in detail in the Records Search Report and were not evaluated separately during the VSI phase of the effort (ICF, 1996b).

Sites 56, 57, 58, 70, 71, 72, 73, 74, 75, and 76 were all identified during a reconnaissance of the Northwest Field conducted in 1994. According to the Records Search Report, there is no documentation describing any disposal activities at the sites. On 12 November 1962, Typhoon Karen destroyed a majority of the historical documents associated with the Northwest Field. Consequently, most of the historical information presented in the Records Search Report is derived from aerial photographs (ICF, 1996b).

Brief summaries of the Records Search and the ESI VSI conducted at the sites are presented below. The locations of the sites are presented on Figure 1-2.

2.1 Site 56

Site 56 (Waste Pile 8) consists of two areas, Areas A and B (Figure 2-1). Site 56 Area A is an inactive disposal site located in a quarried area between the North Runway and North Taxiway at the Northwest Field. According to the 1956 and 1993 aerial photographs, there is a quarried area and the mounded feature north of the quarried area (ICF, 1996b). The quarry is approximately 800 feet long and 200 feet wide. An abandoned street, located midway between and running parallel to the North Runway and North Taxiway, is situated north of the quarry. The road surface is approximately 6 feet higher in elevation than the surrounding land surface and is constructed of crushed coralline limestone. A waste pile, located just north of this road, covers a 40-foot by 20-foot area and is densely vegetated (ICF, 1996a). Inspection of this area indicated the presence of drums, tires, and canisters. The waste is mixed with crushed coral and soil, and appears to have been bulldozed into a pile.

Site 56 Area B is an inactive disposal site, consisting of an asphalt pile, located on the north side of the North Runway (Figure 2-1). The VSI performed on 24 February 1994 identified a pit in this area. The pit is approximately 40 feet wide by 15 feet deep, and did not contain debris at the
time of the 1994 inspection (ICF, 1996b). An asphalt pile was observed next to the quarried area (Figure 2-1). The asphalt pile is approximately 10 feet by 6 feet in area and approximately 4 feet in height. The asphalt appeared to have been discharged to the ground in a viscous state. The vegetation around the pile appeared to be stressed (ICF, 1996b).

2.2 Site 57

Site 57 (Waste Pile 9) is an inactive disposal area located in a borrow pit that was active during the construction of the Northwest Field (Figure 2-2). Based on the VSI, a pile containing six drums and other waste was identified in the northeast corner of a quarried area located approximately 200 feet south of the North Runway (ICF, 1996a). An old asphalt road runs south from the North Runway, approximately 200 feet west of the waste pile. The borrow pit is parallel to the runway and is approximately 1,700 feet long and 250 feet wide. The waste pile consists of six empty 55-gallon steel drums located in a 20-foot by 20-foot area (ICF, 1996a). The unmarked drums are severely corroded and rusted. Other waste observed in the area during the VSI included light fixtures, electrical components, scrap metal, and rubber. Six corroded gunpowder-filled charges were observed approximately 70 feet northwest of the drums (ICF, 1996a).

2.3 Site 58

Site 58 (Waste Pile 10) is a borrow pit for coral subbase that is located south of the South Runway, approximately 600 feet northeast of the Southwest Crossover (Figure 2-3). The borrow pit was described in the VSI as approximately 300 feet long, 200 feet wide, and 10 to 14 feet deep (ICF, 1996a). Fifteen to 20 unmarked, 55-gallon steel drums are located 150 feet west of the borrow pit, in an area between the South Runway and Service Apron 2066. The drums, which appear to have been bulldozed into a pile, are located in a 60-foot by 30-foot area and are mixed with crushed coral and soil. Some of the drums are overturned and all of them are severely deteriorated.

2.4 Site 70

Site 70 (Waste Pile 11) consists of two areas, Areas A and B (Figure 2-4). Site 70 Area A was identified during the VSI, performed in March 1994. It was described as an inactive waste pile located approximately 150 feet south of service Apron 2097, adjacent to concrete pad T-2016. The waste pile is located in a 12-foot by 20-foot excavation (ICF, 1996a). Waste observed in the excavation included rusted metal, an oily steel bucket, and heavy, unopened, pull-tab canisters. The waste was mixed with crushed coral and soil. Much of the contents of Area A could not be determined because a majority of the material was buried beneath a layer of soil (ICF, 1996a).

Site 70 Area B was identified during the 1994 VSI as a waste pile bounded by 12th, 13th, "M", and "K" Streets (Figure 2-4). A majority of the area between these streets was covered with a layer of waste that varies in thickness. The waste covers an 800-foot by 300-foot area. The waste includes rusted metal debris, metal cans, and glass bottles. One metal gas cylinder with a gauge was also observed (ICF, 1996a).
Both areas were recommended for further evaluation due to the potential presence of hazardous constituents.

2.5 Site 71

Site 71 (Waste Pile 12) consists of an inactive waste pit located between “L” and “H” Streets, east of 16th Street (Figure 2-5). The waste pit is in a heavily vegetated area in a 15-foot by 10-foot excavation. Several unmarked 55-gallon steel drums were observed in the pit during the 1994 VSI. Other waste observed includes sections of 6-inch-diameter steel pipe, telephone poles, electrical components, rusted scrap metal, and broken pieces of concrete (ICF, 1996a). Concrete debris was also observed around the outside of the excavation.

2.6 Site 72

Site 72 (Waste Pile 13) consists of two areas, Areas A and B (Figure 2-6). Site 72 Area A was identified during the 1994 VSI as a grease pit related to vehicle maintenance activities. The 1994 VSI identified concrete pad T-617, approximately 300 feet southwest of the 16th and “H” Street intersection (ICF, 1996a). A rectangular pit with a sump in the bottom is located in the center of the pad. The pit was determined to be used as a grease pit to service vehicles. The pit has a concrete floor and walls, and measures approximately 20 feet by 3 feet and 5 feet deep (ICF, 1996a). A concrete stairway leads to the pit on the north side. On the inside wall of the suspected grease pit there is a 2-foot-long by 6-inch-diameter hole, which may have provided drainage from the pad into the pit. On the south end of the pit floor there is a 15-inch-diameter sump constructed of a steel pipe. The pipe extends 6 inches above the pit floor and approximately 1 foot below the pit floor, but did not appear to have a drainage opening (ICF, 1996b).

Site 72 Area B was identified as an inactive waste pile during the 1994 VSI. The waste pile is located approximately 500 feet east of the 16th and “H” Street intersection near concrete pad T-629. The waste pile is located in a 400-foot by 150-foot area with a treeline located on the northwest and southwest sides of the pile. During the VSI, fifteen 55-gallon steel drums were observed. The drums were upright and grouped together, and were mostly deteriorated and rusted. Stressed vegetation and stained soil were observed next to the drums. Two galvanized steel crates with fibrous, asbestos-like insulated bottoms were next to the concrete pad, approximately 50 feet north of the drums (ICF, 1996a). Two waste piles were also located approximately 150 feet southwest of the drums. The piles were approximately 150 feet by 50 feet and 75 feet by 75 feet in size. The waste piles contained metal beams, wire cable, deteriorated concrete sumps, large metal crates, large hinges on latches, pumps, motors, turbine fans, refrigerators, and hundreds of drum bungs (ICF, 1996a).

Both areas were recommended for further evaluation due to the potential presence of hazardous constituents.
2.7 Site 73

Site 73 (Waste Pile 14) consists of a drum pile that was identified during the 1994 VSI (Figure 2-7). The drum pile is located on the north edge of a quarried area, 150 feet northwest of the 6th and "A" Street intersection. An unimproved access road extends northwest from the end of "A" Street, approximately 400 feet to the south end of the quarry. The area around the quarry is heavily vegetated. Approximately twenty 55-gallon steel drums were observed in an irregular pile that covers a 20-foot by 30-foot area on the western edge of the quarry (ICF, 1996a). Most of the drums are overturned and the drums are rusted, but appeared to be closed and intact. The drums were not marked and the contents are unknown.

2.8 Site 74

Site 74 consists of an abandoned UST identified during the 1994 VSI. The UST is located in a group of concrete pads between the North and South runways, approximately 500 feet southeast of IRP-44 (Figure 2-8). According to historical photographs, the UST is adjacent to concrete pad T-71 (ICF, 1996b). It is cylindrical in shape and estimated to be 5 feet long and 2.5 feet in diameter. The top of the UST is visible and flush with the ground surface. A 6-inch by 6-inch opening was observed on the top of the tank and liquid was observed inside the tank. No odor was noted (ICF, 1996a).

2.9 Site 75

Site 75 consists of three areas, Areas A, B, and C (Figure 2-9). Site 75 Area A consists of two abandoned ASTs located approximately 500 feet north of the Route 3A and "M" Street intersection. The ASTs, which are very deteriorated, are constructed of plate steel and are estimated to be 8 feet tall and 40 feet in diameter (ICF, 1996a). They are surrounded by 3.5-foot-tall earthen berm. Open valves were observed at the base of each tank and are positioned over depressions in the ground surface, indicating the contents of the tank had been flushed from the tanks. A 6-inch-diameter steel pipe was observed extending from each of the ASTs to the edge of the earthen berm. The pipes ran underneath the berm and connected to a single pipe on the northwest side of the berm area. The pipe was observed to extend from the berm approximately 150 feet toward the Southwest Taxi Loop (ICF, 1996a).

Site 75 Area B consists of a drum disposal area located in a 300-foot by 100-foot by 10-foot-deep quarried area. The quarry is located on the northeast side of the intersection of Perimeter Road and "M" Street. The disposal area contains a group of three 55-gallon steel drums. In addition, a highly corroded 8-inch steel pipe was observed along the north side of the quarry (ICF, 1996a). The purpose of the pipe has not been determined. One of the drums is located 100 feet east of the western terminus of the steel pipe. The drum is rusted through in several areas, and the nearby soil and vegetation is stained black. A mild petroleum odor was noted. A second drum was located on the north side of the pipeline. The drum was overturned and has an open bunghole with approximately two gallons of black, viscous fluid inside (potentially oil). The drum is labeled "JGG 5B 16 55 44 DMC USN". A third drum is located on the north side of the pipeline, approximately 50 feet northwest of the second drum (ICF, 1996a). It was

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overturned and approximately 50 percent of the drum was corroded. Eight used oil filters were also observed in and around the drum, near the corroded side of the drum. Several Coca-Cola bottles that were dated 1945 were observed in the area, indicating the waste has been in the area for many decades (ICF, 1996a).

Site 75 Area C consists of a former Imhoff Tank and remnants of two ASTs, adjacent to pad T-357 located between “M” and “K” Streets, approximately 100 feet northeast of 10th Street. There is also a pipeline and a filter field associated with the Imhoff Tank (ICF, 1996b). Named after their inventor, Carl Imhoff, Imhoff Tanks were commonly used to aid in the settling of solids by using an inverted, conical-shaped tank. The pad was identified at the former location of the Imhoff Tank, which was part of a wastewater treatment system that separated solids and liquids from untreated sewage. Reportedly, the Imhoff Tank was located on the concrete pad and drained to a leach field to the northwest. During the 1994 VSI, the tank was no longer present and there was no evidence of a release to the leach field (ICF, 1996a).

The framework for one AST was also observed during the VSI (ICF, 1996a). The AST frame measured 12 feet long by 4 feet wide and was located on a highly corroded metal framework, approximately 6 feet high. Most of the AST was severely rusted away, and there was no visible evidence of its former contents. The purpose of the AST could not be determined by the inspection (ICF, 1996a).

A second AST that was noted on a 1949 USAF map could not be located during the VSI. An elevated area with secondary containment berms was located, but evidence of the AST could not be found (ICF, 1996a).

2.10 Site 76

Site 76 consists of four areas, Areas A, B, C, and D (Figure 2-10). Site 76 Area A consists of a waste pile located approximately 400 feet south of the 11th and “H” Street intersection, 150 feet south of concrete pad T-261. An unimproved access road runs south from “H” Street 400 feet to the east end of the waste pile and loops back to “H” Street. The waste pile is visible from this access road. The waste pile covers an area of approximately 250 feet by 75 feet and is approximately 5 feet high. Ten 55-gallon steel drums were observed partially buried in the ground. The drums were very rusted and corroded and no markings were observed (ICF, 1996a). Other waste observed included metal, wood, and concrete debris. The potential for more buried drums was noted during the VSI. The waste area is sparsely vegetated and is surrounded by a tree line on the west, south, and east sides (ICF, 1996a).

Site 76 Area B consists of a waste pile located approximately 800 feet south of the 11th and “H” Street intersection. The waste pile covered an area of approximately 2.5 acres. The waste pile was observed in a 500-foot by 500-foot area of sparse vegetation along a north-south trending, 150-foot-wide access way. The access way connects an abandoned water tower at a former housing development in the south to an abandoned wellhead near the 13th and 8th Street intersection in the north. The waste observed during the VSI was almost exclusively scrap metal piled in 3- to 4-foot-high mounds that covered the ground almost continuously (ICF, 1996a). A smaller amount of wood, telephone poles, and concrete debris was also observed.
Site 76 Area C consists of a group of three drums located approximately 500 feet north of the 4th and “C” Street intersection. The drums were located near two 50-foot by 50-foot concrete pads; the group was observed on the southeast corner of the southernmost pad. The unmarked drums were upright, intact, very rusty, but not empty. It was not noted if the material in the drums was liquid or solid (ICF, 1996a).

Site 76 Area D consists of a trench containing waste that runs in an east-west trending direction approximately 300 feet east of 5th Street. A former residential housing development is located to the south of the trench. The trench is approximately 3 feet wide by 400 feet long and is approximately 3 feet deep (ICF, 1996a). An abandoned water tower was observed near the eastern terminus of the trench. The waste in the trench consists mostly of household refuse, including bottles, cans, and wood, as well as electronic components and automobile tires. It was noted during the VSI that residents of the former housing development likely used the trench to dispose of household waste (ICF, 1996a).
4.1.8 Subsurface Soil Sampling

Upon completion and evaluation of the DSI and EM survey, subsurface soil samples of opportunity will be collected at Sites 56, 57, 58, 70, 71, 72, 73, 74, 75, and 76 to verify the presence or absence of potential subsurface contaminants. The samples will be collected from exploratory test trenches or test pit excavations or from drilling boreholes.

At Sites 56, 57, 58, 70, 71, 72, 73, and 76, all subsurface soil samples will be collected from exploratory test trenches or test pit excavations and analyzed for VOCs, SVOCs, PAHs, TAL metals, pesticides, and PCBs using USEPA Methods SW8260B, SW8270C, SW8270C SIM, SW6010B, 8081A, and 8082, respectively. Subsurface soil samples from Site 57 will also be tested for explosive residue.

At Sites 74 and 75, all subsurface soil samples will be collected from subsurface borings and analyzed for VOCs, SVOCs, PAHs, and TAL metals, using USEPA Methods SW8260B, SW8270C, SW8270C SIM, SW6010B, respectively.

Analytical results will be compared to residential and industrial PRGs, as well as BTVs, to determine if additional investigative activities or remedial actions are required.

4.1.9 Drum Sampling

When intact drums containing liquid or product are discovered during the DSI or as a result of subsurface investigation activities, drum content samples will be analyzed for parameters compatible with the suspected drum contents, in addition to Toxicity Characteristic Leaching Procedure (TCLP) SVOCs, TCLP pesticides, TCLP PCBs, and TCLP TAL metals, ignitability, and corrosivity, using the USEPA Methods SW8270C, SW8081, SW8082, SW6010B/7471A SW1010, and SW9045C. Per Section 6 of the Basewide QAPP (EA, 2005c), the reactivity test method has been withdrawn by the USEPA due to uncontrollable quality issues.

4.1.10 Surveying

The location of potentially contaminated areas, sampling points, and the boundaries for each site will be surveyed as described in Section 3.1.11. In addition, two permanent concrete survey monuments will be placed at each site as reference points for future work.

4.2 Quality Assurance/Quality Control Samples

As part of the QA/QC program, field and laboratory QA/QC samples will be collected and analyzed by a laboratory. The field QA/QC samples include duplicate, equipment rinsate blank, trip blank, and MS/MSD.

The duplicate samples will be collected at a minimum frequency of 10 percent, and the equipment rinsate blank samples will be collected at the frequency of 5 percent. A trip blank will be provided at the frequency of one sample for every cooler of samples shipped to the laboratory that contains samples for VOC analysis.
The field QA/QC will also include submission of MS/MSD samples at the frequency of 5 percent per matrix per analytical method. The MS/MSD samples will be used as part of the laboratory QA/QC to evaluate the accuracy and precision of the analysis.

The estimated numbers of QA/QC samples for the project are presented on Table 4-1.
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</tr>
<tr>
<td>Site 75 (Areas A, B, and C)</td>
<td>Aboveground Storage Tank</td>
<td>X X 0 3 X</td>
<td>16 16 0 0 0 0</td>
<td>6 6 6 0 0 0 0</td>
</tr>
<tr>
<td>Site 76 (Areas A, B, C, and D)</td>
<td>Mixed Waste Area</td>
<td>X X X 2 0 X</td>
<td>16 16 0 0 0 0</td>
<td>2 2 2 2 2 2 2</td>
</tr>
</tbody>
</table>

Notes:
- PAHs - polycyclic aromatic hydrocarbons
- PCBs - polychlorinated biphenyls
- TAL - Target Analyte List
- VOCs - volatile organic compounds

Final PASI Work Plan for 10 IRP Sites
at Northwest Field
Andersen Air Force Base, Guam

September 2006
ORDER

New and material evidence having been received, the claim of entitlement to service connection for diabetes mellitus, type II, is reopened.

New and material evidence having been received, the claim of entitlement to service connection for peripheral neuropathy of the bilateral lower extremities is reopened.

Service connection for diabetes mellitus, type II, is granted.

Service connection for peripheral neuropathy of the bilateral lower extremities is granted.

FINDINGS OF FACT

1. In a final July 2014 rating decision, the Regional Office (RO) denied the Veteran’s claim of entitlement to service connection for diabetes mellitus, type II, and peripheral neuropathy of the bilateral lower extremities.

2. Evidence associated with the record since the final July 2014 rating decision is not cumulative and redundant of the evidence of record at the time of the decision and does raise a reasonable possibility of substantiating the Veteran’s claims of entitlement to service connection for diabetes mellitus, type II, and peripheral neuropathy of the bilateral lower extremities.

3. The evidence as at least in relative equipoise as to whether the Veteran was exposed to herbicide agents during his service.

4. The evidence as at least in relative equipoise as to whether the Veteran’s peripheral neuropathy of the bilateral lower extremities is linked to his now-service-connected diabetes mellitus, type II.

CONCLUSIONS OF LAW

1. New and material evidence has been received to reopen the claim of entitlement to service connection for diabetes mellitus, type II. 38 U.S.C. § 5108; 38 C.F.R. § 3.156(a).

2. New and material evidence has been received to reopen the claim of entitlement to service connection for peripheral neuropathy of the bilateral lower extremities. 38 U.S.C. § 5108; 38 C.F.R. § § 3.156(a).

3. The criteria for service connection for diabetes mellitus, type II, are met. 38 U.S.C. §§ 1110, 1116, 5107; 38 C.F.R. § § 3.102, 3.303, 3.307, 3.309.

4. The criteria for service connection for peripheral neuropathy of the bilateral lower extremities are met. 38 U.S.C. §§ 1110, 5107; 38 C.F.R. § § 3.102, 3.310.

REASONS AND BASES FOR FINDINGS AND CONCLUSIONS

The Veteran served on active duty from September 1972 to February 1973.

This matter comes before the Board of Veterans' Appeals (Board) on appeal from a December 2015 rating decision issued by the Department of Veterans Affairs (VA) Regional Office (RO) in Boise, Idaho.

In August 2019, the Veteran testified before the undersigned Veterans Law Judge. A hearing transcript is of record.

New and material evidence
New evidence means existing evidence not previously submitted to agency decision makers. Material evidence means existing evidence that, by itself or when considered with previous evidence of record, relates to an unestablished fact necessary to substantiate the claim. New and material evidence can be neither cumulative nor redundant of the evidence of record at the time of the last prior final denial of the claim sought to be reopened, and must raise a reasonable possibility of substantiating the claim. 38 C.F.R. §§ 3.156(a).

When determining whether the submitted evidence meets the definition of new and material evidence, VA must consider whether the new evidence could, if the claim were reopened, reasonably result in substantiation of the claim. Shade v. Shinseki, 24 Vet. App. 110, 118 (2010). Evidence is new if it has not been previously submitted to agency decision makers and is material if, when considered with the evidence of record, it would at least trigger VA’s duty to assist by providing a medical opinion. Id.

The Veteran’s service connection claims for diabetes mellitus, type II, and peripheral neuropathy of the bilateral lower extremities were originally denied in a July 2014 rating decision. He was notified of the outcome in a July 2014 letter, and did not file a notice of disagreement within one year, nor was any additional evidence pertinent to the claim received within one year of that decision. The July 2014 rating decision became final based on the evidence then of record. 38 U.S.C. §§ 7104, 7105; 38 C.F.R. § § 20.1103.

The Veteran seeks to reopen the service connection claim for diabetes mellitus, type II, and peripheral neuropathy of the bilateral lower extremities. See September 2015 Claim. He contends that the claimed disabilities are related to his exposure to herbicide agents while stationed at Andersen Air Force Base in Guam during his service. See, e.g. November 2015 Statement.

The evidence previously considered at the time of the last final decision (i.e. in July 2014) includes service treatment records, personnel records, a March 2014 Diabetes Mellitus VA examination report, and VA and private treatment records. In the July 2014 rating decision, the RO denied the Veteran’s service connection claim essentially based on the RO’s conclusion that the claimed diabetes mellitus, type II, and peripheral neuropathy of the bilateral lower extremities, were not related to his service.

Since that last final rating decision, the evidence pertaining to the Veteran’s claimed diabetes mellitus, type II, and bilateral lower extremity peripheral neuropathy includes his testimony in an August 2019 hearing transcript, an August 2019 statement from N.H., a private nurse practitioner, VA and private treatment records, as well as internet research evidence concerning the presence of toxins at Andersen Air Force Base in Guam, where the Veteran was reportedly stationed at during his service.

Private treatment records document diagnoses of diabetes mellitus, type II, and peripheral neuropathy of the bilateral lower extremities. See April 2017 and July 2015 private treatment records. In the August 2019 statement, the private nurse practitioner rendered positive nexus opinions for both disabilities based on his reported exposure to herbicide agents during his service in Guam. The Veteran has also submitted research evidence suggesting the presence of herbicide agents at his duty station during his service. Such evidence was not previously considered and when considered in totality, relates to an unestablished fact necessary to prove both claims; namely, whether the nexus elements of a service connection claim are met. The Board finds that this evidence is both new and material. Service connection claims for diabetes mellitus, type II, and peripheral neuropathy of the bilateral lower extremities are reopened.

Service Connection

Service connection may be granted for disability resulting from disease or injury incurred in or aggravated by active service. 38 U.S.C. §§ 1110, 5107; 38 C.F.R. § § 3.303. The three-element test for service connection requires evidence of: (1) a current disability; (2) in-service incurrence or aggravation of a disease or injury; and (3) a causal relationship between the current disability and the in-service disease or injury. Shedden v. Principi, 381 F.3d 1163, 1166 -67 (Fed. Cir. 2004).

A specific list of diseases, to include diabetes mellitus, type II, associated with exposure to certain herbicide agents used during the Vietnam era, will be considered to have been

Service connection is also warranted for disability proximately due to or the result of a service-connected disease or injury. 38 C.F.R. § 3.310(a).

1. Diabetes mellitus, type II

The Veteran seeks to establish service connection for diabetes mellitus, type II. He maintains that the condition is attributed to exposure to herbicide agents while serving at Andersen Air Force Base in Guam. See, e.g., November 2015 Statement. Specifically, he reports that, approximately for six months beginning in September 1972 through 1973 in Guam, his in-service duties in the “maintenance squadron” and vehicle repair included “dump[ing] out” barrels containing substances that “just smelled like chemical of some sort.” See August 2019 Hearing Tr. at 5-6.

Given that the Veteran is currently diagnosed with diabetes mellitus, type II, a presumptive condition based on herbicide agent exposure, 38 C.F.R. § 3.309(e), the key inquiry is whether he was exposed to herbicide agents during his service.

In this regard, the available service records confirm that the Veteran was stationed at the Andersen Air Force Base in Guam as of January 1973, during the Vietnam Era. See January 1973 Service Treatment Records. In a June 2010 statement, J.L., a fellow serviceman, wrote that he had served with the Veteran at Andersen Air Force Base in Guam from September 1972 to February 1973, further corroborating his account of service in Guam. Personnel records also list his military occupational specialty as vehicle repairman, consistent with his report.

Further, of record is research evidence from Environmental Protection Agency, submitted in August 2017, documenting that Andersen Air Force Base in Guam is a Superfund site. The evidence indicates that various hazardous chemical substances, including dioxin and TCDD, both listed as contaminants within the definition of an herbicide agent under 38 C.F.R. § 3.307(a)(6), have been detected at that location.

In the August 2019 statement, the private nurse practitioner indicated that given her review of the clinical evidence of record, the nature of the Veteran’s diabetes mellitus, type II, and the absence of diabetic family history, he was exposed to herbicide agents that resulted in his diabetes mellitus, type II.

In a November 2017 memorandum from the Department of Defense, the Director of Armed Forces Pest Management Board concluded that tactical herbicide agents were not used or tested in Guam, but she did not exclude the possibility of commercial herbicide agents use at that location.

Given the evidence already of record, cf. Mariano v. Principi, 17 Vet. App. 305, 312 (2003), based on the Veteran’s competent and credible lay statements, coupled with corroborating evidence suggesting a substantial probability of his exposure to herbicide agents while serving in Guam, the Board resolves all reasonable doubts in his favor and finds that it is at least as likely as not that he was exposed to herbicide agents during his service.

Based on that exposure, the Board concludes that the criteria for service connection for diabetes mellitus, type II, are met. See 38 C.F.R. § 3.309(e). The Veteran’s appeal is granted.

2. Peripheral neuropathy

The Board resolves all reasonable doubts in the Veteran’s favor and finds that service connection for peripheral neuropathy of the bilateral lower extremities is warranted.

The record contains a current diagnosis of neuropathy of the bilateral lower extremities. See July 2015 Private Treatment Record.

The remaining inquiry is whether such diagnosis is related to the Veteran’s service, to include his service-connected disabilities.

To this end, a March 2014 VA examiner concluded that the Veteran’s peripheral neuropathy was “likely aggravated by his [now-service-connected] diabetes.” An August 2016 private treating
physician also found that the Veteran’s “chronic neuropathy of both lower legs [was] due to a combination of both his diabetes and past agent orange exposure.” The August 2019 private nurse practitioner agreed, noting that the condition was a complication and “direct result” of the Veteran’s diabetes mellitus, type II.

These favorable clinical findings collectively serve to link the Veteran’s claimed peripheral neuropathy of the bilateral lower extremities to his service-connected diabetes mellitus, type II. There are no contrary opinions of record.

The Board resolves all reasonable doubts in the Veteran’s favor and finds that service connection for peripheral neuropathy of the bilateral lower extremities are met. 38 U.S.C. § 5107; 38 C.F.R. § 3.102. His appeal is granted.

Bethany L. Buck
Veterans Law Judge
Board of Veterans’ Appeals

Attorney for the Board  S. Kim, Counsel

The Board’s decision in this case is binding only with respect to the instant matter decided. This decision is not precedential, and does not establish VA policies or interpretations of general applicability. 38 C.F.R. § § 20.1303.
THE ISSUE

Entitlement to service connection for Parkinson's disease.

REPRESENTATION

Appellant represented by: Gina D. Holness, Attorney

WITNESSES AT HEARING ON APPEAL

Appellant and spouse

ATTORNEY FOR THE BOARD

A. D. Jackson, Counsel

INTRODUCTION

The Veteran had active service from September 1964 to August 1968.

This matter comes to the Board of Veterans' Appeals (Board) on appeal from a December 2010 rating decision of the Department of Veterans Affairs (VA) Regional Office (RO) in Boston, Massachusetts, which denied the above claim.

In April 2012, the Veteran testified at a hearing before the undersigned Veterans Law Judge. The case was remanded in January 2014 and has been returned to the Board for review.

FINDING OF FACT

The evidence is in equipoise on the issue of whether the Veteran incurred Parkinson's disease during active service.

CONCLUSION OF LAW


REASONS AND BASES FOR FINDING AND CONCLUSION

The Veteran currently suffers from Parkinson's disease. He contends that this disease links back to exposure to herbicides during his period of active duty—specifically to a six month temporary duty assignment in Guam on Andersen Air Force Base. There, he alleges that his work as a mechanic included work maintaining trucks that were used primarily for pumping Agent Orange into aircraft which would then disperse it. He was told that this substance was a "defoliant" at the time. He claims that these vehicles would not be cleaned of the
defoliant prior to his work on them. He also claims that the defoliant was used on the perimeter of the base.

Service connection means that a veteran has a disability resulting from disease or injury incurred in or aggravated by active service. 38 U.S.C.A. § 1110; 38 C.F.R. § 3.303(a). Service connection may be granted for any disease diagnosed after discharge when the evidence shows that the disease was incurred in service. 38 C.F.R. § 3.303(d).

If a veteran was exposed to an herbicide agent during active service, a number of diseases, including Parkinson's disease, shall be service connected if the requirements of 38 C.F.R. § 3.307(a)(6) are met even though there is no record of such disease during service. 38 C.F.R. § 3.309(e). There is a presumption of exposure to herbicides (to include Agent Orange) for all veterans who served in Vietnam or the Korean DMZ during the Vietnam era. 38 U.S.C.A. § 1116(f); 38 C.F.R. § 3.307(a)(6). However, the Veteran has not asserted, nor does the record suggest, that he served within the Republic of Vietnam or the Korean DMZ. As such, the presumption of herbicide exposure does not apply, and actual, direct exposure to herbicides must be shown. See Combee v. Brown, 34 F.3d 1039, 1042 (Fed. Cir. 1994).

Service records indicate that the Veteran had a temporary duty assignment at Andersen Air Force Base (AFB) in Guam from September 1966 to March 1967. The RO submitted a request for verification of exposure to herbicides to the U.S. Army and Joint Services Records Research Center (JSRRC) based on the Veteran’s records. The JSRRC responded that it was unable to verify or document that the Veteran was exposed to Agent Orange or other tactical herbicides while stationed at Andersen AFB, Guam.

However, the Veteran has provided some evidence corroborating his claim regarding contamination at Andersen AFB on Guam. Specifically, the U.S. Environmental Protection Agency has designated the base a Superfund cleanup site due to the extensive contamination of its soil from various activities engaged in by air force personnel since the early 1940s. The JSRRC stated that to date, the available historical data did not document any Agent Orange or tactical herbicide spraying, testing, storage, dispersal, or usage on the Island of Guam during 1966 through 1967. This indicates that there was no evidence of their usage, not that they were not used. With such an evidentiary background, the Board cannot find that a preponderance of the evidence is against the assertion of in-service herbicides exposure. As such, the Board finds that the Veteran was exposed to herbicides while stationed in Guam.

Although the Board finds that the Veteran was exposed to some type of herbicide while in service, it must point out that presumptive service connection pursuant to 38 C.F.R. § 3.307 and § 3.309 is not warranted. Specifically, although the Veteran is competent to testify as to the use of vegetation killing sprays, he is not competent to testify as to the particular chemical compound of that spray. Section 3.307 specifically defines the type of herbicides required to trigger the presumptive service connection provisions. There is no evidence that the Veteran knew it was of the same type as that used in Vietnam. Therefore, presumptive service connection is not warranted. However, as explained below, direct service connection is established.

The only medical professional who commented on the Veteran’s claim to medical nexus between diabetes and service offered a supportive opinion. In an October 2009 letter, William Tosches, M.D. stated that it was more likely than not that the Veteran’s Parkinson’s disease was related to his exposure to herbicides while stationed in Guam. The supportive opinion has some probative value that tends to favor the claim.

In sum, the Board cannot finds that a preponderance of the evidence of record demonstrates that the Veteran did not experience herbicides exposure during service, or that the in-service exposure is not causally related to the current Parkinson’s disease. As such, this is an appropriate case in which to invoke VA’s doctrine of reasonable doubt. 38 U.S.C.A. § 5107(b); 38 C.F.R. § 3.102. A finding of service connection is therefore warranted for Parkinson’s disease.

ORDER

Service connection for Parkinson’s disease is granted.
P.M. DILORENZO
Veterans Law Judge, Board of Veterans’ Appeals
Entitlement to service connection for dementia, including as due to herbicide exposure, is granted.

Entitlement to service connection for ischemic heart disease (IHD), including as due to herbicide exposure, is granted.

Entitlement to service connection for pulmonary venous hypertension (PVH), including as due to herbicide exposure, to include as secondary to IHD, is granted.

Entitlement to service connection for an acquired psychiatric disorder, to include anxiety, depression, and posttraumatic stress disorder (PTSD), is granted.

REMANDED

Entitlement to service connection for restless leg syndrome (RLS), to include as secondary to dementia or an acquired psychiatric disorder, is remanded.

Entitlement to service connection for erectile dysfunction, to include as secondary to an acquired psychiatric disorder, is remanded.

FINDINGS OF FACT

1. The Veteran’s dementia is related to his exposure to herbicides and environmental contaminants in service.

2. The Veteran’s IHD is related to his exposure to herbicides and environmental contaminants in service.

3. The Veteran’s PVH is proximately due to his IHD.

4. The Veteran’s acquired psychiatric disorder, to include anxiety, depression, and PTSD, is related to his service.

CONCLUSIONS OF LAW

1. The criteria for service connection for dementia are met. 38 U.S.C. §§ 1110, 5107; 38 C.F.R. §§ 3.102, 3.303.

2. The criteria for service connection for IHD are met. 38 U.S.C. §§ 1110, 5107; 38 C.F.R. §§ 3.102, 3.303.

3. The criteria for service connection for PVH as secondary to IHD are met. 38 U.S.C. §§ 1110, 5107; 38 C.F.R. §§ 3.102, 3.310.

4. The criteria for service connection for acquired psychiatric disorder, to include anxiety, depression, and PTSD, are met. 38 U.S.C. §§ 1110, 5107; 38 C.F.R. §§ 3.102, 3.303.

REASONS AND BASES FOR FINDINGS AND CONCLUSIONS

The issues come before the Board of Veterans’ Appeals (Board) on appeal from January 2017, May 2017, September 2017, and April 2018 decisions of a Department of Veterans Affairs (VA) Regional Office (RO). The Veteran filed notices of disagreement in March 2017, May 2017, May 2018, and September 2018. The Veteran was issued statements of the case in July 2019. Subsequently, the Veteran filed a notice of disagreement under the AMA and selected the Direct Review lane. As such, the Board will only consider the evidence submitted prior to the July 2019 statements of the case.

In a July 2019 statement of the case, the RO found that new and relevant evidence was
submitted to warrant re-adjudicating the claim for service connection for dementia. The Board is bound by this favorable finding. 38 C.F.R. § 3.104(c). The Board notes that the RO also found that new and relevant evidence was submitted to warrant re-adjudicating the claim for service connection for erectile dysfunction. However, as the Veteran submitted a notice of disagreement (NOD) in September 2018, within one year of the January 2018 rating decision that originally denied service connection for erectile dysfunction, the Board finds that the September 2018 NOD is timely, and the claim has been pending since his December 2017 claim.

Service Connection

Service connection may be granted for disability resulting from disease or injury incurred in or aggravated by active service. 38 U.S.C. §§ 1110, 1131, 5107; 38 C.F.R. § 3.303. The three-element test for service connection requires evidence of: (1) a current disability; (2) in-service incurrence or aggravation of a disease or injury; and (3) a causal relationship between the current disability and the in-service disease or injury. Shedden v. Principi, 381 F.3d 1163, 1166 -67 (Fed. Cir. 2004).

Service connection may also be established on a secondary basis for: (1) a disability that is proximately due to or the result of a service-connected disease or injury; or, (2) any increase in the severity of a nonservice-connected disease or injury that is proximately due to or the result of a service-connected disease or injury, and not due to the natural progress of the nonservice-connected disease or injury. 38 C.F.R. §§3.310(a)-(b).

In order to establish service connection for a disability on a secondary basis, there must be (1) medical evidence a current disability; (2) evidence of a service-connected disability; and (3) medical nexus evidence establishing a connection, or link between, the current disability and the service-connected disability. See Wallin v. West, 11 Vet. App. 509, 512 (1998).

1. Entitlement to service connection for dementia, including as due to herbicide exposure

The Veteran contends that he suffers from dementia as a result of his service. Specifically, the Veteran claims that his exposure to herbicide agents and other environmental contaminants while servicing at Anderson Air Force Base (AAFB) is what caused his current disability.

The Veteran completed a temporary six-month tour of duty at AAFB in July 1967. See January 2017 correspondence.

The Veteran contends that while serving at AAFB in Guam, his work site was in the middle of the jungle. The Veteran states that he noticed that in areas where there should have been a lot of green foliage, there was brown vegetation instead. He claims that the area was sprayed with herbicides because it was important to keep the vegetation down so the enemy could not hide in the jungle. He also remembers seeing barrels of herbicides that were kept behind a gated area at the base. The Veteran states that he had contact with a service member whose job it was to spray the herbicides all over the base, around the barracks, flight line areas, revetments, bomb dumps, and perimeter security fences. The Veteran also argues that the drinking water was contaminated and that there were other hazardous contaminants associated with AAFB operations. See February 2018 statement.

In support of his claim, the Veteran submitted articles showing that the sources of hazardous substances at AAFB included unlined landfills, drum storage and disposal areas, chemical storage areas, fire training areas, waste storage areas, a laundry, and industrial and flight line operations. Substances known to be involved in AAFB’s operations included solvents such as trichloroethene (TCE) and paint thinners, dry cleaning fluids and laundry products, fuels and gasoline, pesticides, antifreeze, aircraft cleaning compounds, and polychlorinated biphenyls (PCB’s). The articles also described that some areas where the hazardous wastes were stored were a threat to the groundwater. Groundwater sampling indicated the presence of heavy metals, volatile organic compounds (VOC’s), and tetrachloroethane. The EPA placed AAFB on its Superfund National Priorities List (NPL) due to the hazardous substances found in its soil and groundwater. See “Superfund Site Report: Anderson Air Force Base,” submitted in February 2018; see also “NPL Site Narrative for Anderson Airforce Base,” submitted in July 2019.

The Veteran also submitted an article indicating that the Department of Defense’s official list of herbicide testing and storage locations outside of Vietnam is inaccurate and incomplete. The article suggests that although there were no tactical herbicides in Guam, commercial herbicides were stored and used in Guam. A detailed 1968 report by the Naval Supply Depot stated that the Public Works Center sprayed herbicides semi-annually to control
the vegetation along fuel pipelines between the depot and AAFB. See “Actions Needed to Improve Accuracy and Communication of Information on Testing and Storage Locations,” submitted in July 2019.

The Veteran also submitted statements from various service members who also reported that herbicides and pesticides were used and stored in Guam in the late 1960’s. See statements submitted in February 2018.

The Board finds that with the resolution of reasonable doubt in favor of the Veteran, the evidence of record shows that the Veteran was exposed to herbicides, pesticides, and other environmental contaminants during his six months serving at the AAFB in 1967.

The Veteran provided a January 2018 medical opinion that showed that the Veteran struggled with worsening symptoms of Lewy Body dementia (LBD) and vascular dementia. The private examiner opined that the Veteran’s LBD symptoms began at a far younger age than we normally see due to his repeated exposure to agent orange and other herbicides and pesticides during the Vietnam War.

A June 2019 private medical opinion also linked the Veteran’s LBD to his exposure to herbicides and other environmental toxins now known to be present at various locations at AAFB in Guam. The June 2019 private examiner concurred with the January 2018 examiner and noted that there is increasing scientific evidence showing that LBD and Parkinson’s disease (PD) are manifestations of the same biologic changes in the brain and it is believed that they share the same risk factors. He added that epidemiologic and experimental studies have shown that metals, herbicides, and pesticides play a crucial role in promoting the folding of proteins that aggregate in the brain and lead to the onset of various neurodegenerative disorders including PD and LBD. The same environmental toxins that are believed to play a causative role in a large proportion of PD cases may also promote the formation of Lewy Bodies in the brain and contribute to the development of LBD. He noted that this supports the likelihood that the Veteran’s developing LBD is related to his exposure to the same environmental toxins present on Guam that have been implicated in causing PD. The examiner added that there is evidence supporting that the Veteran’s herbicide exposure is an environmental factor that interacted with his genes and contributed to his developing of LBD through pathways shared with PD. The examiner also noted that PCE and lead have a known association with PD. In sum, the examiner found that there were several lines of evidence to support an association between the Veteran developing LBD and his exposures to toxins while serving in Guam.

The Board finds that the June 2019 private medical opinion is probative medical evidence showing that the Veteran’s dementia is related to his exposure to herbicides and other environmental contaminants in service.

Accordingly, after resolving all reasonable doubt in favor of the Veteran, the Board finds that service connection for dementia is warranted. 38 U.S.C. § 5107; 38 C.F.R. § 3.102.

2. Entitlement to service connection for IHD, including as due to herbicide exposure

The Veteran contends that he suffers from IHD as a result of his service. Specifically, the Veteran claims that his exposure to herbicide agents and other environmental contaminants while serving at AAFB is what caused his current disability.

The evidence of record shows that the Veteran was diagnosed with coronary artery disease (CAD) in April 2013.

VA treatment records from December 2016 show a diagnosis for IHD with congestive heart failure (CHF).

The Board acknowledges that the Veteran’s medical records show that he has been diagnosed with CAD and IHD, diseases subject to presumptive service connection based on exposure to herbicides while in service. Thus, as the Board concedes herein that the Veteran was exposed to herbicides in-service, service connection is granted for IHD and CAD. See 38 C.F.R. § 3.307 (a)(6).

Accordingly, after resolving all reasonable doubt in favor of the Veteran, the Board finds that service connection for IHD is warranted. 38 U.S.C. § 5107; 38 C.F.R. § 3.102.

3. Entitlement to service connection for PVH, including as due to herbicide exposure, to
The Veteran contends that he suffers from PVH as a result of his service. In the alternative, the Veteran contends that his PVH is secondary to his now service connected IHD.

A private chest x-ray from December 2016 shows that the Veteran has a diagnosis of PVH and mitral valve replacement.

A private opinion from June 2019 links the Veteran’s PVH to his IHD. The private examiner noted that PVH is a frequent condition which may occur as a consequence of vascular disease affecting the lungs. The Veteran had heart failure due to the weakening of his left ventricle from a heart attack in 2012, the development of PVH and dysfunction of the chambers of the right side of his heart are frequent and have an important impact on disease progression, morbidity, and mortality. The examiner added that it is more likely than not that the Veteran developed PVH as a result of having IHD, manifested as damage to his left ventricle, causing it to become dysfunctional, which then caused CHF and increased his pulmonary arterial pressure.

The Board finds that the June 2019 private medical opinion is probative medical evidence showing that the Veteran’s PVH is related to his service-connected IHD. Accordingly, the Board finds that service connection for PVH is warranted.

4. Entitlement to service connection for an acquired psychiatric disorder, to include anxiety, depression, and PTSD

The Veteran contends that he suffers from an acquired psychiatric disorder as a result of his service. The Veteran claims that his job at AAFB in 1967 was to assemble bombs which were used to bomb Vietnam troops and territory. He claims that upon realizing the impact the bombs would have on people, especially children, he began to have symptoms of anxiety and depression. The Veteran also claims that upon returning home from Guam, his baby son died as a result of being born without properly developed lungs. The Veteran contends that this event also contributed to his psychiatric disorder.

The Veteran submitted letters he had sent home from his deployment in Guam describing his depressed mood and excessive worrying. See March and April 1967 letters.

VA treatment records from August 2016 show diagnoses for major depressive disorder, generalized anxiety disorder, and unspecified trauma/stress disorder.

The Veteran was provided with a VA PTSD disability benefits questionnaire (DBQ) in May 2017 where he was found to have diagnoses for unspecified trauma and stressor related disorder, unspecified anxiety disorder with panic attacks, unspecified depressive disorder, and mild neurocognitive disorder. The examiner noted that the Veteran did not have a diagnosis of PTSD that conformed to the DSM-5 criteria. The examiner found that the Veteran did not appear to meet the diagnostic criteria for PTSD per DSM-5 but described feeling sad and bothered by the thought of assembling bombs in AAFB. Thus, the examiner opined that it is as likely as not that the unspecified trauma and stressor related disorder is related to and incurred in the military with assembling bombs at AAFB.

A November 2017 private medical opinion noted that the Veteran is diagnosed with major depressive disorder, panic disorder, PTSD, and presenile dementia. She noted that it is more likely than not that these diagnoses are related to his long-term deployment to Guam in 1967.

A January 2018 private medical opinion noted that the Veteran was provided with a neuropsychological evaluation and was diagnosed with major depressive disorder, and PTSD. The examiner noted that it is more likely than not that the Veteran’s ongoing symptoms of PTSD, depression, and anxiety are a direct result of his Air Force service during the Vietnam War in which he built bombs in Guam that killed people, and the resulting guilt he carries related to his part in such destruction of human life.

The Board finds that the Veteran’s description of assembling and loading bombs onto aircraft that were ultimately used to kill people in Vietnam is consistent with his duties and responsibilities as described in his personnel records. The Veteran’s military occupational specialty was a security policeman for the Air Force. Additionally, the Veteran’s letters sent home during his time in Guam show that the Veteran was feeling symptoms of depression and anxiety while in service.
The Board finds that the May 2017 and January 2018 medical opinions are probative medical evidence showing that the Veteran's acquired psychiatric disorder is related to his service. Accordingly, the Board finds that service connection for an acquired psychiatric disorder, to include anxiety, depression, and PTSD is warranted. 38 U.S.C. § 5107; 38 C.F.R. § 3.102.

REASONS FOR REMAND

1. Entitlement to service connection for RLS, including as secondary to dementia or an acquired psychiatric disorder

The Veteran contends that he suffers from RLS as a result of his service. In the alternative, the Veteran claims that his RLS is secondary to his now service-connected dementia and acquired psychiatric disorder.

An August 2017 VA knee and lower leg conditions examination shows that the Veteran has a diagnosis for RLS.

A September 2017 private medical opinion indicates that RLS is often seen in patients with Parkinsonism’s, such as LBD. Additionally, a June 2019 private medical opinion notes that the Veteran’s RLS is an early cardinal sign of LBD. However, these opinions are not supported by any rationale.

Accordingly, the issue of entitlement to service connection for RLS is remanded to correct a duty to assist error that occurred prior to the July 2019 SOC. As the Veteran submitted evidence indicating that his RLS is either a symptom of his dementia or is secondary to his dementia, the Board finds that the Veteran should be provided with a VA medical opinion addressing this secondary theory of entitlement.

Additionally, the Board notes that the record indicates that the Veteran was awarded disability benefits from the Social Security Administration. See May 2017 PTSD DBQ. However, the claims file does not contain a decision to grant or deny SSA benefits or the medical records upon which that determination was based. Nor does it appear that an attempt has made to obtain them.

VA has a duty to obtain SSA records when they may be relevant to a claim. The possibility that SSA records could contain evidence relevant to the appellant’s claim cannot be foreclosed absent a review of those records. Quartuccio v. Principi, 16 Vet. App. 183, 188 (2002). Therefore, the Board finds that an attempt should be made to obtain any available SSA records. 38 C.F.R. § 3.159(c)(2).

2. Entitlement to service connection for erectile dysfunction, including as secondary to an acquired psychiatric disorder

The Veteran contends that he suffers from erectile dysfunction as a result of his service. In the alternative, the Veteran claims that his erectile dysfunction is secondary to his now service-connected acquired psychiatric disorder.

A January 2018 private medical opinion notes that the Veteran has chronic issues with erectile dysfunction which is more likely than not related to his long-term management with selective serotonin reuptake inhibitors and side effects associated with them. However, this opinion was not supported by any rationale.

Accordingly, the issue of entitlement to service connection for erectile dysfunction is remanded to correct a duty to assist error that occurred prior to the July 2019 SOC. As the Veteran submitted evidence indicating that his erectile dysfunction is secondary to his acquired psychiatric disorder, the Board finds that the Veteran should be provided with a VA medical opinion addressing this secondary theory of entitlement.

The matters are REMANDED for the following action:

1. Obtain a copy of any decision to grant or deny SSA benefits to the Veteran and the records upon which that decision was based and associate them with the claims file. If the search for such records has negative results, the claims file must be properly documented as to the unavailability of those records.
2. Obtain a medical opinion from an appropriate clinician regarding the following:

   a) Is it at least as likely as not that the Veteran’s restless leg syndrome is (1) proximately due to his dementia, or (2) aggravated beyond its natural progression by his dementia?

   b) Is it at least as likely as not that the Veteran’s erectile dysfunction is (1) proximately due to his acquired psychiatric disorder, to include the medications prescribed to treat his acquired psychiatric disorder, or (2) aggravated beyond its natural progression by his acquired psychiatric disorder, to include the medications prescribed to treat his acquired psychiatric disorder?

A fully articulated medical rationale for any opinion expressed must be set forth in the medical report. The examiner should discuss the particulars of this Veteran’s medical history and the relevant medical science as applicable to this case, which may reasonably explain the medical guidance in the study of this case.

Jennifer White
Veterans Law Judge
Board of Veterans’ Appeals

Attorney for the Board S. Morrad, Associate Counsel

The Board’s decision in this case is binding only with respect to the instant matter decided. This decision is not precedential and does not establish VA policies or interpretations of general applicability. 38 C.F.R. § 20.1303.
ORDER

Entitlement to service connection for prostate cancer, status post radical prostatectomy, as a result of exposure to herbicide agents, is granted.

Entitlement to service connection for non-Hodgkin’s lymphoma, as a result of exposure to herbicide agents, is granted.

FINDING OF FACT

Prostate cancer and non-Hodgkin’s lymphoma are related to the Veteran’s active military service.

CONCLUSIONS OF LAW

1. Resolving all reasonable doubt in favor of the Veteran, the criteria for service connection for prostate cancer have been met. 38 U.S.C. §§ 1101, 1110, 1131, 5107; 38 C.F.R. §§ 3.102, 3.303, 3.304, 3.307, 3.309.

2. Resolving all reasonable doubt in favor of the Veteran, the criteria for service connection for non-Hodgkin’s lymphoma have been met. 38 U.S.C. §§ 1101, 1110, 1131, 5107; 38 C.F.R. §§ 3.102, 3.303, 3.304, 3.307, 3.309.

REASONS AND BASES FOR FINDING AND CONCLUSIONS

The Veteran served on active duty from November 1963 to November 1967. These matters are before the Board of Veterans’ Appeals (Board) on appeal from a December 2007 rating decision of the Department of Veterans Affairs (VA) Regional Office (RO).

Service Connection

Generally, to establish entitlement to service connection, a veteran must show evidence of (1) a current disability, (2) in-service incurrence or aggravation of a disease or injury, and (3) a causal relationship between the current disability and an in-service injury or disease. All three elements must be proved. See generally Davidson v. Shinseki, 581 F.3d 1313 (Fed. Cir. 2009).

With regard to service connection for disabilities incurred as a result of herbicide exposure, if a veteran was exposed to an herbicide agent during active, naval, or air service, certain diseases, including prostate cancer and non-Hodgkin’s lymphoma, shall be service-connected if the requirements of § 3.307(a)(6) are met even though there is no record of such disease during service, provided further that the rebuttable presumption provisions of § 3.307(d) are also satisfied. 38 C.F.R. § 3.309(e). Section 3.307(d)(6) provides that the term “herbicide agent” means a chemical in an herbicide used in support of the United States and allied operations in the Republic of Vietnam during the period beginning on January 9, 1962, and ending on May 7, 1975. 38 C.F.R. § 3.307(d)(6)(i). Section 3.307(d)(6) also provides that a veteran who, during active military, naval, or air service, served in the Republic of Vietnam during the period beginning on January 9, 1962, and ending on May 7, 1975, shall be presumed to have been exposed during such service to an herbicide agent, unless there is affirmative evidence to establish that the veteran was not exposed to any such agent during that service. 38 C.F.R. § 3.307(d)(6)(iii).

In making all determinations, the Board must fully consider the lay assertions of record. A layperson is competent to report on the onset and continuity of his current symptomatology. See Layno v. Brown, 6 Vet. App. 465, 470 (1994) (a Veteran is competent to report on that of which he or she has personal knowledge). Lay evidence can also be competent and sufficient evidence of a diagnosis or to establish etiology if (1) the layperson is competent to identify the medical condition, (2) the layperson is reporting a contemporaneous medical
diagnosis, or (3) lay testimony describing symptoms at the time supports a later diagnosis by a medical professional. Davidson v. Shinseki, 581 F.3d 1313, 1316 (Fed. Cir. 2009); Jandreau v. Nicholson, 492 F.3d 1372, 1376-77 (Fed. Cir. 2007). When considering whether lay evidence is competent the Board must determine, on a case by case basis, whether the Veteran’s particular disability is the type of disability for which lay evidence may be competent. Kahana v. Shinseki, 24 Vet. App. 428 (2011); see also Jandreau, 492 F.3d at 1376-77.


Service Connection for Prostate Cancer and non-Hodgkin’s Lymphoma

The Veteran asserts that his currently diagnosed prostate cancer and non-Hodgkin’s lymphoma are directly related to his exposure to herbicide agents while stationed at Andersen Air Force Base (AFB) in Guam. Specifically, he alleges exposure occurred while performing maintenance on aircraft that had flown through Vietnam airspace, as well as via cannisters on or nearby the base that stored the herbicide agents.

A review of the records confirms the Veteran’s military occupational specialty (MOS) as a jet aircraft mechanic. He was also stationed at Andersen AFB in 1965.

The Board notes that in October 2018, the Agent Orange Research Center reported that the Department of Defense had neither identified Guam as a place where Agent Orange was used, tested, stored, or transported nor found Guam as a location on the Agent Orange shipping supply line.

However, the Veteran has submitted copies of multiple articles indicating Agent Orange usage, storage, disposal, and soil contamination in Guam. He also submitted an October 2005 Board decision, in which a Veteran alleged that he developed diabetes mellitus as a result of exposure to herbicide agents while serving as an aircraft maintenance specialist at Anderson AFB from 1966 to 1968. The Veteran in the Board decision also submitted copies of articles indicating Agent Orange may have been stored and/or used in Guam from 1955 to the late 1960s. The Board accepted this evidence, including the Veteran’s credible testimony, as evidence that the Veteran was exposed to herbicides in Guam, which is also the time period during which the Veteran served.

Given this evidence and the Veteran’s credible statements, as well as the fact that he served in Guam between 1955 and the late 1960s, the Board accepts that the Veteran was exposed to herbicides during his active service in Guam.

Entitlement to service connection for prostate cancer and non-Hodgkin’s lymphoma is warranted. In light of the Veteran’s conceded exposure to herbicide agents in Guam, the objective clinical medical evidence as a whole indicating current diagnoses, and his credible and competent statements in support of the claims, the Board finds that the evidence warrants service connection for prostate cancer and non-Hodgkin’s lymphoma and will resolve reasonable doubt in favor of the Veteran. See 38 U.S.C. § 5107; 38 C.F.R. § 3.102; Gilbert v. Derwinski, 1 Vet. App. 49 (1990).

M. H. HAWLEY
Veterans Law Judge
Board of Veterans’ Appeals

ATTORNEY FOR THE BOARD A. Norwood, Associate Counsel
On appeal from the Department of Veterans Affairs Regional Office in St. Petersburg, Florida

THE ISSUE

1. Whether new and material evidence has been received to reopen a claim for service connection for Parkinson's Disease.

2. Entitlement to service connection for Parkinson's Disease, claimed as due to herbicide exposure and environmental toxins.

REPRESENTATION

Appellant represented by: Robin E. Hood, Attorney

WITNESSES AT HEARINGS ON APPEAL

Veteran and Spouse

ATTORNEY FOR THE BOARD

Carole Kammel, Counsel

INTRODUCTION

The Veteran served on active duty from April 1966 to January 1970, to include service on the island of Guam.

This appeal is before the Board of Veterans' Appeals (Board) on appeal from a June 2011 rating decision of the St. Petersburg, Florida, Regional Office (RO) of the Department of Veterans Affairs (VA). By that rating decision, the RO considered service connection for Parkinson's Disease for the purposes of retroactive benefits pursuant to Nehmer v. United States Veterans Administration, 712 F. Supp. 1404 (N.D. Cal., May 2, 1989), but continued and confirmed its previous denial of the claim. The Veteran appealed that rating decision to the Board.

In April 2015 and January 2016, respectively, the Veteran and his spouse, M. B., testified before Veterans Law Judges at hearings conducted at the RO. Copies of the hearing transcripts have been associated with the record. During the January 2016 hearing, the Veteran submitted additional medical evidence in support of the claims, with a waiver of initial RO consideration. Thus, a remand to have the RO initially consider this evidence in the first instance is not required. 38 C.F.R. § 20.1304 (2015). At the time of the January 2016 hearing, on the record, the Veteran waived the right to testify before a third Veterans Law Judge. Arneson v. Shinseki, 24 Vet. App. 379 (2011). However, because the Veteran testified regarding the matter on appeal during the pendency of the appeal at separate Board hearings before two Veterans Law Judges, the appeal must be decided by a three-judge panel. 38 U.S.C.A. §§ 7102(a), 7107(c) (West 2014); 38 C.F.R. §§ 19.3, 20.707 (2015).

This appeal has been advanced on the Board's docket pursuant to 38 C.F.R. § 20.900(c) (2015). 38 U.S.C.A. § 7107(a)(2) (West 2014).

FINDINGS OF FACT
1. An unappealed April 2007 rating decision declined to reopen a claim for service connection for Parkinson's Disease, to include as due to chemical exposure. The Veteran did not appeal that decision, and no new and material evidence was received by VA within the applicable appeal period.

2. Evidence received since the final April 2007 rating action relates to an unestablished fact necessary to substantiate the claim for service connection for Parkinson's Disease and raises a reasonable possibility of substantiating the claim.

3. Parkinson's Disease is the result of exposure from environmental toxins during in-service duties as an aerospace ground equipment repairman while stationed at Andersen Air Force Base on the island of Guam.

CONCLUSIONS OF LAW


2. New and material evidence has been received since the April 2007 rating action, to reopen a denied claim for service connection for Parkinson's Disease. 38 U.S.C.A. §§ 5108, 7105 (West 2014), 38 C.F.R. § 3.156 (2015).

3. Resolving reasonable doubt in the Veteran's favor, the criteria for service connection for Parkinson's Disease, as secondary to exposure to environmental toxins, have been met. 38 U.S.C.A. §§ 1110, 1112, 1113, 1116, 1131, 1137, 5103, 5103A, 5107 (West 2014); 38 C.F.R. §§ 3.102, 3.159, 3.303, 3.307, 3.309 (2015).

REASONS AND BASES FOR FINDINGS AND CONCLUSIONS

The Veteran seeks to reopen a previously denied claim for service connection for Parkinson's Disease, to include as due to exposure to herbicides or environmental toxins.

An April 2007 rating decision declined to reopen a previously denied claim for service connection for Parkinson's Disease. The RO determined that there was no evidence of any in-service treatment for Parkinson's Disease or post-service evidence relating Parkinson's Disease to service, to include exposure to herbicides or other chemicals. The Veteran did not appeal the April 2007 rating action, nor did he submit any new and material evidence within one year following that decision. 38 C.F.R. § 3.156(b) (2015). The Board notes that within a year of the April 2007 rating action, VA received an August 2007 article titled, "Veteran Seeks Agent Orange Probe," that discussed a retired airman's Congressional inquiry into the use of herbicides at Andersen Air Force Base, Guam for the period from 1960 to 1970. The Board also received a copy of an October 2005 Board decision of another Veteran. In that decision, the Board had awarded service connection for diabetes mellitus secondary to exposure to toxic herbicides during active service at Andersen Air Force Base, Guam. As the newly received article, as well as the October 2005 Board decision, discussed the use of chemicals at Andersen Air Force Base, Guam, they are duplicative of previous articles and studies of record at the time of the April 2007 rating decision, and are, therefore, not new and material. Thus, the April 2007 rating decision became final one year later in April 2008. 38 U.S.C.A. §§ 7104, 7105 (West 2014).

The Board finds that new and material evidence has been received and the claim for service connection for Parkinson's Disease is reopened.

A finally decided claim may be reopened if the claimant presents new and material evidence with respect to a claim which has been previously denied and which is final. 38 U.S.C.A. § 5108; 38 C.F.R. § 3.156. If the claim is so reopened, it will be reviewed on a de novo basis. 38 U.S.C.A. §§ 5108, 7105 (West 2014); Evans v. Brown, 9 Vet. App. 273 (1996); Manio v. Derwinski, 1 Vet. App. 140 (1991).

New evidence means existing evidence not previously submitted to agency decision makers.
Material evidence means existing evidence that, by itself or when considered with previous evidence of record, relates to an unestablished fact necessary to substantiate the claim. New and material evidence can be neither cumulative nor redundant of the evidence of record at the time of the last prior final denial of the claim sought to be reopened, and must raise a reasonable possibility of substantiating the claim. 38 C.F.R. § 3.156(a) (2015). New and material evidence is not required as to each previously unproven element of a claim. Shade v. Shinseki, 24 Vet. App. 110 (2010).

For the purpose of establishing whether new and material evidence has been submitted, the credibility of the new evidence, although not its weight, is presumed. Justus v. Principi, 3 Vet. App. 510 (1992). The presumption of credibility is rebuttable when the evidentiary assertion is inherently incredible or when the fact asserted is beyond the competence of the person making the assertion. King v. Brown, 5 Vet. App. 19, 21 (1993).

Evidence submitted since the final April 2007 rating decision includes, but is not limited to, April 2015 and January 2016 opinions, prepared by M. O., M. D. and A. N, M. D.. That evidence is new as it was not of record at the time of the final April 2007 rating decision. Those opinions are also material because they relate to an unestablished fact necessary to substantiate the underlying claim for service connection for Parkinson’s Disease, namely evidence relating to the onset of the disorder, to include his exposure to environmental toxins, such as perchloroethylene (PCE) and trichloroethylene (TCE) during active military service at Andersen Air Force Base, Guam. On review, the Board finds that evidence to be new and material. 38 C.F.R. § 3.156(a) (2015); Shade v. Shinseki, 24 Vet. App. 110 (2010); Justus v. Principi, 3 Vet. App. 510 (1992). Thus, the claim for service connection for Parkinson’s Disease, to include as due to exposure to herbicides and environmental toxins is reopened.

The Veteran seeks service connection for Parkinson’s Disease, to include as secondary to exposure to Agent Orange and environmental toxins.

Service connection may be granted for disability arising from disease or injury incurred in or aggravated by active service. 38 U.S.C.A. §§ 1110, 1131 (West 2014); 38 C.F.R. § 3.303(a) (2015).

Service connection may be granted for any disease diagnosed after discharge, when all the evidence, including that pertinent to service, establishes that the disease was incurred in service. 38 C.F.R. § 3.303(d) (2015). As a general matter, service connection for a disability requires evidence of: (1) the existence of a current disability; (2) the existence of the disease or injury in service, and; (3) a relationship or nexus between the current disability and any injury or disease during service. Shedden v. Principi, 381 F.3d 1163 (Fed. Cir. 2004); Hickson v. West, 12 Vet. App. 247 (1999); Caluza v. Brown, 7 Vet. App. 498 (1995)

In this case, Parkinson’s Disease is not a chronic disease listed under 38 C.F.R. § 3.309(a). Therefore, the presumptive service connection provisions based on chronic in-service symptoms and continuous post-service symptoms under 38 C.F.R. § 3.303(b) do not apply to this claim. Walker v. Shinseki, 708 F.3d 1331 (Fed. Cir. 2013). As the instant decision grants service connection for Parkinson’s Disease on a direct basis, the Board need not consider whether the Veteran is entitled to service connection on a presumptive basis.

A Veteran who had active service in the Republic of Vietnam during the period beginning on January 9, 1962 and ending on May 7, 1975 will be presumed to have been exposed to an herbicide agent during such service unless there is affirmative evidence to establish that the veteran was not exposed to any such agent during that service. 38 U.S.C.A. § 1116(f) (West 2014); 38 C.F.R. § 3.307(a)(6)(iii) (2015). If a Veteran was exposed to an herbicide agent during active service, certain diseases, to include Parkinson’s Disease, shall be service-connected if the requirements of 38 C.F.R. § 3.307(a)(6) are met, even though there is no record of such disease during service, provided further that the rebuttable presumption provisions of 38 C.F.R. § 3.307(d) are also satisfied. 38 C.F.R. § 3.309(e) (2015). The disease must have become manifest to a degree of 10 percent or more at any time after service. 38 C.F.R. § 3.307(a)(6)(ii) (2015).

VA has extended the presumption of service connection for diseases listed under 38 C.F.R. § 3.309(e), such as Parkinson’s Disease, to Veterans who served in Korea in or near the demilitarized zone (DMZ) between April 1, 1968, and August 31, 1971, or in Thailand at
certain designated bases and whose duties placed him on or near the perimeter of the base, where herbicides were sprayed. The presumption of service connection for diseases exposed to an herbicide agent under 38 C.F.R. § 3.309(e) has not been extended to claims based on service on the island of Guam.

If a Veteran did not serve in the Republic of Vietnam during the Vietnam era or in Korea in or near the DMZ between April 1, 1968, and August 31, 1971, or in Thailand and certain designated bases and with duties in close proximity to the perimeter of the base, then exposure is not presumed; and actual exposure to herbicides must be verified through appropriate service department or other sources in order for the presumption of service connection for a herbicide-related disease under 38 C.F.R. § 3.309(e) to be applicable. VA Adjudication Procedure Manual, M21-1MR, Part IV, Subpart ii, Chapter 2, Section C, paragraph 10(p).

Notwithstanding the foregoing presumption provisions for herbicide exposure, a claimant is not precluded from establishing service connection with proof of direct causation. Combee v. Brown, 34 F.3d 1039 (Fed. Cir. 1994).

Here, the evidence does not show that the Veteran served in the Republic of Vietnam, Korea, or Thailand, nor does he contend otherwise. Thus, he is not entitled to a presumption of service connection for his Parkinson’s Disease as a disability resulting from herbicide exposure. 38 C.F.R. § 3.309(e) (2015). The Veteran may be entitled to service connection for Parkinson’s Disease on a direct basis if the evidence establishes that it is related to service, to include exposure to herbicides or environmental toxins.

The Veteran contends, in written statements and in hearing testimony, that he has Parkinson’s Disease as a result of exposure to herbicides and environmental toxins, such as TCE and PCE, as a result of having served as an aerospace ground equipment repairman during active duty with the United States Air Force at Andersen Air Force Base, Guam. He maintains that he was exposed to toxic chemicals from working on airplanes and spraying the surrounding grounds. The Veteran contends that after service, he was employed as a stevedore and teacher. During the course of employment as a stevedore, he maintains that he was exposed to chemicals similar to those in Guam.

Initially, the Board finds that the Veteran is currently diagnosed with Parkinson’s Disease. Numerous private medical records throughout the appeal show that the Veteran receives treatment for Parkinson’s Disease.

Next, the Board finds that the Veteran was exposed to environmental toxins while stationed at Andersen Air Force Base in Guam. The Veteran’s military personnel records, to include his service separation form, show that he served an aerospace ground equipment repairman while stationed on Guam from September 23, 1968, to January 22, 1970. During the April 2015 and January 2016 hearings, the Veteran credibly testified that his duties as an aerospace ground equipment repairman required him to spray the airplanes and surrounding grounds with toxic chemicals. In addition, throughout the appeal, the Veteran has submitted numerous articles and studies indicating that various toxic solvents may have been stored or used on Guam. Notably, an article from the Environmental Protection Agency (EPA) listed Andersen Air Force Base, Guam as a toxic site with dioxin contaminated soil and ordered cleanup of the site. Considering that evidence, particularly the article showing that the EPA has detected dioxin contaminated soil, and the Veteran’s hearing testimony which is credible, the Board accepts that he was exposed to environmental toxins, such as PCE and TCE, during active service in Guam.

VA received medical opinions, dated in April 2015 and January 2016, prepared by M. O., M. D. and A. N., M. D, which are supportive of the claim. In the April 2015 report, Dr M. O. concluded that “Pesticide Exposure” had been linked to Parkinson’s Disease and that there was a good (better than 50 percent chance) that it had affected the Veteran. The Board finds Dr. M. O.’s opinion to be of reduced probative value in evaluating the Veteran’s claim because there is no indication that he had reviewed the Veteran’s service records, nor did he provide the exact pesticides, aside from listing Agent Orange, that had been linked to the development of Parkinson’s Disease or any rationale for the opinion. In the January 2016 report, Dr. A. N. specifically noted that she had been treating the Veteran for Parkinson’s Disease since 2008. Dr. A. N. indicated that the Veteran had been exposed to environmental toxins, such as TCE and PCE, during service as an ground equipment repairman in Guam. Dr. A. N. indicated that reports had associated Parkinson’s Disease with those toxins. Thus, it was
Dr. A. N.'s opinion that the Veteran's Parkinson's Disease was directly caused by exposure, in part, to TCE and PCE, with a greater than 50 percent probability while in active duty.

Recognition is given to the fact that the opinion from Dr. A. N. did not provide any rationale. There are other means by which a physician can become aware of critical medical facts, notably by treating the claimant for an extended period of time, such as in the case of Dr. A. N.'s long-term treatment of the Veteran since 2008. Nieves-Rodriguez v. Peake, 22 Vet. App. 295 (2008). There is also no other evidence in the record that weighs against Dr. A. N.'s positive opinion. An October 2015 VA examiner provided an opinion that was against a nexus between the Veteran's Parkinson's Disease and his exposure to herbicides without a discussion on the relationship between Parkinson's Disease and environmental toxins, such as PCE and TCE, which is the basis of the Board's award for Parkinson's Disease herein.

Thus, although Dr. A. N.'s opinion is of diminished value given its lack of rationale, it nevertheless places the weight of the evidence in the Veteran's favor, and at least places the evidence in equipoise. Accordingly, the Board finds that the evidence shows that it is at least as likely as not that Parkinson's Disease is due to exposure to environmental toxins during service. Therefore, service connection for Parkinson's Disease as secondary to exposure to environmental toxins is granted. 38 U.S.C.A. § 5107(b) (West 2002); Gilbert v. Derwinski, 1 Vet. App. 49 (1990).

ORDER

Service connection for Parkinson's Disease, secondary to environmental toxins, is granted.

_____________________________ ______________________________
HARVEY P. ROBERTS BARBARA B. COPELAND
Veterans Law Judge Veterans Law Judge
Board of Veterans' Appeals Board of Veterans' Appeals

_____________________________
MATTHEW W. BLACKWELDER
Veterans Law Judge
Board of Veterans' Appeals

Department of Veterans Affairs
ORDER

Entitlement to service connection for adenocarcinoma of the prostate, including secondary to in-service exposure to herbicide agents, is granted.

FINDING OF FACT

Resolving all doubt in favor of the Veteran, his adenocarcinoma of the prostate, status post prostatectomy with unilateral nerve-sparing procedure, is etiologically related to his in-service exposure to herbicide agents.

CONCLUSION OF LAW

The criteria for service connection for adenocarcinoma of the prostate, including secondary to in-service exposure to herbicide agents, have been met. 38 U.S.C. §§ 1101, 1110, 1112, 1113, 1137, 5107; 38 C.F.R. §§ 3.102, 3.303, 3.307, 3.309.

REASONS AND BASES FOR FINDING AND CONCLUSION

The Veteran served on active duty in the United States Air Force from December 1971 to November 1975.

This matter comes before the Board of Veterans’ Appeals (Board) on appeal from a March 2017 rating decision by the Department of Veterans Affairs (VA) Regional Office (RO).

In November 2019, the Veteran and his wife testified at a video conference hearing held before the undersigned Veterans Law Judge. A transcript of this hearing has been added to the record.

1. Entitlement to service connection for adenocarcinoma of the prostate, including secondary to in-service exposure to herbicide agents.

Service connection may be granted if the evidence demonstrates that a current disability resulted from an injury or disease incurred or aggravated during active military service. 38 U.S.C. § 1110; 38 C.F.R. § 3.303(a). In general, service connection requires: (1) evidence of a current disability; (2) medical, or in certain circumstances, lay evidence of an in-service incurrence or aggravation of a disease or injury; and (3) medical evidence of a nexus between the claimed in-service disease or injury and the current disability. See Shedden v. Principi, 381 F.3d 1163, 1167 (Fed. Cir. 2004).

Service connection can also be established on a presumptive basis for certain diseases, to include prostate cancer, associated with in-service exposure to certain herbicide agents. See 38 U.S.C. §§ 1116, 1137; 38 C.F.R. §§ 3.307, 3.309(e).

Presumptive service connection for prostate cancer as a result of exposure to herbicide agents is warranted if the requirements of 38 C.F.R. § 3.307(a)(6) are met, which include a presumption of exposure to herbicide agents for veterans with service in the Republic of Vietnam during specific time periods. 38 U.S.C. § 1116; 38 C.F.R. § 3.309(e).

If a veteran did not serve in the Republic of Vietnam during the Vietnam era, actual exposure to herbicide agents must be verified through appropriate service department records or other sources for the presumption of service connection for an herbicide-related disease under 38 C.F.R. § 3.309(e) to be applicable. Exposure to herbicide agents is not presumed in such instances. However, once exposure to herbicide agents has been established by the evidence of record and verified through the appropriate service department or other sources, the presumption of service connection found in 38 C.F.R. § 3.309(e) for herbicide-related diseases is applicable.
Notwithstanding the foregoing discussion regarding presumptive service connection, the
Federal Circuit has determined that a claimant is not otherwise precluded from establishing
service connection with proof of direct causation. Combee v. Brown, 34 F.3d 1039, 1043-44
direct service connection between exposure and disease entails showing that exposure during
service actually caused the malady which developed years later. Actual causation carries a
difficult burden of proof. See Combee, 34 F.3d at 1042.

When all the evidence is assembled, VA is responsible for determining whether the evidence
supports the claim or is in relative equipoise, with the veteran prevailing in either event,
or whether a preponderance of the evidence is against the claim, in which case the claim is
When there is an approximate balance of positive and negative evidence regarding any issue
material to the determination, the benefit of the doubt is afforded to the veteran. Gilbert,
1 Vet. App. at 53.

The Veteran seeks service connection for adenocarcinoma of the prostate, which he
specifically asserts is due to exposure to chemical and environmental hazards, to include
herbicide agents, while he was stationed at Andersen Air Force Base in Guam from February
1974 to November 1975. While there, his in-service duties as a security policeman required
him to routinely patrol weapons storage sites and the perimeters of the airstrip and the
base, where he contends, he witnessed fellow service members spraying herbicide agents to
control the foliage. Alternatively, the Veteran argues that he was exposed to other chemical
and environmental hazards at Andersen Air Force Base through contaminated soil and water,
which may be linked to his current medical condition.

At the outset, the Board notes that private and VA treatment records confirm that the Veteran
has adenocarcinoma of the prostate, status-post prostatectomy with unilateral nerve-sparing
procedure.

Based upon a longitudinal review of the record, the Board concludes that the Veteran’s
adenocarcinoma of the prostate is etiologically related to his in-service exposure to
herbicide agents. A review of his service personnel records confirms his in-service
specialty as law enforcement specialist at Andersen Air Force Base in Guam from February 1974
to November 1975. In support of his claim, he has submitted numerous documents, articles,
and statements suggesting that various herbicide agents were used at this base. He submitted
the Guam Environmental Protection Agency 2010 Integrated Report, which identified many
hazardous contaminants present in the soil and groundwater at Andersen Air Force Base,
including 2,3,7,8-Tetrachlorodibenzodioxin (TCDD), which is a recognized contaminant related
to herbicide agents such as Agent Orange. 38 C.F.R. § 3.307(a)(6)(i). He also submitted a
May 1999 Environmental Impact Statement in which the U.S. Navy confirmed that “until 1980,
2,4,5-Trichlorophenoxyacetic (2,4,5-T) was used for weed control along power lines and power
substations” at Navy properties in the northern region of Guam, which includes Andersen Air
Force Base. The Board further notes that 2,4,5-T is a recognized herbicide agent under 38
C.F.R. § 3.307(a)(6)(i). Considering the above evidence, the Board accepts that the Veteran
was exposed to chemical and environmental toxins, to include herbicide agents, during active
service in Guam while stationed at Andersen Air Force Base.

To be clear, the Board’s decision herein should not be read to establish precedent, to refute
official service department findings, or to affirmatively state that all service members in
Guam during this time period were exposed to herbicide agents. Instead, every appellant’s
case is unique and must be viewed in light of the evidence assembled and the arguments
proffered. In this case, the Veteran has met his burden, prompting the above findings.

Accordingly, resolving all reasonable doubt in the Veteran’s favor, the Board finds that the
criteria for service connection for adenocarcinoma of the prostate as due to exposure to in-
service exposure to herbicide agents have been met and the appeal is granted. 38 U.S.C. §

Evan M. Deichert
Veterans Law Judge
Board of Veterans' Appeals

Attorney for the Board  W. Yates, Counsel

The Board’s decision in this case is binding only with respect to the instant matter decided. This decision is not precedential, and does not establish VA policies or interpretations of general applicability. 38 C.F.R. § 20.1303.
Entitlement to service connection for type 2 diabetes mellitus is granted.

Entitlement to service connection for Parkinson’s disease is granted.

FINDINGS OF FACT

1. Grounds keeping spraying near the Veteran during service in Guam exposed him to an herbicide containing dioxin; that herbicide exposure led to his type 2 diabetes mellitus.

2. Grounds keeping spraying near the Veteran during service in Guam exposed him to an herbicide containing dioxin; that herbicide exposure led to his Parkinson’s disease.

CONCLUSIONS OF LAW


REASONS AND BASES FOR FINDINGS AND CONCLUSIONS

1. Diabetes

The Veteran contends that in service, during temporary duty (TDY) in Guam in August 1965, he was exposed to herbicides such as Agent Orange. He contends that the herbicide exposure caused type 2 diabetes mellitus that was diagnosed after his service.

Service connection may be established on a direct basis for a disability resulting from disease or injury incurred in or aggravated by active service. 38 U.S.C. §§ 1110, 1131; 38 C.F.R. § 3.303. Service connection may also be granted for any disease diagnosed after service when all the evidence establishes that the disease was incurred in service. 38 C.F.R. § 3.303(d). In general, service connection requires (1) evidence of a current disability; (2) medical evidence, or in certain circumstances lay evidence, of in-service incurrence or aggravation of a disease or injury; and (3) evidence of a nexus between the claimed in-service disease or injury and the current disability. See Shedden v. Principi, 381 F.3d 1163, 1167 (Fed. Cir. 2004).

Service connection for certain chronic diseases, including diabetes mellitus, may be established based upon a legal presumption by showing that the disease manifested itself to a degree of 10 percent disabling or more within one year from the date of discharge from service. 38 U.S.C. §§ 1112, 1137 (2012); 38 C.F.R. §§ 3.307(a)(3), 3.309(a).

Under certain circumstances, service connection for specific diseases, including type 2 diabetes mellitus, may be presumed if a veteran was exposed during service to certain herbicides, including those containing dioxin. 38 U.S.C. § 1116; 38 C.F.R. §§ 3.307, 3.309(e). The relevant herbicide agents are those used in support of operations in Vietnam, specifically: 2,4-D; 2,4,5-T and its contaminant TCDD; cacodylic acid; and picloram. 38 C.F.R. § 3.307(a)(6). If a veteran was exposed to such an herbicide agent during service, service connection for type 2 diabetes will be presumed if the diabetes becomes manifest to a degree of 10 percent disabling at any time after service. 38 C.F.R. §§ 3.307(a)(6)(ii), 3.309(a).

The Board must assess the credibility and weight of all the evidence, including the medical evidence, to determine its probative value, accounting for evidence which it finds to be persuasive or unpersuasive, and providing reasons for rejecting any evidence favorable to the claimant. See Masors v. Derwinski, 2 Vet. App. 181 (1992); Wilson v. Derwinski, 2 Vet. App. 614, 618 (1992); Hatlestad v. Derwinski, 1 Vet. App. 164 (1991); Gilbert v. Derwinski, 1 Vet. App. 49 (1990). Equal weight is not accorded to each piece of evidence contained in the record; every item of evidence does not have the same probative value. When there is an approximate balance of positive and negative evidence regarding any issue material to the determination of a claim, VA shall give the benefit of the doubt to the claimant. 38 U.S.C. § 5107. To deny a claim on its merits, the evidence must preponderate against the claim.


The Veteran does not state that his type 2 diabetes became manifest during service or during the year following his separation from service. His service treatment records do not contain any diagnosis or suggestion of type 2 diabetes. He has not identified any medical treatment during the year following his service. Private and VA medical records indicate that his diabetes was diagnosed in about 2003. The preponderance of the evidence, then, is against service connection for his diabetes on a direct basis. As his diabetes had onset many years after service, service connection may not be presumed for it as a chronic disease under 38 C.F.R. § 3.309(a).
A veteran who served on active duty in the Republic of Vietnam during the period from January 9, 1962, to May 7, 1975, shall be presumed to have been exposed during that service to an herbicide agent, unless there is affirmative evidence to establish that the veteran was not exposed to herbicides during service. 38 C.F.R. § 3.307(a)(6)(iii). The Veteran does not report, and his service records do not reflect, that he served in Vietnam. He did not have service in a location that provides for a presumption that he was exposed to herbicide. The Veteran reports that he had TDY in Guam, and was exposed to herbicides there. VA has not established a presumption of herbicide exposure with service in Guam. The Board is considering his herbicide exposure claim based on the evidence.

The Veteran’s service records show that he worked in aircraft repair. In August 1965 he had an operational deployment. An August 1965 service memorandum states that, for four days, the Veteran and other listed servicemen on an aircraft maintenance mission were not able to use government quarters at Marbo, Guam, where there is an annex of Andersen Air Force Base (AFB). Other service memoranda show that he was commended for providing maintenance support to three consecutive missions of a task force that operated in Guam.

In a January 2012 claim, the Veteran wrote that in service he had TDY in Guam. He stated that while he was there herbicide defoliants were sprayed at the edges of the airfield where he was assigned. He noted that he and others slept on the wings of airplanes that were parked at the edges of the airfield.

In a June 2013 statement, the Veteran wrote that in August 1965 he and others had TDY in Guam. He indicated that his duties were servicing aircraft. He reported that an officer concluded that quarters at the Marbo Annex were too far away from their duties at Andersen AFB. He stated that there were no quarters available at Andersen, however, so the officer had him and others use an airplane as quarters, and they slept on the wings. He stated that the airplane was parked near the edge of the air base, with its tail extending over vegetation beside the tarmac. He wrote that the area directly behind the plane was sprayed with an herbicide to control plant growth. He stated that during the spraying he was outside the plane and very close to the spray and mist.

In February 2016, the Veteran wrote that in August 1965 he and others were deployed to Andersen AFB in Guam for about a week. He related that his duties were servicing airplanes. He stated that the planned sleeping quarters originally planned for them were too far from the base, so they slept on their airplane, which was parked near the base perimeter and near vegetation. He reported that on two occasions he witnessed spraying of the area around the airplane. He indicated that he understood the spraying to be herbicide to control plant growth. He related that he was close to the spraying and he smelled a chemical odor after the spraying.

In April 2016 the Veteran submitted a December 2003 a United State (U.S.) Environmental Protection Agency (EPA) Superfund report regarding cleanup of two dumpsites at Andersen AFB in Guam. The report listed constituents of concern (COCs) found in surface and subsurface soil at the dumpsites. The COCs included dioxin. The engineer who wrote the report found that materials at the dumpsites “may pose safety risks to human health and the environment.” The author indicated that excavation and offsite disposal was the preferred cleanup alternative. Correspondence in the claims file reflects that, in 2016, a staff member of a Department of Veterans Affairs (VA) Regional Office (RO) contacted the VA Agent Orange Mailbox. A Mailbox staff member stated that the U.S. Department of Defense (DoD) had provided VA information about use of tactical herbicides. The Mailbox staffer stated that the DoD information did not report testing, storage, or use of tactical herbicides on Guam. The Mailbox staffer noted that, at military bases in Guam and throughout the world, there may have been small scale use of herbicides for brush or weed clearing. The Mailbox staffer stated that the chemical content of any herbicides used in such non-tactical activities could not be known.

The Mailbox staffer noted that in 2010 VA had sought information from the EPA. An EPA staff member who managed cleanup of military sites in Guam replied that he had not seen any report identifying Agent Orange on Guam. The EPA staffer stated that trichlorethylene (TCE) had been found in ground water beneath the former Naval Air Station on Guam, and was thought be attributable to the washing of airplanes. The Mailbox staffer concluded that VA inquiries had not produced evidence supporting dioxin contamination on Guam.

In July 2016, an RO staff member concluded that there was insufficient information to ask the U.S. Army and Joint Services Records Research Center (JSRRC) to seek information verifying the Veteran’s claimed herbicide exposure on Guam.

In May 2017, the Veteran’s representative provided arguments regarding his claims. The representative noted the Veteran’s reports of being present at the spraying of substances on vegetation, and being near enough the smell the sprayed substances. The representative noted studies indicating that dioxins and other chemicals in herbicides are extremely toxic and that the toxicity decays very slowly. The representative argued that there is no clear distinction between herbicides used for tactical purposes and those used for grounds keeping.

https://www.va.gov/vetapp18/files11/18152164.txt
The assembled service records and documents adequately corroborate the Veteran’s TDY at Andersen AFB in Guam. VA research, with consultation with other government records, has not resulted in a clear finding that herbicides generally were used or stored at U.S. military sites on Guam. A VA researcher conceded that on bases, including Andersen, a history of brush or weed clearing with herbicides of unknown chemical content was possible. The 2003 EPA report found evidence of dioxins in soil at Andersen AFB, where the Veteran worked and slept during his TDY. The evidence does not support a likelihood that service in Guam generally included exposure to herbicides containing dioxin, but the evidence supports a significant possibility that such herbicides were used for grounds keeping. That is essentially the means of exposure the Veteran reported, so the evidence makes his exposure claim plausible. His accounts are consistent and detailed, which adds to their credibility. Regarding the exposure claim, on careful consideration, the persuasive weight of the supporting evidence balances that of the negative and absent evidence. Resolving reasonable doubt in the Veteran’s favor, the Board accepts that in Guam he was near grounds keeping spraying, and was exposed to an herbicide containing dioxin. Having accepted that he was exposed in service to an herbicide containing dioxin, the Board presumes and grants service connection for his type 2 diabetes.

2. Parkinson’s disease
The Veteran contends that herbicide exposure during service caused Parkinson’s disease that was diagnosed after his service. Parkinson’s disease is among the diseases, listed at 38 C.F.R. § 3.309(e), for which service connection is presumed if it manifests in a veteran who was exposed in service to any of the specified herbicide agents. The Veteran does not state that his Parkinson’s disease became manifest during his service. His service treatment records do not contain any diagnosis or suggestion of Parkinson’s disease. Private and VA medical records reflect onset of tremors in 2006, and diagnosis of Parkinson’s disease in December 2006. The preponderance of the evidence is against onset of his Parkinson’s disease during service.

As noted above, the Board finds sufficient evidentiary support to accept the Veteran’s claim that grounds keeping spraying near him during TDY in Guam exposed him to an herbicide containing dioxin. Based on that herbicide exposure the Board presumes and grants service connection for his Parkinson’s disease.

ROMINA CASADEI
Acting Veterans Law Judge
Board of Veterans’ Appeals

ATTORNEY FOR THE BOARD  K. J. Kunz, Counsel
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ORDER  

Entitlement to service connection for diabetes mellitus as due to exposure to chemical and/or environmental hazards, to include herbicide agents, is granted.  
Entitlement to service connection for coronary artery disease as due to exposure to chemical and/or environmental hazards, to include herbicide agents, is granted.  

FINDINGS OF FACT  
1. The most probative evidence of record reflects that the Veteran's diabetes mellitus is etiologically related to exposure to chemical and/or environmental hazards, to include herbicide agents, during service.  
2. The most probative evidence of record reflects that the Veteran’s coronary artery disease is etiologically related to exposure to chemical and/or environmental hazards, to include herbicide agents, during service.  

CONCLUSIONS OF LAW  
1. The criteria for service connection for diabetes mellitus as due to exposure to chemical and/or environmental hazards, to include herbicide agents, have been met.  38 U.S.C. §§ 1101, 1110, 1112, 1113, 1137, 5107 (2012); 38 C.F.R. §§ 3.102, 3.303, 3.307, 3.309 (2017).  
2. The criteria for service connection for coronary artery disease as due to exposure to chemical and/or environmental hazards, to include herbicide agents, have been met.  38 U.S.C. §§ 1101, 1110, 1112, 1113, 1137, 5107 (2012); 38 C.F.R. §§ 3.102, 3.303, 3.307, 3.309 (2017).  

REASONS AND BASES FOR FINDINGS AND CONCLUSIONS  
The Veteran served on active duty in the United States Air Force from June 1971 to June 1975.  

These matters are on appeal from an October 2011 rating decision.  
The Board previously remanded these matters in May 2015 and February 2018 for additional development.  The appeal was remanded in February 2018 to afford the Veteran a hearing before a Decision Review Officer.  However, in correspondence received March 2018, the Veteran’s representative notified VA that he wished to withdraw his request for a hearing.  
Therefore, as the actions specified in the most recent remand have been substantially completed, these matters have been properly returned to the Board for appellate consideration.  See Stegall v. West, 11 Vet. App. 268 (1998); D’Aries v. Peake, 22 Vet. App. 97, 105 (2008).  

Service Connection  

Service connection may be granted if the evidence demonstrates that a current disability resulted from an injury or disease incurred or aggravated during active military service.  38 U.S.C. § 1110; 38 C.F.R. § 3.303(a).  In general, service connection requires: (1) evidence of a current disability; (2) medical, or in certain circumstances, lay evidence of an in-service incurrence or aggravation of a disease or injury; and (3) medical evidence of a nexus between the claimed in-service disease or injury and the current disability.  See Shedden v. Principi, 381 F.3d 1163, 1167 (Fed. Cir. 2004).  

Service connection may also be established if the disease becomes manifest to a compensable degree within one year following separation from service.  See 38 U.S.C. §§ 1110, 1111, 1112, 1113, 1137; 38 C.F.R. §§ 3.307, 3.309.  

Alternatively, when a disease at 38 C.F.R. § 3.309(a) is not shown to be chronic during service or the one-year presumptive period, service connection may also be established by showing continuity of symptomatology after service.  See 38 C.F.R. § 3.303(b).  

Service connection can also be established on a presumptive basis for certain diseases, to include diabetes mellitus and coronary artery disease, associated with in-service exposure to certain herbicide agents.  See 38 U.S.C. §§ 1116, 1113; 38 C.F.R. §§ 3.307, 3.309(e).  

Presumptive service connection for diabetes mellitus and coronary artery disease as a result of exposure to herbicide agents is warranted if the requirements of 38 C.F.R. § 3.307(a)(6) are met, which include a presumption of exposure to herbicide agents for veterans with service in the Republic of Vietnam during specific time periods.  38 U.S.C. § 1116; 38 C.F.R. § 3.309(e).  

If a veteran did not serve in the Republic of Vietnam during the Vietnam era, actual exposure to herbicide agents must be verified through appropriate service department records or other sources in order for the presumption of service connection for an herbicide-related disability.
under 38 C.F.R. § 3.309(e) to be applicable. Exposure to herbicide agents is not presumed in such instances. However, once exposure to herbicide agents has been established by the evidence of record and verified through the appropriate service department or other sources, the presumption of service connection found in 38 C.F.R. § 3.309(e) for herbicide-related diseases is applicable.


When all the evidence is assembled, VA is responsible for determining whether the evidence supports the claim or is in relative equipoise, with the veteran prevailing in either event, or whether a preponderance of the evidence is against the claim, in which case the claim is denied. 38 U.S.C. § 5107; 38 C.F.R. § 3.102; Gilbert v. Derwinski, 1 Vet. App. 49 (1990). When there is an approximate balance of positive and negative evidence regarding any issue material to the determination, the benefit of the doubt is afforded to the veteran. Gilbert, 1 Vet. App. at 53.

Entitlement to service connection for diabetes mellitus and coronary artery disease as due to exposure to chemical and/or environmental hazards, to include herbicide agents

The Veteran seeks service connection for diabetes mellitus and coronary artery disease, which he specifically asserts are due to exposure to chemical and environmental hazards, to include herbicide agents, while he was stationed at Andersen Air Force Base in Guam from February to July 1972. While there, his duties as a Security Policeman required him to routinely patrol weapons storage sites and the perimeters of the airstrip and the base, where he contends he witnessed fellow service members spraying herbicide agents to control the foliage. He also patrolled aircraft returning from Vietnam during Operation Bullet Shot while they were being washed down and refueled, requiring him to walk through pools of possible contaminants. Alternatively, the Veteran also argues that he was exposed to other chemical and environmental hazards at Andersen Air Force Base through contaminated soil and water, which may be linked to his current medical conditions.

At the outset, the Board notes that private and VA treatment records confirm that the Veteran has diagnoses of coronary artery disease and diabetes mellitus during the period on appeal and he has undergone continuous treatment for these conditions.

As an initial matter, the Board finds that service connection for diabetes mellitus and coronary artery disease is not warranted on a presumptive basis. First, the Veteran does not argue, and the evidence does not show, that these conditions were incurred in-service or within one year of separation. The Veteran’s service treatment records do not show treatment or diagnosis of either condition during service. Although the Veteran’s February 1975 separation examination documents that he reported experiencing occasional chest pain since 1974 without seeking treatment, the Board notes that the Veteran was not diagnosed with a heart condition, or diabetes mellitus, for many decades after service. As such presumptive service connection based on a chronic disease under 38 C.F.R. § 3.307 is not warranted. Second, the Veteran did not have in-country service in the Republic of Vietnam, and therefore, the Board cannot find that the Veteran was exposed to herbicide agents as specified at 38 C.F.R. § 3.307 (a)(6)(iii). Moreover, exposure cannot be verified through service department records or other sources. The RO contacted VA’s Compensation Service in an effort to corroborate the Veteran’s claimed exposure to herbicide agents. In September 2013 correspondence, Compensation Service responded that information from the Department of Defense “does not show any use, testing, or storage of tactical herbicides at Anderson Air Force Base [in] Guam.” The RO also contacted the Air Force Historical Research Agency (AFHRA), which, in June 2017, responded that there is no record of Agent Orange being used in Guam. The AFHRA also noted that Agent Orange was never used by the Air Force for routine vegetation control, as the Veteran claimed it was used at Andersen Air Force Base; rather, it was only used for tactical combat operations. Finally, the AFHRA noted that the use of Agent Orange in Vietnam was prohibited in 1970, and therefore, any aircraft involved in Operation Bullet Shot from February 1972 onward, which departed from Andersen Air Force Base and only flew over Vietnam at high altitude, would not be contaminated. Based on the foregoing, the Board finds that actual exposure to herbicide agents during service has not been verified; therefore, service connection for diabetes mellitus and coronary artery disease will not be considered on a presumptive basis with respect to herbicide agents. See 38 U.S.C. § 1116(f); 38 C.F.R. §§ 3.307, 3.309.

Although the Veteran is not entitled to a presumption of service connection, he may still
establish that his disabilities were otherwise incurred in or aggravated by active service. See Combee v. Brown, 34 F.3d 1039, 1043-44 (Fed. Cir. 1994) (if VA finds a Veteran not entitled to a regulatory presumption of service connection, the claim must still be reviewed to determine whether service connection can be established on a direct basis).

The Board notes that the Veteran underwent a VA Agent Orange examination in October 2007, which took place before the Veteran was diagnosed with diabetes mellitus. Upon examination, the examiner noted the Veteran to have a number of medical diagnoses, including coronary artery disease, and opined that the Veteran did not have any conditions linked to Agent Orange exposure. However, the examiner did not provide any analysis or supporting rationale for his conclusion.

In May 2018, the Veteran’s attorney submitted a brief arguing that the Veteran had been exposed to numerous environmental and chemical toxins while stationed at Andersen Air Force Base. The Veteran’s attorney also submitted accompanying evidence showing the presence of hazardous substances in the soil and groundwater at Andersen Air Force Base, including solvents such as trichloroethene (TCE) and paint thinners, dry cleaning fluids and laundry products, fuels such as JP-4 and gasoline, pesticides, antifreeze, aircraft cleaning compounds, and PCBs. This evidence shows that, in the 1980s, the Air Force identified 50 contaminated sites at Andersen Air Force Base, including landfills, waste piles, fire training areas, weapons storage sites, hazardous waste storage sites, and spill sites, after lead, chromium, TCE, toluene, and tetrachloroethene were detected in the soil and ground water. Low levels of TCE and tetrachloroethene were also detected in the sole-source drinking water aquifer.

The Veteran’s attorney also submitted a list compiled by the Environmental Protection Agency in October 1992 identifying over 50 hazardous contaminants present in the soil and groundwater at Andersen Air Force Base. This list includes: dioxins including 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), as well as PCBs, TCE, lead, and pesticides such as DDT and DDE. The Board notes that TCDD is a recognized contaminant related to herbicide agents such as Agent Orange. 38 C.F.R. § 3.307(a)(6)(i).

Finally, the Veteran’s attorney submitted a May 1999 Environmental Impact Statement in which the U.S. Navy confirmed that “until 1980, 2,4,5-Trichlorophenoxyacetic (2,4,5-T) was used for weed control along power lines and power substations…” at Navy properties in the northern region of Guam. The Board notes that Andersen Air Force Base is located in the northern region of Guam. The Board further notes that 2,4,5-T is a recognized herbicide agent under 38 C.F.R. § 3.307(a)(6)(i). In light of the above evidence, the Board accepts that the Veteran was exposed to chemical and environmental toxins, to include herbicide agents, during active service in Guam while stationed at Andersen Air Force Base.

In her May 2018 submission of evidence, the Veteran’s attorney also submitted a February 2018 private medical opinion from Dr. B., an endocrinologist, in support of the Veteran’s claims. After fully reviewing the Veteran’s claims file, Dr. B concluded that it is more likely than not that the Veteran developed diabetes mellitus and ischemic heart disease (coronary artery disease) as a result of his exposure to chemical and environmental toxins, such as herbicide agents, lead, and PCBs, while stationed in Guam. In his lengthy opinion, Dr. B first reviewed the Veteran’s risk factors for developing these conditions, such as family history and existing medical conditions, as well as evidence documenting the types of chemical and environmental toxins found on Andersen Air Force Base, including TCDD, TCE, lead, PCBs, and DDT metabolites. Citing to medical literature and medical principles to support his findings, Dr. B concluded that there is a strong epidemiologic association between exposure to these toxins and the development of diseases such as diabetes mellitus and coronary artery disease. As such, Dr. B opined that it is more likely than not that the Veteran’s diabetes mellitus and coronary artery disease is causally related to his in-service exposure to herbicide agents, such as TCDD, lead, and PCBs while stationed at Andersen Air Force Base in Guam in 1972.

Based on the foregoing evidence, the Board finds that a preponderance of the evidence weighs in favor of the Veteran’s claims for service connection. The Board has assigned great probative weight to Dr. B’s February 2018 private medical opinion, as it was based on a thorough review of the Veteran’s military and medical history, citation to medical literature as it is related to the facts of the Veteran’s case, and other pertinent evidence, and provided detailed medical rationale for the conclusions reached. See Stefl v. Nicholson, 21 Vet. App. 120, 124-25 (2007). The Board notes that the only medical evidence contrary to the Veteran’s claims – the October 2007 VA Agent Orange examination – is not probative evidence as the examiner did not provide any rationale for his conclusory findings. The examination also pre-dated the Veteran’s diagnosis of diabetes mellitus. See Nieves-Rodriguez v. Peake, 22 Vet. App. 295 (2008) (holding that it is the factually accurate, fully articulated, sound reasoning for the conclusion that contributes to the probative value of a medical opinion). Therefore, based on the foregoing competent and probative medical and lay evidence of record,
the Board finds that the most probative evidence weighs in favor of finding that the Veteran’s diabetes mellitus and coronary artery disease are etiologically related to his exposure to chemical and environmental hazards, to include herbicide agents, while stationed at Andersen Air Force Base in Guam in 1972.

(CONTINUED ON NEXT PAGE)

Accordingly, resolving all reasonable doubt in the Veteran’s favor, the Board finds that the criteria for service connection for diabetes mellitus and coronary artery disease as due to exposure to chemical and/or environmental hazards, to include herbicide agents, have been met and the appeal is granted. 38 U.S.C. § 5107; 38 C.F.R. § 3.102; Gilbert v. Derwinski, 1 Vet. App. 49 (1990).

LESLEY A. REIN
Veterans Law Judge
Board of Veterans’ Appeals
ATTORNEY FOR THE BOARD  Melissa Barbee, Associate Counsel
The Veteran had active service from June 1968 to June 1972.

This matter came before the Board of Veterans' Appeals (Board) from February 2008 and July 2008 rating decisions of the Department of Veterans Affairs (VA) Regional Office (RO) in New York, New York. The Board remanded the appeal for additional development of the record in April 2010. In September 2012, while the appeal was in remand status, the Veteran was afforded a hearing before RO personnel. A transcript of his hearing has been associated with the record.

In a March 2014 decision, the Board denied entitlement to service connection for prostate cancer with erectile dysfunction, incontinence, and kidney stones. The Veteran appealed the Board's decision to the United States Court of Veterans Claims (Court). In an April 2015 Memorandum Decision, the Court vacated the Board's March 2014 decision and remanded the case to the Board.

The Board finds that several issues have been raised by the record and, since the Board does not have jurisdiction over them, must be referred to the AOJ for appropriate action. A review of the procedural history will be useful.

In April 2006, the Veteran filed claims of service connection for prostate cancer (secondary to herbicide exposure), skin cancer (secondary to herbicide exposure), hearing loss, tinnitus, low back pain, high cholesterol, recurrent kidney stones, and recurrent bladder stones, and increased ratings for residuals of pilonidal cyst and hemorrhoids. In November
In the February 2008 rating decision, the RO granted an increased rating for residuals of pilonidal cyst, denied an increased rating for hemorrhoids, granted service connection tinnitus and hearing loss, and denied service connection for prostate cancer (with erectile dysfunction, incontinence, and kidney stones), skin cancer, depression, and high cholesterol. Following this decision, the Veteran submitted new evidence regarding his claim for prostate cancer. In July 2008, the RO readjudicated the issue of prostate cancer (with erectile dysfunction, incontinence, and kidney stones) and again denied the Veteran's claim.

Ever since the February 2008 rating decision, the RO has characterized the claim for prostate cancer as encompassing secondary claims for erectile dysfunction, incontinence, and kidney stones. It is not clear why the RO characterized the issue of kidney stones as secondary to the Veteran's prostate cancer, especially when the April 2006 claim appears to be seeking service connection for recurrent kidney stones on a direct basis. In fact, the Veteran specified which claims were based on alleged herbicide exposure (prostate and skin cancer), and the claim for kidney stones was not one them. In light of this, the Board finds that the issue of service connection for recurrent kidney stones was mischaracterized as secondary to prostate cancer; the RO should have adjudicated the issue as a stand-alone claim of service connection. As this issue has still not been properly adjudicated by the RO, the Board does not have jurisdiction over it and must refer it to the Agency of Original Jurisdiction (AOJ) for appropriate action. Further, the Board has recharacterized the issue on appeal to reflect this determination.

Similarly, the Board notes that the February 2008 rating decision considered the issue of service connection for depression only on a direct basis and not as secondary to prostate cancer, as the Veteran asserted in his November 2006 claim. In light of this, the Board finds that the Veteran's claim of secondary service connection for depression has not been properly adjudicated. As such, and since the Veteran's notice of disagreement did not include this issue, the Board does not have jurisdiction over it and must refer it to the AOJ for appropriate action.

Last, the Board notes that the neither the February 2008 or July 2008 rating decisions adjudicated the issue of service connection for recurrent bladder stones. See April 2006 claim. As such, the Board does not have jurisdiction over it and must refer it to the AOJ for appropriate action.

In sum, the Board finds that the Veteran's claims of service connection for recurrent kidney stones, depression (as secondary to prostate cancer), and recurrent bladder stones have still not been adjudicated by the RO. As such, the Board does not have jurisdiction over these issues and must refer them to the AOJ for appropriate action. 38 C.F.R. § 19.9(b) (2014).

FINDINGS OF FACT

1. The weight of the evidence supports a finding that the Veteran was exposed to herbicides in service and that his prostate cancer is related to such exposure.

2. The weight of the evidence supports a finding that the Veteran's erectile dysfunction and incontinence are secondary to his prostate cancer.

CONCLUSION OF LAW


2. The criteria for service connection for erectile dysfunction have been met. 38 U.S.C.A. §§ 1101, 5107(b) (West 2014); 38 C.F.R. §§ 3.6, 3.303 (2014).
3. The criteria for service connection for urinary incontinence have been met. 38 U.S.C.A. §§ 1101, 5107(b) (West 2014); 38 C.F.R. §§ 3.6, 3.303 (2014).

REASONS AND BASES FOR FINDINGS AND CONCLUSION

Service connection will be granted for disability resulting from disease or injury incurred in or aggravated by service. 38 U.S.C.A. §§ 1110, 1131; 38 C.F.R. § 3.303(a). Where a disease is first diagnosed after discharge, service connection will be granted when all of the evidence, including that pertinent to service, establishes it was incurred in active service. 38 U.S.C.A. § 1113(b); 38 C.F.R. § 3.303(d).

Service connection requires evidence showing: (1) the existence of a present disability; (2) in-service incurrence or aggravation of a disease or injury; and (3) a causal relationship between the present disability and the condition incurred or aggravated by service. Shedden v. Principi, 381 F.3d 1163, 1167 (Fed. Cir. 2004).

When there is an approximate balance of positive and negative evidence regarding any material issue, or the evidence is in relative equipoise, all reasonable doubt will be resolved in favor of the claimant. 38 U.S.C.A. § 5107; 38 C.F.R. § 3.102.

The Veteran seeks service connection for prostate cancer, and the associated conditions of erectile dysfunction and incontinence. He contends that his prostate cancer diagnosis is related to herbicide exposure during service at Andersen Air Force Base in Guam. Service personnel records do reflect that the Veteran served at Andersen Air Force Base from January 1970 to June 1971.

The Veteran concedes that he did not serve in Vietnam or any other location that would entitle him to the presumption of herbicide exposure under 38 C.F.R. § 3.307. Rather, he is seeking service connection on a direct basis. See, e.g., September 2012 RO hearing transcript. He further concedes that his prostate cancer manifested many years after service.

The evidence of record shows that the Veteran has prostate cancer, with incontinence and erectile dysfunction. See VA examinations from December 2006 and April 2010. Further, both the Veteran's oncologist and a VA examiner have opined that his prostate cancer is likely related to his alleged herbicide exposure, if such exposure was established. See October 2006 statement from oncologist; VA examinations from December 2006 and April 2010. Thus, the Veteran's case turns on whether the evidence supports a finding of herbicide exposure in service. The Board finds that the evidence is in relative equipoise in this regard.

In March 2007, the VA Compensation and Pension Service responded to the RO's request for information pertaining to the Veteran's alleged exposure to herbicides on Guam. The author of the message indicated that the Department of Defense (DoD) did not list any herbicide test or use sites on Guam, and noted that the Veteran appeared to be referring to small-scale brush clearing activity. He indicated that DoD did not have a record of such activity, and there was no way to know the chemical content of any such claimed herbicide use. He also addressed the Veteran's contention that he smelled herbicide aboard a military aircraft flying within the United States from Massachusetts to Nebraska during December 1969, indicating that there was no record of transport of herbicide associated with the Veteran. He indicated that Agent Orange was used primarily in Vietnam and was transported there on private merchant ships. The RO was advised to refer the claim to the U.S. Army and Joint Services Records Research Center (JSRRC) for any information it had to corroborate the Veteran's claimed exposure.

In September 2007, the director of the JSRRC responded that the organization could not document or verify that the Veteran was exposed to herbicides while serving at Andersen Air Force Base or at Offutt Air Force Base. He noted that the DoD listing of herbicide use and test sites was reviewed and neither base was listed. He also noted that unit historical data did not document any herbicide spraying, testing, storage, or usage at Andersen or Offutt during 1969 or 1970.

Articles submitted by the Veteran in March 2008 include an excerpt from a Micronesian Newspaper. It indicates that
Agent Orange on Guam was confirmed, and quotes retired airmen and former federal employees' accounts of Agent Orange and other toxic herbicides being stored and sprayed on Guam from the 1960s to the 1990s. An additional document lists and discusses various contaminant sites on Guam and specifically at Andersen Air Force Base. They do not include herbicides. An associated statement by the Veteran's representative indicates the Veteran's contention that herbicides were used during his time on Guam to clear dense vegetation areas for construction and recreation.

In a March 2010 statement, the Veteran's attorney alleged that there were government reports and related documents showing the presence and use of Agent Orange and other herbicides at Andersen contemporaneous to the Veteran's service there. She pointed to a Dow Chemical Investor Risk Report, which suggests that soldiers stationed on Guam who handled Agent Orange had become ill.

In July 2011, the VA Compensation and Pension Service provided the RO with a document titled "Guam (Negative findings)." The report stated that the information provided by the DoD does not identify any test, storage, or use sites in Guam. The report, however, also states that "[t]here may have been some small scale commercial herbicide use for brush or weed clearing activity around military bases at every location in the world, but there is no record of such activity with [the DoD] and no way to know the chemical content of any such non-tactical herbicide use."

A May 2012 response by the JSRRC indicates that it researched available historical information and was unable to document or verify that the Veteran's squadron flew aboard a cargo aircraft that he believed was previously used to transport tactical herbicides. Also in May 2012, the RO made a formal finding of a lack of information required to corroborate herbicide exposure.

At his RO hearing, the Veteran testified that, while stationed at Andersen Air Force Base in Guam, he personally witnessed herbicides being sprayed to clear vegetation and that he had also seen the effects of such spraying. He witnessed such spraying around the perimeter of the airbase and around the Marbo Complex, where he was housed. He argued that the herbicide used was Agent Orange, and that he was regularly exposed to it. In this regard, he indicated that every night he would go unto the airfield to retrieve canisters of film from the landing planes and that he made daily trips across the base's perimeter to reach the Marbo Complex.

At that hearing, a fellow service member testified on the Veteran's behalf. This witness testified that he was a fuel specialist stationed at Andersen Air Force Base in Guam from September 1968 to March 1969, September 1969 to May 1971, and May 1976 to June 1978. He testified that his duties entailed handling the Agent Orange herbicides and mixing them with diesel fuel, as well as other powdered herbicides such as Agent White, Agent Blue, and Super Agent Orange. He also stated that he personally sprayed the herbicides on the flight line, around the security fences, and at the Marbo Complex, around the laundromat.

Having reviewed the record and weighing the evidence both in support of and against the claim, the Board finds that the evidence is in relative equipoise as to whether the Veteran was exposed to Agent Orange during service at Andersen Air Force Base in Guam. As stated above, the evidence of record includes the testimony of a service member that served at Andersen Air Force at the same time as the Veteran. Military records submitted by the Veteran's attorney show that the witness served in Andersen Air Force Base as a fuels management officer from March 1970 to September 1970, a period during which the Veteran also served there. The witness testified that he sprayed herbicides, to include Agent Orange, around the base's perimeter and the Veteran's living quarters. Additionally, the Veteran testified that he saw herbicides being sprayed near Marbo complex, where he was housed, and noticed the effects of herbicides around the base's perimeter.

There is no documented evidence that herbicides were tested, stored, or used in Guam. Notwithstanding, the VA Compensation and Pension Service, in the report titled "Guam (Negative findings)" (received in July 2011) conceded the possibility that commercial herbicides might have been used for brush or weed clearing activity around military bases at every location in the world. Furthermore, the report indicated that the DoD did not have records of such activity and there was no way of knowing the chemical content of any such non-tactical herbicide use.

The evidence is at least in equipoise as to whether herbicides were used, in a small-scale capacity, in Guam for brush or weed clearing activity. The only evidence as to the nature of these herbicides is the testimony of a service member who
served at Andersen Air Force Base at the same time as the Veteran and who testified that he sprayed a mixture of fuels and herbicides, to include Agent Orange, around the base's perimeter and the Veteran's living quarters. Although such activity is not documented in military records, there is no evidence of record that contradicts or disproves the witness's testimony. In this regard, the Board notes that while Andersen Air Force Base is not listed in the DoD list of locations in which herbicide agents were used, this list is not exhaustive. As such, it is not sufficient to conclude that a Veteran was not exposed to herbicides solely because he or she claimed exposure at a location that is not on the list. See, e.g., Wheeler v. Shinseki, 2014 WL 1275449, *4 (Mem. Dec.). Furthermore, the VA Compensation and Pension Service stated that the DoD did not have a record of small-scale brush clearing activity, such as the one described by the Veteran, and there was no way to know the chemical content of any such claimed herbicide use. In view of the above, the Board finds that the evidence is in relative equipoise as to whether the Veteran was exposed to Agent Orange during service in Guam.

Resolving all doubt in favor of the Veteran, the evidence supports a finding that his prostate cancer is related to herbicide exposure during service. As stated, the Veteran has a current diagnosis of prostate cancer and two medical professionals have opined that this diagnosis is likely related to herbicide exposure in service. Therefore, entitlement to service connection for prostate cancer is warranted.

The Veteran is also claiming service connection for erectile dysfunction and incontinence, as secondary to his as of now service-connected prostate cancer.

Service connection may be granted for a disability that is proximately due to or the result of a service-connected disease or injury. When service connection is thus established for a secondary condition, the secondary condition shall be considered a part of the original condition. 38 C.F.R. § 3.310(a). Service connection may also be granted on a secondary basis where a condition is aggravated by a service-connected disability. 38 C.F.R. § 3.310(b). To warrant service connection on a secondary basis, the evidence must show that the current disability was either (a) proximately caused by or (b) proximately aggravated by a service-connected disability. Compensation for secondary service connection based on aggravation of a non-service-connected condition is only warranted for the degree of disability over and above the degree of disability existing prior to the aggravation. Allen v. Brown, 7 Vet. App. 439 (1995).

The medical evidence shows that the Veteran has erectile dysfunction and urinary incontinence. See VA examinations from December 2006 and April 2010. Further, the April 2010 VA examiner stated that these are secondary to the Veteran's prostatectomy. In light of this, and having found that service connection for prostate cancer is warranted, the Board concludes that service connection on a secondary basis for erectile dysfunction and incontinence is also warranted.

ORDER

Entitlement to service connection for prostate cancer is granted.

Entitlement to service connection for erectile dysfunction is granted.

Entitlement to service connection for urinary incontinence is granted.

Eric S. Leboff
Veterans Law Judge, Board of Veterans' Appeals

Department of Veterans Affairs
Citation Nr: 1334753
Decision Date: 10/30/13    Archive Date: 11/06/13

DOCKET NO. 04-07 278 ) DATE

On appeal from the
Department of Veterans Affairs Regional Office in Waco, Texas

THE ISSUES

1. Entitlement to service connection for type II diabetes mellitus to include as a result of herbicide exposure.

2. Entitlement to service connection for coronary artery disease, status post coronary artery bypass graft, to include as a result of herbicide exposure.

3. Entitlement to service connection for hypertension to include as secondary to diabetes mellitus.

REPRESENTATION

Appellant represented by: Katrina Eagle, Attorney

WITNESSES AT HEARING ON APPEAL

Veteran and his spouse

ATTORNEY FOR THE BOARD

A. Hinton, Counsel

INTRODUCTION

This appeal has been advanced on the Board's docket pursuant to 38 C.F.R. § 20.900(c) (2012). 38 U.S.C.A. § 7107(a)(2) (West 2002).

The Veteran served on active duty from January 1963 to May 1966.

These matters come before the Board of Veterans' Appeals (Board) on appeal from a June 2003 rating decision of the Department of Veterans Affairs (VA) Regional Office (RO) in Waco, Texas, which denied the benefits sought.

These matters have been previously before the Board on multiple occasions. In June 2009, the Board denied the claims on appeal. The Veteran appealed the Board’s June 2009 decision to the United States Court of Appeals for Veterans Claims (Court).

In an April 2011 memorandum decision, the Court vacated the Board’s June 2009 decision to the extent of the three claims on appeal, while noting that the Veteran had withdrawn his appeal as to two other issues denied in the Board’s June 2009 decision. The Court remanded the three claims to the Board for further adjudication.

In September 2011, the Board remanded these issues for additional development in accordance with the April 2011 Court memorandum decision.

In June 2013 the Board remanded the case to the RO to arrange for a Travel Board hearing, which was held before the undersigned Veterans Law Judge in August 2013. At that time the
Veteran made a motion to advance the case on the Board’s docket based on financial hardship, which was granted. See 38 C.F.R. § 20.900(c) (2012).

The issues of entitlement to service connection for erectile dysfunction, dyslipidemia, and peripheral neuropathy, all to include as secondary to type II diabetes mellitus or as due to exposure to herbicides, have been raised by the record, but have not been adjudicated by the Agency of Original Jurisdiction (AOJ). Therefore, the Board does not have jurisdiction over them and they are referred to the AOJ for appropriate action.

The issue of entitlement to service connection for hypertension is addressed in the REMAND portion of the decision below and is REMANDED to the RO via the Appeals Management Center (AMC), in Washington, DC.

FINDINGS OF FACT

1. Resolving all reasonable doubt in favor of the Veteran, the evidence establishes that the Veteran’s type II diabetes mellitus is due to exposure in service to herbicides to include 2,4-D; 2,4,5-T; TCDD; cacodylic acid; or picloram.

2. Resolving all reasonable doubt in favor of the Veteran, the evidence establishes that the Veteran’s coronary artery disease, status post coronary artery bypass graft, is due to exposure in service to herbicides to include 2,4-D; 2,4,5-T; TCDD; cacodylic acid; or picloram.

CONCLUSIONS OF LAW

1. The criteria for service connection for type II diabetes mellitus have been met. 38 U.S.C.A. §§ 1110, 1112, 1113, 1116, 5107 (West 2002); 38 C.F.R. §§ 3.102, 3.303, 3.307, 3.309(e) (2013).

2. The criteria for service connection for coronary artery disease, status post coronary artery bypass graft, have been met. 38 U.S.C.A. §§ 1110, 1112, 1113, 1116, 5107 (West 2002); 38 C.F.R. §§ 3.102, 3.303, 3.307, 3.309(e) (2013).

The Veterans Claims Assistance Act of 2000 (VCAA)

The Board is granting in full the benefits sought on appeal. Accordingly, any error committed with respect to either the duty to notify or the duty to assist was harmless and will not be further discussed.

REASONS AND BASES FOR FINDINGS AND CONCLUSIONS

Applicable Law

In general, service connection may be granted for a disability resulting from disease or injury incurred in or aggravated by service. 38 U.S.C.A. §§ 1110, 1131 (West 2002); 38 C.F.R. §§ 3.303, 3.304. Service connection generally requires credible and competent evidence showing: (1) the existence of a present disability; (2) in-service incurrence or aggravation of a disease or injury; and (3) a causal relationship between the present disability and the disease or injury incurred or aggravated during service. See Davidson v. Shinseki, 581 F.3d 1313, 1316 (Fed. Cir. 2009); Hickson v. West, 12 Vet. App. 247, 253 (1999); Caluza v. Brown, 7 Vet. App. 498 (1995).

Service connection may be granted if a disability is proximately due to or the result of a service-connected disability or if aggravation of a nonservice-connected disorder is proximately due to or the result of a service-connected disability. 38 C.F.R. § 3.310(a).

Some chronic diseases, including diabetes mellitus or cardiovascular-renal disease to include hypertension, are presumed by law and regulation to have been incurred in service, if they become manifest to a degree of ten percent or more within a corresponding applicable
There is a presumption of service connection for certain conditions if a Veteran was exposed in service to certain tactical herbicides that were used in Vietnam and some other locations during the Vietnam Era, and which were composed of one or more of the chemicals listed under 38 C.F.R. § 3.307(a)(6)(i).

If a veteran was exposed to an herbicide agent during active military, naval, or air service, certain diseases are presumed to be service connected if the requirements of 38 C.F.R. § 3.307(a)(6) are met, even though there is no record of the disease during service, provided that the rebuttable presumption provisions of 38 C.F.R. § 3.307(d) are also satisfied. 38 U.S.C.A. § 1116(a) (West 2002 & Supp. 2012); 38 C.F.R. § 3.309(e).

The term "herbicide agent" is defined as a chemical in an herbicide used in support of the United States and allied military operations in the Republic of Vietnam during the period beginning on January 9, 1962 and ending on May 7, 1975, specifically: 2,4-D; 2,4,5-T and its contaminant TCDD; cacodylic acid; or picloram. 38 C.F.R. § 3.307(a)(6)(i).

Type II diabetes mellitus is listed as a disease associated with exposure to herbicide agents. During the pendency of the appeal, the provisions of 38 C.F.R. § 3.309(e) were amended to include additional presumptive diseases. See 75 Fed. Reg. 53202 -53216 (Aug. 31, 2010). The additional diseases include ischemic heart disease, which in turn includes coronary artery disease, but does not include hypertension or peripheral manifestations of arteriosclerosis such as peripheral vascular disease.

A veteran who, during active military, naval, or air service, served in the Republic of Vietnam during the period beginning on January 9, 1962 and ending on May 7, 1975, is presumed to have been exposed during such service to an herbicide agent, unless there is affirmative evidence to the contrary. 38 C.F.R. § 3.307(a)(6)(iii). Also, there are guidelines for presumption of exposure based on service in Thailand and Korea during the Vietnam Era. See M21-1MR, IV.ii.2.C.10.p; M21-1MR, IV.ii.2.C.10.q (Dec. 16, 2011).

In making all determinations, the Board must fully consider the lay assertions of record. A layperson is competent to report on the onset and continuity of his current symptomatology. See Layno v. Brown, 6 Vet. App. 465, 470 (1994) (a veteran is competent to report on that of which he or she has personal knowledge).

In assessing whether lay evidence is competent the Board must determine, on a case by case basis, whether the Veteran's particular disability is the type of disability for which lay evidence may be competent. Kahana v. Shinseki, 24 Vet. App. 428 (2011); see also Jandreau, 492 F.3d at 1376-77.

The Board is charged with the duty to assess the credibility and weight given to evidence. Madden v. Gober, 125 F.3d 1477, 1481 (Fed. Cir. 1997).

When there is an approximate balance of positive and negative evidence regarding any issue material to the determination of a matter, the Secretary shall give the benefit of the doubt to the Veteran. 38 U.S.C.A. § 5107(b).

Analysis

The Veteran claims that his diagnosed type II diabetes mellitus, and his coronary artery disease, status post coronary artery bypass graft, are the result of exposure to herbicides during service while stationed at Pease Air Force Base in New Hampshire, or at Andersen Air Force Base in Guam, during the 1960s.

The Veteran neither claims, nor does the record show, that he served in Vietnam, Korea, or
Thus, he is not presumed to have been exposed to an herbicide agent during service. 38 C.F.R. § 3.307(a)(6)(iii). As exposure to the herbicides listed under 38 C.F.R. § 3.307(a)(6)(i) cannot be presumed, neither of the two claimed disabilities—type II diabetes mellitus and coronary artery disease—can be presumptively service connected on the basis of presumed exposure.

In the Veteran’s January 2003 application he reported that he had served on a Combat Support Team in Guam in the U.S. Air Force from 1964 to 1966, where his primary job was in the supply warehouse working with clothing that came from military personnel traveling back and forth to Vietnam.

During his August 2013 hearing, he testified that while at Andersen Air Force Base, he was assigned to the Base Equipment Management Office as an inventory specialist. In that role he inventoried equipment and was required to go into the drum lot where the herbicides were stored to count them periodically—every ten days to two weeks. Also, whenever an inspector general team was inspecting, he was assigned to the flight line as a bomb loader.

He also testified that he exercised by running down the fence line every two days; and witnessed spraying outside of barracks and chow halls, and around runways to keep vegetation growth down. The Veteran also discussed pictures on file he submitted showing barrels of herbicides lined up and the brown grass that had been sprayed. He testified that the spraying was necessary due to the high growth rate of plants on the tropical island of Guam.

During the hearing the Veteran’s representative commented that a Dow Chemical risk report on file discussed the spraying of herbicides at Andersen Air Force Base during the Vietnam Era, and included information of TCDD contamination that was later measured as 19,000 PPM in some areas of the Base. The representative stated that the contamination occurred from 1960 to as late as 1975.

The Veteran’s representative also discussed an Environmental Protection Agency (EPA) report, noting that it referred to herbicide use from 1950 through the 1960s, and that it showed that Andersen Air Force Base was found to have toxic chemicals in the soil, including pesticides.

The Veteran’s service personnel records show that he served both at Pease Air Force Base in New Hampshire, from April 1963 to April 1964, and later at Andersen Air Force Base in Guam, from November 1964 to May 1966. His duties included supply specialist and posting clerk.

The Veteran’s clinical records on file contain medical evidence showing diagnoses of type II diabetes mellitus, and of coronary artery disease, status post coronary artery bypass graft. The Veteran’s coronary artery disease was diagnosed in 2002 and the type II diabetes mellitus was first diagnosed in 2003. The Veteran underwent coronary artery bypass graft in 2003.

In a June 2011 statement by John D. Bagdade, MD (Board Certified Internal Medicine, Endocrinology and Metabolism), he stated he had reviewed the records, and on that basis he opined that the Veteran had exposure to herbicides including Agent Orange while stationed at Pease Air Force Base in New Hampshire and Andersen Air Force Base in Guam, and that these environmental exposures resulted in the Veteran’s acquired adult-onset diabetes mellitus (type 2 diabetes), that was noted in 2001, and his coronary heart disease requiring coronary artery by-pass surgery in 2003.

As part of the rationale for the opinion, Dr. Bagdade cited medical literature establishing an association between Agent Orange exposure and the claimed disorders. As part of the rationale regarding diabetes, he noted that obesity is the most common cause of insulin resistance, however, the Veteran was not overweight. He also noted there was no family history of the claimed disabilities. Dr. Bagdade concluded that given the documented exposure to the herbicide Agent Orange, and cited scientific evidence, it is more likely than not that the Veteran’s acquiring diabetes mellitus, hypertension, dyslipidemia, and coronary heart disease are all related to his exposure to Agent Orange during service.

At a VA examination in March 2012, the examining VA physician assistant diagnosed coronary artery disease, status post coronary artery bypass graft, noting a date of diagnosis of 2002. She also diagnosed diabetes mellitus type II, noting a date of diagnosis of 2002. The examiner specified that the heart condition qualified within the generally accepted definition of ischemic heart disease.
The examiner commented that the diabetes mellitus included complications of peripheral neuropathy, which the examiner diagnosed as diabetic neuropathy. The examiner found that the symptoms attributable to diabetic peripheral neuropathy involved the upper and lower extremities, bilaterally.

The examiner opined that diabetic complications did not include diabetic nephropathy or renal dysfunction or diabetic retinopathy. She opined that erectile dysfunction was at least as likely as not due to diabetes mellitus.

The examiner opined that the Veteran’s diabetes and coronary artery disease are both at least as likely as not related to the Veteran’s active duty service to include any in-service chemical exposure. The examiner stated essentially that the basis of that opinion was the assumption of the Veteran’s exposure to “Agent Orange” during service, and the fact of the diagnoses of diabetes mellitus and coronary artery disease.

The examiner also addressed his opinion as to the likelihood that the Veteran’s hypertension or coronary artery disease is causally related to or has been permanently aggravated in severity by the type II diabetes mellitus.

The examiner opined that the hypertension and coronary artery disease are not as likely as not causally related to, or permanently aggravated in severity by, the Veteran’s type II diabetes mellitus. The examiner based that opinion on the rationale that the Veteran’s coronary artery disease is associated with Agent Orange exposure, and that type II diabetes without renal disease is not a well-documented cause of hypertension. The report does not show that any diagnostic testing was performed to rule out any renal pathology.

A May 2012 VA medical opinion (examination) report notes that at the March 2012 VA examination the examiner had based her opinions on the assumption that VA had conceded Agent Orange exposure. The May 2012 VA opinion report instructed the examiner that VA had not conceded exposure to Agent Orange.

The May 2012 VA medical opinion report shows that the examiner from the March 2012 VA examination reviewed the claim file and provided follow-up opinions as to the likelihood of an etiological nexus between the Veteran’s service and the claimed type II diabetes mellitus or coronary artery disease, given that herbicide exposure was not conceded. In light of the information that VA did not concede exposure to Agent Orange in service, the examiner opined essentially, that the type II diabetes mellitus and coronary artery disease are both not at least as likely as not causally related to the Veteran's active duty service, but rather, were more likely due to personal risk factors and family history.

The examiner noted a positive family history of diabetes mellitus and coronary artery disease, and a history of smoking for 30 years. The examiner also stated that there was no specific evidence that the Veteran was actually exposed to chemical or other types of contamination at Pease Air Force Base or Andersen Air Force Base.

In a February 2013 statement, Dr. Bagdade cited and relied on a number of pertinent scientific journal articles in support of his opinion relating the claimed diabetes mellitus and coronary artery disease to in-service exposure to herbicides. He opined that the Veteran’s type II diabetes mellitus and coronary artery disease, status post coronary artery bypass graft, were more likely than not the consequence of in-service exposure to endocrine disrupting substances like dioxin present in Agent Orange and other persistent organic pollutants that caused a state of insulin resistance.

He opined that this underlying abnormality then contributed to the Veteran’s developing the metabolic syndrome of which type 2 diabetes, hypertension, and hyperlipidemia are integral features, and coronary artery disease and arteriosclerotic cardiovascular disease being a later complication.

Dr. Bagdade rebutted the VA examiner’s rationale of a family history of diabetes mellitus, by noting that the brother cited had had two tours of duty in Vietnam when he was exposed to Agent Orange, and had received VA disability benefits based on the presumption that the disease was related to that exposure in service.

Dr. Bagdade concluded that, based on the Veteran’s clinical course following discharge, together with recent scientific evidence cited, it is more likely than not that the medical
The conditions he manifested were all closely related to perturbations in metabolism that are now acknowledged to be consequences of exposure to Agent Orange and other persistent organic pollutants that were documented as present at Pease Air Force Base and Andersen Air Force Base during the Veteran’s period of service.

The Record reflects that Dr. Bagdade based his opinion that the Veteran was exposed to the specified chemicals such as Agent Orange on his review of at least some of the records discussed below.

The claim file contains published material addressing the presence and use of herbicides and other pathogenic chemicals, including contamination of soil and water at the Pease Air Force Base and the Andersen Air Force Base. A document titled National Priorities List Site Narrative for Andersen Air Force Base, published on the internet by the U.S. Environmental Protection Agency (EPA), shows that the base was proposed for a Superfund Site in February 1992. That document noted that Andersen Air Force Base had been operational since the 1940s and that sources/locations of hazardous substances there included unlined landfills, drum storage and disposal areas, chemical storage areas, fire training areas, waste storage areas, a laundry, and industrial and flight line operations.

The document noted that substances known to be involved in the Base’s operation included: solvents such as trichloroethene (TCE) and paint thinners; dry cleaning fluids; fuels; pesticides; antifreeze; aircraft cleaning compounds; and PCBs. The publication noted that Air Force analyses indicated the presence of lead, chromium, TCE, toluene, and tetrachloroethene in ground water beneath the site. The document noted that more information about the hazardous substances identified in the document could be obtained from the Agency for Toxic Substances and Disease Registry (ATSDR).

A document titled Site Summaries, Pease Air Force Base, published on the internet by the New Hampshire state government contains information regarding a Superfund site involving Pease Air Force Base. The document noted that in 1983 the Air Force initiated installation restoration program activities to assess and control the migration of contamination that have resulted from past operations and disposal practices. The document noted that in 2003 the Air Force released information indicating the presence of waste materials from cleaning certain weapons systems in the 1950s and early 1960s. Past industrial waste disposal practices at Pease between 1956 to 1971 were characterized as “most waste petroleum, oil, and lubricants and solvents combined and burned during fire department training exercises.”

There are a number of additional documents and reports on file, including published scientific studies and a Congressional report titled Hazardous Waste Problems at Department of Defense Facilities, which include evidence of the long-term presence of persistent organic pollutants and other contaminants in the soil and water sources at Andersen Air Force Base, including dioxins, PCBs, and pesticides of the same or similar class as those implicated under 38 C.F.R. § 3.307(a)(6)(i).

The Veteran has also submitted a number of photographs showing storage of barrels, and a
large number of lay statements from former service members who served at Andersen Air Force Base during the relevant period, who attested to the presence of barrels of Agent Orange stored outside at Andersen Air Force Base in Guam, and attested to their exposure to Agent Orange and other pesticides at the base due to leakage and spraying for defoliation during the 1960s.

In a February 2009 letter from the Director, Center for Unit Records Research (CURR), the deputy director stated that CURR was unable to document or verify that the Veteran was exposed to herbicides while serving at Andersen Air Force Base, Guam. He noted that CURR had reviewed the Department of Defense listing of herbicide spray areas and test sites outside of Vietnam, and that Guam was not listed. He also noted that available 3960th Support Squadron unit historical data did not document any herbicide spraying, testing, storage or usage at Andersen.

The Veteran has testified credibly on this matter, and his statements and testimony are corroborated by statements from airmen with whom he served. Notwithstanding the CURR report, the Veteran’s testimony regarding his exposure to herbicides at the two Air Force Bases is consistent with the overwhelming evidence on file showing that given his military duties while stationed at Andersen Air Force Base, he was likely exposed to a number of pathogenic chemicals including dioxins, PCBs, or other pesticides, including some combination of pesticide chemicals specified under 38 C.F.R. § 3.307(a)(6)(i).

The evidence on file is, at the very least, in equipoise on the question of whether the Veteran was exposed to herbicides during his period of active service. In such a case, the question must be resolved in the appellant’s favor. 38 U.S.C.A. § 5107(b); see also Gilbert v. Derwinski, 1 Vet. App. 49 (1990).

Accordingly, the Board finds, as fact, that the Veteran was exposed to herbicides during service. Given such exposure as a finding of fact, the medical opinions of record support a finding that the Veteran’s type II diabetes mellitus and coronary artery disease, status post coronary artery bypass graft were caused by such exposure. Service connection is warranted for both disabilities.

ORDER

Entitlement to service connection for type II diabetes mellitus is granted.

Entitlement to service connection for coronary artery disease, status post coronary artery bypass graft is granted.

REMAND

The Veteran seeks service connection for hypertension. In light of the decision above, given the Veteran’s service-connected type II diabetes mellitus and his recognized exposure to herbicides including chemical components of Agent Orange during service, the potential exists for a causal relationship between the claimed hypertension and the type II diabetes mellitus or the herbicide exposure.

The examiner at the March 2012 VA examination, who also provided a follow-up opinion in May 2012, opined that the Veteran’s hypertension was not related to the Veteran’s diabetes mellitus. She based that opinion on the premise that type II diabetes mellitus without renal disease is not a well documented cause of hypertension.

However, she did not address any potential diabetic pathogenesis unrelated to renal pathology that may link the type II diabetes mellitus to hypertension, such as the role of insulin resistance/hyperinsulinemia, or increased peripheral vascular resistance, or other non-renal diabetic pathology.

The VA examiner also opined that the hypertension was not likely due to herbicide exposure, in part on the basis that: the weight of medical literature was against a relationship of hypertension and exposure to herbicides; the Veteran had other known risk factors for...
hypertension including family history and smoking; and there was no specific evidence that the Veteran came into contact with herbicides.

This opinion conflicts with Dr. Bagdade’s February 2013 opinion, based on cited scientific evidence, that it is more likely than not that the Veteran became hypertensive as part of the insulin resistance-driven metabolic syndrome acquired from exposure to polychlorinated herbicides present in Agent Orange.

A remand is necessary in order for the Veteran to be examined by VA and an opinion obtained that takes into consideration all of the evidence on file regarding the claim, including recognition of herbicide exposure during service as fact. The Veteran must be given an opportunity to submit statements regarding the onset and continuity of relevant symptoms; and any additional pertinent treatment records not on file must be obtained.

Accordingly, the case is REMANDED for the following action:

1. Obtain any outstanding VA or private treatment records pertinent to the claim for service connection for hypertension.

2. Notify the Veteran that he may submit statements from himself and others who have observed the Veteran; describing their impressions regarding the onset and chronicity of symptoms of hypertension since service or since onset of type II diabetes mellitus.

3. After completion of the above, schedule the Veteran for an examination by an appropriate medical professional to determine the nature extent, onset and likely etiology of any diagnosed hypertension disability found to be present.

The claim file must be made available to and reviewed by the examiner. All indicated studies are to be performed, including testing to rule out diabetic renal pathology; and all findings are to be reported in detail. In offering opinions, the examiner must acknowledge and discuss the Veteran’s report of a continuity of relevant symptoms since service or since onset of type II diabetes mellitus or coronary artery disease, or any metabolic/endocrinopathy condition associated with the type II diabetes mellitus or the Veteran’s exposure to herbicides in service.

Thereafter, the examiner must opine as to whether it is at least as likely as not that any diagnosed hypertension is:

(i) related to or had its onset in service, or was aggravated in service, to include as due to recognized exposure to herbicides associated with Agent Orange; or
(ii) proximately due to or aggravated by the Veteran’s type II diabetes mellitus or his coronary artery disease.

In making these opinions, the examiner must discuss the opinions of Dr. Bagdade in June 2011 and February 2013.

All opinions must be supported by a thorough rationale.

4. Then, following any additional development deemed appropriate, readjudicate the Veteran’s claim. If the benefit sought is not granted, a supplemental statement of the case must be issued.

The appellant has the right to submit additional evidence and argument on the matter the Board has remanded. Kutscherousky v. West, 12 Vet. App. 369 (1999).

This claim must be afforded expeditious treatment. The law requires that all claims that are remanded by the Board of Veterans’ Appeals or by the United States Court of Appeals for Veterans Claims for additional development or other appropriate action must be handled in an expeditious manner. See 38 U.S.C.A. §§ 5109B, 7112 (West Supp. 2012).
ORDER

The request to reopen the claim of service connection for diabetes mellitus, type II is granted.

Service connection for diabetes mellitus, type II is granted.

REMANDED

Entitlement to service connection for bilateral plantar fasciitis is remanded.

Entitlement to service connection for liver disease, to include as secondary to exposure to herbicides and service-connected diabetes is remanded.

Entitlement to an initial compensable evaluation for asbestosis is remanded.

Entitlement to an initial compensable evaluation for a residual gluteal cleft scar prior to February 22, 2016, and in excess of 10 percent thereafter is remanded.

FINDINGS OF FACT

1. A November 2006 rating decision denied service connection for diabetes mellitus, type II on the basis that there was no nexus to service. The Veteran did not appeal the decision and he did not submit additional evidence within a year after the decision; therefore, the decision is final.

2. Since the November 2006 rating decision, the Veteran submitted statements which assert he was also exposed to herbicides while serving at Naval Communication Stations located in Guam. He also submitted copies of articles, research, and legislative documents that indicate herbicides may have been stored and/or used in Guam during the time that he served there. This evidence is relevant and probative as to the issue of service connection for diabetes as it provides additional details as to exposure to herbicides in service which were not of record at the time of the prior denial.

3. Resolving reasonable doubt in the Veteran’s favor, his diabetes was due to in-service exposure to herbicides while serving as a radioman at the Naval Communications Station at Andersen Air force Base, Guam.

CONCLUSIONS OF LAW


2. The evidence received since the November 2006 rating decision, which denied service connection for diabetes, is new and material, and the claim is reopened. 38 U.S.C. §§ 5108, 7105 (2012); 38 C.F.R. § 3.156 (2018).


REASONS AND BASES FOR FINDING AND CONCLUSION

The Veteran served on active duty from April 1970 to November 1979.

This matter comes before the Board of Veterans' Appeals (Board) on appeal from January 2014, December 2014, and March 2016 rating decisions by the Department of Veterans Affairs (VA). In December 2018, the Veteran testified at a Board hearing before the undersigned Veterans Law
As noted above, the request to reopen the claim for service connection for diabetes mellitus has been granted. Therefore, the Board will proceed with the adjudication of the issue on the merits below.

Service connection for diabetes mellitus, type II is granted.

The Veteran contends that his diabetes was caused by exposure to herbicides while stationed at the Naval Communications Station on Guam from 1974 to 1977. He asserts that he was stationed at the “Receiver Site.” This facility was an area of about one square mile or so of antenna fields with a small concrete and steel building in the middle, just to the left and below Andersen Air Force Base under the runways used in the bombing strikes on Vietnam. The U.S. Air Force sprayed Agent Orange on the runways, antennas, and the perimeter fences. He spent three years at the receiver site and never left. See April 2016 statement; May 2016 Form 9; December 2018 hearing transcript.

Service connection may be established on a direct basis for a disability resulting from disease or injury incurred in or aggravated by active service. 38 C.F.R. §§ 1110, 1131; 38 C.F.R. § 3.303. Service connection may also be granted for any disease diagnosed after service when all the evidence establishes that the disease was incurred in service. 38 C.F.R. § 3.303(d). In general, service connection requires (1) evidence of a current disability; (2) medical evidence, or in certain circumstances lay evidence, of in-service incurrence or aggravation of a disease or injury; and (3) evidence of a nexus between the claimed in-service disease or injury and the current disability. See Shedden v. Principi, 381 F.3d 1163, 1167 (Fed. Cir. 2004).

Service connection for certain chronic diseases, including diabetes, may be established based upon a legal presumption by showing that the disease manifested itself to a degree of 10 percent disabling or more within one year from the date of discharge from service. 38 U.S.C. §§ 1112, 1137; 38 C.F.R. §§ 3.307(a)(3), 3.309(a).

Under certain circumstances, service connection for specific diseases, including type 2 diabetes mellitus, may be presumed if a veteran was exposed during service to certain herbicides, including those containing dioxin. 38 U.S.C. § 1116; 38 C.F.R. §§ 3.307, 3.309(e). The relevant herbicide agents are those used in support of operations in Vietnam, specifically: 2,4-D; 2,4,5-T and its contaminant TCDD; cacodylic acid; and picloram. 38 C.F.R. § 3.307(a)(6). If a veteran was exposed to such an herbicide agent during service, service connection for type 2 diabetes will be presumed if the diabetes becomes manifest to a degree of 10 percent disabling at any time after service. 38 C.F.R. §§ 3.307(a)(6)(ii), 3.309(e).

The Board must assess the credibility and weight of all the evidence, including the medical evidence, to determine its probative value, accounting for evidence which it finds to be persuasive or unpersuasive, and providing reasons for rejecting any evidence favorable to the claimant. See Masors v. Derwinski, 2 Vet. App. 181 (1992); Wilson v. Derwinski, 2 Vet. App. 614, 618 (1992); Hatlestad v. Derwinski, 1 Vet. App. 164 (1991); Gilbert v. Derwinski, 1 Vet. App. 49 (1990). Equal weight is not accorded to each piece of evidence contained in the record; every item of evidence does not have the same probative value. When there is an approximate balance of positive and negative evidence regarding any issue material to the determination of a claim, VA shall give the benefit of the doubt to the claimant. 38 U.S.C. § 5107. To deny a claim on its merits, the evidence must preponderate against the claim. See Alemany v. Brown, 9 Vet. App. 518, 519 (1996), citing Gilbert, 1 Vet. App. at 54.

The Veteran contends that he has diabetes mellitus which developed as a result of exposure to Agent Orange. In this regard, the Board notes that a veteran who served on active duty in the Republic of Vietnam during the period from January 9, 1962, to May 7, 1975, shall be presumed to have been exposed during that service to an herbicide agent, unless there is affirmative evidence to establish that the veteran was not exposed to herbicides during service. 38 C.F.R. § 3.307 (a)(6)(iii). While the Veteran asserts he did occasional missions for communication purposes to Vietnam from 1970 to 1973 and participated in Operation End Sweep while aboard the USS Henderson (the demining of Haiphong Harbor and other coastal and inland waterways in North Vietnam between February to July 1973), his service records do not reflect that he served in Vietnam or that the USS Henderson entered the 12-mile territorial sea of Vietnam during the Veteran’s service onboard. See October 2005 VA treatment record;
December 2014 congressional inquiry report; April 2016 statement; December 2018 hearing transcript. As such, he did not have service in a location that provides for a presumption that he was exposed to herbicide.

The Veteran reports that he was exposed to herbicides while stationed on Guam. The Veteran’s service records show that he served as a radioman in the receiver division at a Naval Communications Station on Guam from April 1974 to April 1977. See service personnel records (SPRs) dated December 1974, December 1975, December 1976, and December 1977.

As noted above, the Veteran reported in an April 2016 statement that he worked at a receiver site adjacent to the runway where the Air Force sprayed Agent Orange on the runways, antennas, and perimeter fences. In support of his assertions, he submitted copies of articles, research, and legislative documents that indicate herbicides may have been stored and/or used on Guam during the time that he served there. Specifically, in a copy of 2019 Legislative Resolution 71-35 (COR) retired Air Force Master Sergeant LF testified that he “prepared, mixed and sprayed on Andersen AFB, Guam and all off base facilities, cross country pipelines that spanned the island to the Naval Fuel Supply Depot underground storage tanks.” He used a five-ton blue tract or truck and a yellow 750-gallon tank trailer which was an old MK-1 oil and Adi trailer to service C-124 Globemaster Aircraft which was converted into an herbicide spraying trailer. He often would have to spray the entire pipelines, hydrant pump stations on the flight line, the Quonset huts storing the packaged oil for the B-52 bombers, the fuel valve pits, the security fences surrounding the flight line, the fuel storage facilities at Andy I, Andy II, the Liquid Oxygen building. The Fuel operations office, the truck refueling hardstands, the refueling fleet checkout area, all of the off-base fuel storage facilities at Potts tank farm, Naval Air Station Fuel Booster pump station, Tumon Tank Farm and the entire cross-country pipeline.

A September 2013 article reported that in sworn testimony to the U.S. Congress and several affidavits retired Air Force Master Sergeant LF, who served as a Fuel Specialist at Andersen Air Force Base (AFB), Guam, from September 1968 until June 1978, maintained that Agent Orange, which contains deadly TCDD dioxin, was among the defoliants he regularly mixed and loaded into his trailer-mounted sprayer and dispersed base-wide; the official measurements made by the Agency for Toxic Substances and Disease Registry in a 2002 Public Health Report put the dioxin soil contamination at Andersen AFB at an astronomical 19,000 ppm (parts per million); and the Environmental Protection Agency (EPA) put Anderson AFB on the list of Superfund sites, noting area was vastly contaminated with dioxins, pesticides, trichlorethylene and other soil and water toxins.

In a November 2009 statement, retired Air Force Master Sergeant EJ reported that he served at Andersen AFB, Guam from 1972 to 1973 during which he occasionally transported 55 gallon drums of Agent Orange used to spray weeds and brush on the ramps, taxiways, revetments, runways, and other areas of Anderson AFB and at various U.S. Navy bases on Guam, including Naval magazine, Naval Communications Station, Naval Air station, and Navy Harbor area.

At the December 2018 board hearing, the Veteran’s representative cited a U.S. Government Accountability Office (GAO) report that acknowledges that Agent Orange components 2, 4-D and 2, 4, 5-T were used on Guam in commercial herbicides. Indeed, the November 2018 GAO report notes that “available records show that DOD stored and used commercial herbicides on Guam, possibly including those containing n-butyl 2,4,5-T, during the 1960s and 1970s, but documents do not indicate the use of tactical herbicides on Guam. Commercial herbicides were available through the federal supply system for use on U.S. military installations worldwide.” See GAO-19-24. “A detailed 1968 report by the Naval Supply Depot states that the Public Works Center sprayed herbicides semi-annually to control the vegetation along fuel pipelines between the depot and Andersen Air Force Basse. Id.

“Additionally, draft environmental assessments written in 1999 and 2009 by Naval Facilities Engineering Command, Pacific, indicate that commercial herbicides containing 2,4-D were present on Guam, and that commercial herbicides containing 2,4,5-T, which included the contaminant 2,3,7,8-TCDD, had been used for weed control along power lines and substations through 1980. Further, a 1969 master storage plan for the Naval Supply Depot includes sketches of storage facilities that specify the location of weed killers. Commercial herbicides approved for DOD procurement for use on installations were issued in 55-gallon drums and 5-gallon containers during the Vietnam War era, as were a range of other products, such as fuel oil and diesel. According to DOD officials, records for such purchases were not typically retained due to short record retention policies related to such routine supply
In this case, the assembled service records and documents adequately corroborate the Veteran’s service in Guam. VA regulations and GAO research, with consultation with other government records, has not resulted in a finding that tactical herbicides were used or stored at U.S. military sites on Guam. However, the GAO report conceded that available records show that DOD stored and used commercial herbicides on Guam, possibly including those containing n-butyl 2,4,5-T; and draft environmental assessments written in 1999 and 2009 by Naval Facilities Engineering Command, Pacific, indicate that commercial herbicides containing 2,4-D were present on Guam, and that commercial herbicides containing 2,4,5-T, which included the contaminant 2,3,7,8-TCDD, had been used for weed control along power lines and substations through 1980. Moreover, a statement from retired Air Force Master Sergeant LF stated he regularly mixed and loaded defoliants into his trailer-mounted sprayer and dispersed them base wide from September 1968 to June 1978, a period of time during which the Veteran was also stationed at Naval Communications Station on Andersen AFB, Guam. The evidence does not support a likelihood that service in Guam generally included exposure to herbicides containing dioxin, but the evidence supports a significant possibility that such herbicides were used for groundskeeping. That is essentially the means of exposure the Veteran reported, so the evidence makes his exposure claim plausible. His accounts are consistent and detailed, which adds to their credibility. As such, resolving reasonable doubt in the Veteran’s favor, the Board finds that he was exposed to herbicides containing components 2,4-D and 2,4,5-T while serving in Guam and that his type II diabetes can be presumed to be related to herbicide exposure in service. 38 U.S.C. § 5107(b); 38 C.F.R. § 3.102; Gilbert v. Derwinski, 1 Vet. App. 49, 53-56 (1990).

REASONS FOR REMAND

1. Entitlement to service connection for bilateral plantar fasciitis is remanded.

The veteran contends his bilateral plantar fasciitis is related his active service. Specifically, he asserts that his disability is related to several severely sprained ankles (both feet) that he incurred in 1973 or 74 aboard the USS Henderson and in Guam as well as because his job as a radioman required him “to stand on concrete all the time.” See December 2018 hearing transcript. In this regard, the Board notes that the Veteran is service connected for a left ankle sprain. The November 2014 VA examiner opined that the Veteran’s bilateral plantar fasciitis was less likely than not incurred in service. However, the opinion is primarily based on an absence of evidence and does not address aggravation. As such, remand for a new opinion is warranted. Moreover, VA treatment records show the Veteran has received private treatment from a podiatrist in Oak Harbor, Washington. See VA treatment records December 2015, July 2016, and May 2017. However, it does not appear these records have been associated with the file. As such, on remand the AOJ should attempt to obtain these records.

2. Entitlement to service connection for liver disease is remanded.

The Board notes that a VA examination is needed as one has not been provided. The Veteran contends that his liver disease is related to his active service, to include in-service exposure to herbicides and Hepatitis B while stationed in the Philippines and in Guam; and that his liver disease is secondary to his now service-connected diabetes, to include medications prescribed for his diabetes. See April 2016 correspondence; VA Form 9 dated April 2016 and May 2016 Form 9; December 2018 hearing transcript. In this regard, service treatment records (STRs) show providers noted the Veteran had a rash all over his body and on his torso in November 1975 and on his legs in September 1979; had swelling in his legs in April 1977; complained of experiencing diarrhea and nausea in February 1977 and October 1978; and was prescribed Lasix in April 1976 and January 1978. Post-service records show elevated liver enzymes since October 2005 and a diagnosis of Hepatitis B in October 2011. Moreover, as noted above, the Veteran has been service-connected for diabetes. See VA treatment records dated October 2005, September 2011, October 2011, August 2012, August 2013, and October 2015. Moreover, in support of his assertion that his liver disease is caused by his now service-connected diabetes he submitted medical research from 1999 and 2007 that indicates diabetes may be related to liver disease. See April 2016 correspondence. As such, a VA examination is warranted. See McLendon v. Nicholson, 20 Vet. App. 79, 81 (2006)

3. Entitlement to an increased initial evaluation for asbestosis is remanded.
The Veteran is seeking entitlement to higher initial evaluations for his service-connected asbestosis and residual gluteal cleft scar. The Veteran’s most recent VA examination for his asbestosis occurred in February 2016. Since that time, the record reflects that at the December 2018 Board hearing the Veteran asserted that his disability has worsened, to include increased difficulty breathing and coughing; and in a May 2016 statement reported that nail deterioration, to include tearing and bleeding. These are the first such contentions by the Veteran and the Board finds that they raise a possibility that the disability may have worsened. Therefore, a new VA examination is needed. See Snuffer v. Gober, 10 Vet. App. 400, 403 (1997).

4. Entitlement to an increased initial evaluation for a residual gluteal cleft scar is remanded.

The Veteran’s most recent VA examination for his scar occurred in February 2016. Since that time, the record reflects that at the December 2018 Board hearing the Veteran asserted that his disability has worsened, to include that it has become unstable and “grew six inches” and “tends to get infected.” Moreover, a November 2018 VA treatment record shows a dermatologist noted that the Veteran’s scar has become more symptomatic and referred him for consideration of scar revision. These are the first such contentions by the Veteran and the Board finds that they raise a possibility that the disability may have worsened. Therefore, a new VA examination is needed. See Snuffer v. Gober, 10 Vet. App. 400, 403 (1997).

The matters are REMANDED for the following action:

1. The AOJ should obtain copies of VA treatment records for the Veteran’s disabilities from February 2019 to the present.

2. The AOJ should obtain, if possible, records of all private evaluations and treatment the Veteran has received for his feet. The Veteran must assist in the matter by identifying his private healthcare providers and by submitting releases for VA to obtain any private records identified.

   If any private records identified are not received pursuant to the AOJ’s request, the Veteran should be so notified and advised that it is ultimately his responsibility to ensure that any available private records are received.

3. After the above development is completed, the AOJ should arrange for a VA examination of the Veteran to determine the nature and likely cause of his plantar fasciitis. The examiner should review the claim file (including this remand) and note such review was conducted. Based on review of the record and examination of the Veteran, the examiner should provide an opinion with detailed rationale that responds to the following:

   (a.) Please opine as to whether it is at least as likely as not (50% or greater probability) that the Veteran’s plantar fasciitis was either caused or aggravated by the Veteran’s service-connected left ankle sprain? Please explain why. In doing so, the examiner should address the Veteran’s statements that his plantar fasciitis was caused by severely sprained ankles that he incurred in 1973 or 1974.

   The opinion must also address whether the disability increased in severity beyond its natural progression (i.e., was aggravated). If aggravation is found, please identify to the extent possible the baseline level of disability prior to the aggravation.

   (b.) Please opine as to whether it is at least as likely as not (50% or greater probability) that the Veteran’s planta fasciitis was either incurred in or otherwise related to the Veteran’s active duty service? Please explain why. In doing so, the examiner should address the Veteran’s statements that his plantar fasciitis was caused by stand on concrete all the time during active service.

4. After the development in (1) above is completed, the AOJ should arrange for a VA examination of the Veteran to determine the nature and likely cause of any liver disease. The examiner should review the claim file (including this remand) and note such review was conducted. Based on review of the record and examination of the Veteran, the examiner should provide an opinion with detailed rationale that responds to the following:

   (a.) Please identify, by diagnosis, all liver disabilities present during the appeal period
(from April 2014). In doing so, it should be noted that the record contains a diagnosis of Hepatitis B, and thus, the opinion should include consideration of this diagnosis.

(b.) For any liver disability diagnosed, is it at least as likely as not (50% or greater probability) that the disability was either caused or aggravated by the Veteran’s service-connected diabetes to include medication prescribed for the same? Please explain why. In doing so, the examiner should address the medical research submitted by the Veteran indicating an association between liver disease and diabetes.

The opinion must also address whether the disability increased in severity beyond its natural progression (i.e., was aggravated). If aggravation is found, please identify to the extent possible the baseline level of disability prior to the aggravation.

(c.) For any liver disability diagnosed, is it at least as likely as not (50% or greater probability) that the disability was either incurred in or otherwise related to the Veteran’s active duty service, to include by exposure to herbicide agents and/or Hepatitis B in the Philippines and/or Guam? Please explain why. In doing so, the examiner should address the in-service Lasix prescription, treatment of a rash, diarrhea, and nausea; post-service elevated liver enzymes levels.

5. After the development in (1) above is completed, the AOJ should arrange for an examination of the Veteran to assess the current severity of his service-connected asbestosis. The examiner must review the entire record (including this remand) in conjunction with the examination and note such review was conducted. The examiner should provide a full description of the disability and report all signs and symptoms associated with the Veteran’s disability.

6. After the development in (1) above is completed, the AOJ should arrange for an examination of the Veteran to assess the current severity of his service-connected residual gluteal cleft scar. The examiner must review the entire record (including this remand) in conjunction with the examination and note such review was conducted. The examiner should provide a full description of the disability and report all signs and symptoms associated with the Veteran’s disability.

7. If upon completion of the above action the issues remain denied, the case should be returned to the Board after compliance with appellate procedures.

E. I. VELEZ
Veterans Law Judge
Board of Veterans’ Appeals

ATTORNEY FOR THE BOARD  A. Roe, Associate Counsel

The Board’s decision in this case is binding only with respect to the instant matter decided. This decision is not precedential, and does not establish VA policies or interpretations of general applicability. 38 C.F.R. § 20.1303.
ORDER

Entitlement to service connection for ischemic heart disease is granted.

FINDINGS OF FACT

1. The Veteran has been diagnosed with ischemic heart disease.

2. The Veteran has provided competent and probative lay evidence, bolstered by scientific study submissions, reflecting that he was sprayed by an herbicide agent and/or worked within an area that had been sprayed by an herbicide agent.

[Although the Joint Services Records Center (JSRRC) was unable to verify the use or storage of “Agent Orange or other tactical herbicides or dioxins while [the Veteran] was stationed at Anderson AFB,” correspondence between the JSRRC coordinator and the Environmental Protection Agency’s (EPA) Guam Program Manager, acknowledged that small scale spraying may have occurred. See August 2016 Electronic Mail Correspondence; April 2011 Electronic Mail Correspondence.]

3. In light of the competent and probative evidence indicating that the Veteran was exposed to herbicide agents, in the absence of any directly contradictory evidence, and resolving reasonable doubt in the Veteran’s favor, the Board finds that he was exposed to herbicide agents.


CONCLUSION OF LAW

The criteria for service connection for ischemic heart disease are met. 38 U.S.C. §§ 1110, 1111, 1116 5107(b); 38 C.F.R. §§ 3.102, 3.303, 3.307, 3.309(e).

VICTORIA MOSHIASHWILI
Veterans Law Judge
Board of Veterans' Appeals

ATTORNEY FOR THE BOARD  S. Lambert, Associate Counsel
Citation Nr: 1807678
Decision Date: 02/06/18    Archive Date: 02/14/18

DOCKET NO. 09-11 085A ) DATE

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On appeal from the
Department of Veterans Affairs Regional Office in Seattle, Washington

THE ISSUES

1. Entitlement to service connection for an acquired psychiatric disorder, claimed as mood
disorder and irritability, to include as due to exposure to herbicide agents.

2. Entitlement to service connection for a headache disorder, to include as due to exposure
to herbicide agents.

3. Entitlement to service connection for diabetes mellitus, type II, to include as due to
exposure to herbicide agents.

4. Entitlement to service connection for hypertension, to include as due to exposure to
herbicide agents.

5. Entitlement to service connection for a heart disability, to include as due to exposure
to herbicide agents.

6. Entitlement to service connection for a disability manifested by recurrent nosebleeds, to
include as due to exposure to herbicide agents.

REPRESENTATION

Appellant represented by: Vietnam Veterans of America

WITNESS AT HEARING ON APPEAL

The Veteran and his spouse

ATTORNEY FOR THE BOARD

Joseph R. Keselyak, Counsel

INTRODUCTION

The Veteran served on active duty with the United States Navy from January 1971 to March
1977.

These matters come before the Board of Veterans' Appeals (Board) on appeal from an April 2007
rating decision by the Seattle, Washington, Regional Office (RO) of the United States
Department of Veterans Affairs (VA).

The Veteran testified at a March 2015 hearing held before the undersigned via a three-way
videoconference from the Portland, Oregon, and Seattle, Washington, ROs. A transcript of the
hearing is associated with the claims file.

In June 2015 this matter was last before the Board, at which time it was remanded for further
development.

The issues of entitlement to service connection for a headache disorder, to include as due to
exposure to herbicide agents, entitlement to service connection for hypertension, to include
as due to exposure to herbicide agents and entitlement to service connection for a disability
manifested by recurrent nosebleeds, to include as due to exposure to herbicide agents, are addressed in the REMAND portion of the decision below and are REMANDED to the Agency of Original Jurisdiction (AOJ).

FINDINGS OF FACT

1. It has not been shown by competent and probative evidence that the Veteran has a current psychiatric disability or that he had a psychiatric disability during the course of the present claim and appeal.

2. The Veteran was, as likely as not, exposed to an herbicide agent during his service at Anderson Air Force Base, in Guam.

3. The Veteran has diagnoses of type II diabetes mellitus and coronary artery disease, i.e. ischemic heart disease.

CONCLUSIONS OF LAW


2. Resolving the benefit of the doubt in the Veteran’s favor, type II diabetes mellitus is presumed to have been incurred in active service. 38 U.S.C. §§ 1101, 1110, 1112, 1113, 1116, 5103, 5103A, 5107 (2002); 38 C.F.R. §§ 3.102, 3.159, 3.303, 3.307, 3.309 (2017).

3. Resolving the benefit of the doubt in the Veteran’s favor, coronary artery disease is presumed to have been incurred in active service. 38 U.S.C. §§ 1101, 1110, 1112, 1113, 1116, 5103, 5103A, 5107 (2002); 38 C.F.R. §§ 3.102, 3.159, 3.303, 3.307, 3.309 (2017).

REASONS AND BASES FOR FINDINGS AND CONCLUSIONS

Notice and Assistance


Concerning the duty to assist, the record reflects that VA has made reasonable efforts to obtain relevant records adequately identified by the Veteran, including his service treatment records, post-service treatment records, and VA examination reports.

The Veteran was provided a hearing before the undersigned VLJ in March 2015, as well as a Decision Review Officer (DRO) in February 2009. As there is no allegation that either of the hearings provided to the Veteran were deficient in any way, further discussion of the adequacy of the hearings is not necessary. Dickens v. McDonald, 814 F.3d 1359 (Fed. Cir. 2016).

These claims were remanded in June 2015 to afford the Veteran examinations and obtain medical opinions. Following the Board’s remand, the Veteran was afforded VA examinations and medical opinions were obtained. Accordingly, there has been compliance with the Board’s remand directives. Stegall v. West, 11 Vet. App. 268 (1998).

Analysis

Establishing service connection generally requires medical or, in certain circumstances, lay evidence of (1) a current disability; (2) an in-service incurrence or aggravation of a disease or injury; and (3) a nexus between the claimed in-service disease or injury and the present disability. See Davidson v. Shinseki, 581 F.3d 1313 (Fed. Cir. 2009); Hickson v. West, 12 Vet. App. 247, 253 (1999); Caluza v. Brown, 7 Vet. App. 498, 506 (1995), aff’d per curiam, 78 F.3d 604 (Fed. Cir. 1996) (table).

For the showing of chronic disease in service, there is required a combination of manifestations sufficient to identify the disease entity and sufficient observation to
establish chronicity at the time. If chronicity is not established, then a showing of continuity of symptomatology after discharge is required to support the claim. 38 C.F.R. § 3.303(b). However, the regulatory provisions pertaining to chronicity and continuity of symptomatology are constrained by 38 C.F.R. § 3.309(a), and thus such provisions are only available to establish service connection for the specific chronic diseases listed in 38 C.F.R. § 3.309(a). See Walker v. Shinseki, 708 F.3d 1331 (Fed. Cir. 2013) (overruling Savage v. Gober, 10 Vet. App. 488 (1997)).

Here, the Board notes that the Veteran has been diagnosed with type II diabetes mellitus and coronary artery disease, which are subject to service connection based upon continuity of symptomatology under 38 C.F.R. § 3.309(a).

Additionally, a veteran who served in the Republic of Vietnam during the period beginning on January 9, 1962, and ending on May 7, 1975, will be presumed to have been exposed to an herbicide agent during such service unless there is affirmative evidence to the contrary. 38 C.F.R. § 3.307(a)(6).

If a veteran was exposed to an herbicide agent during active military, naval, or air service, any of the diseases listed in 38 C.F.R. § 3.309(e) (which includes diabetes mellitus) may be presumed to have been incurred in-service even if there is no evidence of the disease in service. In order to gain presumptive service connection diabetes mellitus, it shall have become manifest to a degree of 10 percent or more at any time after service. 38 C.F.R. § 3.307(a)(6)(ii).

Where a veteran served continuously for 90 days or more during a period of war or during peacetime service after December 31, 1946, service connection may also be allowed on a presumptive basis for psychosis and if the disability becomes manifest to a compensable degree within one year after the veteran’s separation from service. 38 U.S.C.A. §§ 1101, 1112, 1113, 1137; 38 C.F.R. §§ 3.307, 3.309.

The term "psychosis" means any of the following disorders listed in Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision, of the American Psychiatric Association (DSM-IV-TR): (a) Brief Psychotic Disorder; (b) Delusional [*5] Disorder; (c) Psychotic Disorder Due to General Medical Condition; (d) Psychotic Disorder Not Otherwise Specified; (e) Schizoaffective Disorder; (f) Schizophrenia; (g) Schizophreniform Disorder; (h) Shared Psychotic Disorder; and (i) Substance-Induced Psychotic Disorder. 38 C.F.R. § 3.384.

When, after careful consideration of all procurable and assembled data, a reasonable doubt arises regarding the degree of disability or any other point, such doubt will be resolved in favor of the claimant. By reasonable doubt is meant one that exists because of an approximate balance of positive and negative evidence which satisfactorily proves or disproves the claim. It is a substantial doubt and one within the range of probability as distinguished from pure speculation or remote possibility. 38 C.F.R. § 3.102. See also 38 U.S.C. § 5107 (b); Gilbert v. Derwinski, 1 Vet. App. 49, 53-56 (1990).

Psychiatric Disability

The Veteran claims that he has a psychiatric disability attributable to service. He has indicated that he is irritable and short-tempered. However, a review of the record discloses no assessment of a psychiatric disability, and there is no indication that the Veteran sought any treatment for such following service. VA examination in June 2016 specifically ruled out the diagnosis or history of any psychiatric disability. The Veteran is not competent to assess a psychiatric disability. Thus, in the absence of a present psychiatric disability, the claim cannot be substantiated. Pertinent to a claim for service connection, such a determination requires a finding of current disability that is related to an injury or disease in service. Watson v. Brown, 4 Vet. App. 309 (1993); see also Brammer v. Derwinski, 3 Vet. App. 223, 225 (1992); Rabideau v. Derwinski, 2 Vet. App. 141, 143 (1992). No psychiatric disability was present during the course of the present claim. McClain, supra. Thus, the claim must be denied. Gilbert, supra.

Type II Diabetes Mellitus and Coronary Artery Disease

The Veteran alleges that while stationed in Guam he was exposed to herbicides being sprayed at Anderson Air Force Base. He worked with the SeaBees constructing pads for B-52 bombers being staged there. Specifically, he alleges exposure to tactical herbicides such as Agent

https://www.va.gov/vetapp18/files2/1807678.txt
Orange; such exposure triggers presumptive service connection for a number of diseases and disabilities. 38 U.S.C.A. § 1116; 38 C.F.R. §§ 3.307, 3.309.

Presumptive service connection based on exposure to herbicide agents is available for the following diseases: AL amyloidosis; chloracne or other acneform disease consistent with chloracne; type 2 diabetes (also known as Type II diabetes mellitus or adult-onset diabetes); Hodgkin's disease; ischemic heart disease (including, but not limited to, acute, subacute, and old myocardial infarction); atherosclerotic cardiovascular disease including coronary artery disease (including coronary spasm) and coronary bypass surgery; and stable, unstable and Prinzmetal's angina; all chronic B-cell leukemias (including, but not limited to, hairy-cell leukemia and chronic lymphocytic leukemia); multiple myeloma; non-Hodgkin's lymphoma-Parkinson's disease; acute and subacute peripheral neuropathy; porphyria cutanea tarda; prostate cancer; respiratory cancers (cancer of the lung, bronchus, larynx, or trachea); soft-tissue sarcoma (other than osteosarcoma, chondrosarcoma, Kaposi's sarcoma, or mesothelioma). For purposes of this section, the term ischemic heart disease does not include hypertension or peripheral manifestations of arteriosclerosis such as peripheral vascular disease or stroke, or any other condition that does not qualify within the generally accepted medical definition of ischemic heart disease. 38 C.F.R. § 3.309(e)

Unfortunately, the evidence of record fails to establish exposure to tactical herbicide agents. While the Veteran is adamant that Agent Orange and similar substances were stored and used on Guam, official records are clear that no tactical herbicide agents were stored, used, or transported through Guam during the time period the Veteran was present. While the Veteran has assembled an impressive array of research from secondary sources, including anecdotal evidence from other service members, EPA reports and findings, and nonprecedential Board decisions indicating their use and presence, the Board finds that the official records, confirmed several times through the Department of Defense and the Joint Services Records Research Center (JSRRC), are entitled to greater weight. No tactical herbicide agents were used or present on Guam.

As noted by the Board in June 2015, the regulations do not limit the presumptions to tactical herbicide agents; they also include commercial herbicides, so long as they contain "2, 4-D; 2, 4, 5-T and its contaminant TCDD; cacodylic acid; and picloram." 38 C.F.R. § 3.307(a)(6) (i). While official records show no use of tactical herbicide agents on Guam, they also appear to endorse the fact that commercial herbicides would have been routinely used. Such is consistent with the anecdotal evidence submitted by the Veteran and others of observing spraying of substances intended as herbicides on base.

Such commercial herbicides were not under the control of the Department of Defense. Instead, the local Base Civil Engineer was responsible for purchase and use of herbicides approved by the Armed Forces Pest Control Board, now renamed the Armed Forces Pest Management Board (AFPMB). Noting such, in June 2015 the Board remanded the matters to obtain evidence from the AFPMB.

In November 2015, the AFPMB responded that it did not maintain personnel or installation-level use records of exposure to herbicides. Thus, the AFPMB could not provide any specific information on the characteristics of the herbicides used during the Veteran's service in Guam. The AFPMB did, however note that Federal supply catalogs for the relevant period showed that 22 commercial products were available for purchase, and that five of these products contained 2,4-D, three of the products contained 2,4,5-T, one contained picloram, and none contained cacodylic acid. The AFPMB noted, saliently, that the dioxin contaminant TCDD was formed as a byproduct of the manufacturing process of 2, 4, 5-T, as well as Silvex and other materials, including disinfectants and pharmaceuticals.

The Veteran was afforded VA examinations in June 2016, resulting in diagnoses of type II diabetes mellitus and CAD. In terms of any exposure to an herbicide agent, the examiner remarked that, after review of the AFPMB, as well as EPA reports of record, it was as likely as not that the Veteran was exposed to TCDD during his service in Guam. It is noted that the examiner also remarked that the Veteran had lived in Guam prior to and after service, and that he worked in the construction industry on the island following service. In terms of CAD, the examiner noted risk factors of hypertension, and poorly controlled diabetes mellitus. The examiner stated although exposure to TCDD may be a "risk factor" in developing type II diabetes mellitus, the Veteran also had other risk factors, including his lifestyle.

The Veteran was as likely as not exposed to an herbicide agent during his service in Guam. The Veteran's Naval Enlistment Classification (NEC) clearly involved excavation of soil...
contaminated with herbicides. He has competently testified to the circumstances of his service. The AFPMB has indicated that of the 22 commercial herbicides possibly used at Anderson Air Force Base, 9 contained an herbicide agent. See 38 C.F.R. § 3.309(a)(6)(i).

The June 2016 VA examiner concluded, based upon a review of AFPMB records and the pertinent evidence, that it is at least as likely as not that the Veteran was exposed to "TCDD" during his service in Guam. TCDD is a byproduct of herbicide production, specifically noted in the regulation as a contaminant of 2, 4, 5,-T. See Facts about Herbicides, https://www.publichealth.va.gov/exposures/agentorange/basics.asp. Thus, given the examiner’s opinion and the AFPMB’s response, it appears that the Veteran was as likely as not exposed to an herbicide agent.

Entitlement to service connection for coronary artery disease and type II diabetes mellitus is granted. The Board acknowledges that the June 2016 examiner indicated that factors other than any exposure to herbicides or an herbicide agent resulted in CAD and type II diabetes mellitus. The Veteran, as likely as not, was exposed to an herbicide agent. After service, he was assessed as having CAD and type II diabetes mellitus. Accordingly, service connection for CAD (ischemic heart disease) and type II diabetes mellitus is granted. Gilbert, supra.

In rendering this decision, the Board acknowledges that the VA examiner notes risk factors besides exposure to herbicide agents for the diagnosed CAD and type II diabetes mellitus. However, the evidence does not support a conclusion that the disease was not incurred in service on a presumptive basis. 38 C.F.R. § 3.3.7(d).

ORDER

Entitlement to service connection for diabetes mellitus, type II, to include as due to exposure to herbicide agents, is granted subject to the laws and regulations governing the award of monetary benefits.

Entitlement to service connection for a heart disability, to include as due to exposure to herbicide agents, is granted, subject to the laws and regulations governing the award of monetary benefits.

REMAND

The Veteran seeks entitlement to service connection for hypertension. In June 2016, the VA examiner rendered a negative opinion with respect to attribution of hypertension to type II diabetes mellitus (now subject to service connection) by means of causation. The examiner noted that the assessment of hypertension preceded the assessment of type II diabetes mellitus, but did remark that she "would expect aggravation of his [hypertension]" and that kidney function was then stable.

Once VA provides an examination, it must be adequate or VA must notify the Veteran why one will not or cannot be provided. Barr v. Nicholson, 21 Vet. App. 303, 311 (2007). An examination is adequate if it "takes into account the records of prior medical treatment, so that the evaluation of the claimed disability will be a fully informed one." Barr, 21 Vet. App. at 311 (quoting Green v. Derwinski, 1 Vet. App. 121, 124 (1991)). Moreover, an examination must be based upon consideration of the Veteran’s prior medical history and examinations. Stefl v. Nicholson, 21 Vet. App. 120, 123 (2007). The Secretary has an affirmative duty to gather the evidence necessary to render an informed decision on a claim. Douglas v. Shinseki, 23 Vet. App. 19 (2009). Pursuant to 38 C.F.R. § 4.2, it is incumbent upon the rating board to return an examination report as inadequate if it does not contain sufficient detail.

Further examination is necessary to address the question of aggravation of hypertension by service-connected type II diabetes mellitus. The examiner’s statement indicates that hypertension may be aggravated by type II diabetes mellitus. Accordingly, the examination report is returned. 38 C.F.R. § 4.2.

The Veteran is also claiming that he has nosebleeds incurred in service. VA obtained a medical examination to address the etiology of the condition. The June 2016 examiner found no relationship between the nosebleeds and the claimed headaches and hypertension. The examiner also found no relationship between the claimed nosebleeds and herbicide exposure. The examiner did not comment on whether the nosebleeds were incurred in service. The Veteran’s representative requests a new examination to address this question. See November 2017 Informal Hearing Presentation. Accordingly, the claim is remanded. 38 C.F.R. § 4.2.
The Veteran is claiming that he has headaches related to hypertension. The Board is
remanding the claim for service connection of hypertension. Thus, the claim for service
two issues are “inextricably intertwined” when they are so closely tied together that a
final Board decision cannot be rendered unless both issues have been considered).

Accordingly, the case is REMANDED for the following action:

1. Refer the claims folder to the examiner who performed the June 2016 examination (if
available) to obtain an addendum opinion as to the etiology of hypertension. If unavailable,
schedule the Veteran for a new VA examination by an appropriate medical professional.

The claims folder and a copy of this Remand should be made available to the medical
professional. The examiner must review the record, giving particular attention to the
service treatment records, lay assertions, and the pertinent medical evidence. A notation to
the effect that this record review took place shall be included in the report of the
examiner.

Based upon a review of the record, the examiner should provide an opinion as to whether it is
at least as likely as not (a 50 percent or greater probability) that hypertension was
aggravated by the now service-connected type II diabetes mellitus.

If the examiner finds aggravation, the examiner should indicate to the extent possible the
approximate degree of disability or baseline before the onset of the aggravation.
Aggravation is defined for legal purposes as a permanent worsening of the underlying
condition beyond the natural progression, versus a temporary flare-up of symptoms.

All opinions must be accompanied by a complete rationale. If the examiner is unable to reach
an opinion without resort to speculation, he or she should explain the reasons for this
inability and comment on whether any further tests, evidence or information would be useful
in rendering an opinion.

2. Refer the claims folder to the examiner who performed the June 2016 examination (if
available) to obtain an addendum opinion as to the etiology of the Veteran’s claimed
nosebleeds (epistaxis). If unavailable, schedule the Veteran for a new VA examination by an
appropriate medical professional.

The claims folder and a copy of this Remand should be made available to the medical
professional. The examiner must review the record, giving particular attention to the
service treatment records, lay assertions, and the pertinent medical evidence. A notation to
the effect that this record review took place shall be included in the report of the
examiner.

Based upon a review of the record, the examiner should provide an opinion as to whether it is
at least as likely as not (a 50 percent or greater probability) that the Veteran incurred
nosebleeds in service, or that nosebleeds are otherwise attributable thereto.

All opinions must be accompanied by a complete rationale. If the examiner is unable to reach
an opinion without resort to speculation, he or she should explain the reasons for this
inability and comment on whether any further tests, evidence or information would be useful
in rendering an opinion.

Attention is invited to the Veteran’s lay assertions that he experienced nosebleeds in
service, which have persisted to present day.

3. Then readjudicate the claims. If any action remains adverse to the Veteran, issue a
Supplemental Statement of the Case to the Veteran and his representative, and allow the
appropriate time for response. Then, return the case to the Board.

The appellant has the right to submit additional evidence and argument on the matter or

This claim must be afforded expeditious treatment. The law requires that all claims that are
remanded by the Board of Veterans' Appeals or by the United States Court of Appeals for
Veterans Claims for additional development or other appropriate action must be handled in an

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MICHAEL A. PAPPAS
Veterans Law Judge, Board of Veterans' Appeals

Department of Veterans Affairs