



## REASONS AND BASES FOR FINDINGS AND CONCLUSION

The appellant asserts that the Veteran's cause of death is related to his active service. Specifically, she contends that service connection is warranted for the cause of his death because of exposure to tactical herbicide agents during his service during the Vietnam War at the Korat Air Base in Thailand.

The Veteran died in October 2009. His death certificate indicates his immediate cause of death was "RESPIRATORY FAILURE," caused by "LEWY BODY DEMENTIA."

In order to establish service connection for the cause of the Veteran's death, the evidence must show that a disability incurred in or aggravated by active service was the principal or contributory cause of death. 38 U.S.C.A. § 1310; 38 C.F.R. § 3.312 (a). In order to constitute the principal cause of death, the service-connected disability must be one of the immediate or underlying causes of death or be etiologically related to the cause of death. 38 C.F.R. § 3.312 (b). In the case of contributory cause of death, it must be shown that a service-connected disability contributed substantially or materially to cause death. 38 C.F.R. § 3.312 (c)(1). During his lifetime, the Veteran established entitlement to service connection for degenerative changes of both knees and lumbar spine, rater 10 percent disabling.

It is VA's defined and consistently applied policy to administer the law under a broad interpretation, consistent, however, with the facts shown in every case. When, after careful consideration of all procurable and assembled data, a reasonable doubt arises regarding service origin, the degree of disability, or any other point, such doubt will be resolved in favor of the claimant. By reasonable doubt it is meant that an approximate balance of positive and negative evidence exists which does not satisfactorily prove or disprove the claim. Reasonable doubt is a substantial doubt and one within the range of probability as distinguished from pure speculation or remote possibility. See 38 U.S.C.A. § 5107 (b); 38 C.F.R. § 3.102.

If a veteran was exposed to an herbicide agent (including Agent Orange) during active service and has contracted one of a list of specified disabilities to a degree of 10 percent or more at any time after service, service connection is presumptively warranted even though there is no record of such disease during service. 38 U.S.C.A. § 1116; 38 C.F.R. § 3.307(a)(6), 3.309(e). The Board notes that Parkinson's disease is one of the listed diseases triggering application of this presumption. 38 C.F.R. § 3.309(e).

There are no regulatory or statutory presumptions regarding herbicide exposure in Thailand. However, VA extends special consideration to allegations of herbicide exposure on a factual basis to veterans whose duties placed them on or near the perimeters of Thailand military bases during the Vietnam era, specifically the Royal Thai Air Force Bases (RTAFB) of U-Tapao, Ubon, Nakhon Phanom, Udorn, Takhli, Korat, and Don Muang. The duties that are considered to have placed veterans on or near the perimeter include security policeman, security patrol dog handlers, members of the security police squadron, or those who are otherwise shown to have served near the air base perimeter as evidenced by their military occupational specialty (MOS), daily work duties, performance evaluations, and other credible evidence. M21-1, Part IV, Subpart ii, 1.H.5.a, b.

The appellant asserts that the Veteran's duties as a supervisor of base supply operations at Korat RTAFB brought the Veteran near the base perimeter and, therefore, herbicide exposure should be conceded. The appellant alleges that the Veteran was exposed to herbicides, including tactical herbicide agents such as Agent Orange, during such service in Thailand. Parkinson's disease is listed as a disease presumptively linked to exposure to "certain herbicide agents" under 38 C.F.R. §§ 3.307(a)(6), 3.309(e). The definition of herbicides for which the presumption applies features "specifically: 2,4-D; 2,4,5-T and its contaminant TCDD; cacodylic acid; and picloram." 38 CFR § 3.307(a)(6)(i).

If the evidence shows that the Veteran was exposed to commercial herbicides, rather than the tactical herbicide agents of the type identified in 38 CFR § 3.307(a)(6)(i), the special presumptions for tactical herbicides would not apply; however, development may be warranted to determine whether the actual chemical exposure may be etiologically significant to the later onset of a claimed disease. The United States Court of Appeals for the Federal Circuit has held that a claimant is not precluded from establishing service connection with proof of actual direct causation. Combee v. Brown, 34 F.3d 1039 (Fed. Cir. 1994). In other words, the fact that a veteran may not meet the requirements for service connection on a presumptive basis does not in and of itself preclude the establishment of service connection, as entitlement may alternatively be established on a nonpresumptive direct-incurrence basis.

The appellant contends that the cause of the Veteran's death was a disease attributable to exposure to tactical herbicide agents. The causes of death listed on the Veteran's death certificate do not expressly include any disease listed in 38 C.F.R. § 3.309(e) that would be presumed linked to any in-service exposure to tactical herbicide agents. The Board notes that Parkinson's disease is on the 38 C.F.R. § 3.309(e) list of disabilities presumptively linked to tactical herbicide exposure, while Lewy body dementia is not (nor is respiratory failure). An August 2010 statement from the Veteran's treating neurologist stated that the Veteran "had lewy body dementia with Parkinson's disease and this caused the respiratory failure which resulted in his death." Discussion during the January 2017 Board hearing included recognition that further explanation of this statement could be helpful to the appellant's case in this appeal. Subsequently, a new January 2017 statement from the same neurologist explains that the Veteran had "a 13-year history of Parkinson's disease and Lewy Body Dementia prior to his death..." and describes that this medical pathology caused the Veteran's decline featuring "progressively losing control of all bodily functions as is the case with degenerative brain disorders .... the respiratory center in his brain finally stopped working and he died because of respiratory failure."

The statements from Dr. Hylton do not unambiguously clarify the role of Parkinson's disease, as distinguished from Lewy body dementia, in causing the Veteran's death. However, the statements do significantly suggest that Parkinson's disease was a featured part of the diagnosed pathology that caused the Veteran's death ("lewy body dementia with Parkinson's disease ... caused the respiratory failure which resulted in his death," "Parkinson's disease and Lewy Body Dementia .... because of the natural progression of his disease, the respiratory center in his brain finally stopped working and he died because of respiratory failure." The Board observes that Lewy body dementia and Parkinson's disease are deeply medically related diagnoses, taking judicial notice of publicly available information identifying "LBD is a an umbrella term for two related clinical diagnoses, dementia with Lewy bodies and Parkinson's disease dementia" (emphasis added, as explained by the website of the Lewy Body Dementia Association at <https://www.lbda.org/content/symptoms>), and "Lewy body dementia, Parkinson disease, and Alzheimer disease overlap considerably" (as explained by the Merck Manual, Professional Version website at <http://www.merckmanuals.com/professional/neurologic-disorders/delirium-and-dementia/lewy-body-dementia-and-parkinson-disease-dementia>). The Merck Manual website further informs that the medically observed link between Lewy body dementia and Parkinson's disease is known, but not thoroughly medically understood, explaining: "Because Lewy bodies occur in Lewy body dementia and in Parkinson disease dementia, some experts think that the 2 disorders may be part of a more generalized synucleinopathy affecting the central and peripheral nervous systems. Further research is needed to clarify the relationships among them." Id.

The Board has considered that the Veteran in this case was diagnosed by his treating neurologist with both Parkinson's disease and Lewy body dementia. The Board has considered that the treating neurologist repeatedly refers to the two diagnoses together when identifying and explaining the cause of the Veteran's death. The Board has considered the publicly available general medical information indicating an overlapping connectedness between Lewy body dementia and Parkinson's disease. In light of the circumstances and evidence in this particular case, the Board finds that the Veteran's neurologist-diagnosed pathology of Parkinson's disease is reasonably shown to have been at least a contributory cause of the Veteran's death (the indications of record are at least in equipoise on the point, allowing resolution of reasonable doubt in the appellant's favor).

Consequently, service connection for the cause of the Veteran's death may be warranted in this case if the Board finds that the Veteran was exposed to a tactical herbicide agent during military service. The Board now turns its attention to consideration of this element of the claim.

The Veteran's service personnel records indicate he was stationed with the 388th Supply Squadron, Korat Royal Thai Air Force Base, Thailand from August 1967 to August 1968. His documented duty titles during this time included "NCOIC [Non-Commissioned Officer in Charge] Storage & Issue" and "Materiel Receiving." The Board notes that the Veteran received a citation and the Air Force Commendation Medal for his distinguished service "supervis[ing] the daily receipt and processing of ten to fifteen tons of bulky materials and consolidated shipments." Personnel records show that he was "[r]esponsible for in-processing of Air Force supplies and equipment by off loading carriers ... and forwarding processed supplies and equipment to the applicable issue or storage area," in addition to being "in charge of receipt of bulk supplies and large equipment in the outside area adjacent to the Receiving Building."

The appellant clarified during the January 2017 Board hearing that this case features no contention that the Veteran ever served within the borders of Vietnam; thus no presumption of herbicide exposure associated with service in-country in Vietnam is applicable in this case. VA has developed specific evidentiary procedures to verify whether a Veteran was exposed to

herbicides in locations other than Vietnam. M21-1, Part IV, Subpart ii, Chapter 2, Section C, para. 10(q), was adopted for application when a veteran alleges exposure to herbicides in Thailand. It directs, in pertinent part, that if a veteran served in the U.S. Air Force during the Vietnam Era at one of the specified Royal Thai Air Force Bases (RTAFBs) as an Air Force security policeman, a security patrol dog handler, a member of the security police squadron, or in a capacity that otherwise placed them near the air base perimeter as shown by the evidence of record, then herbicide exposure is to be conceded. Id. Herbicide exposure is also to be conceded on a direct or facts-found basis for veterans who served on RTAFBs in Thailand, while a member of the U.S. Army, if the claimant provides a statement that he was involved with perimeter security duty, and there is additional credible evidence supporting this statement. Id.

If herbicide exposure cannot be conceded based upon the facts described above, a copy of the Compensation and Pension (C&P) Service's "Memorandum for the Record" is to be placed in the Veteran's claims file and the Veteran is to be asked for the approximate dates, location, and nature of the alleged herbicide exposure. (This refers to the C&P's Memorandum for the Record on Herbicide Use in Thailand during the Vietnam Era.) If the Veteran fails to furnish the requested information, the claim will be referred to the RO's JSRRC coordinator (the RO's coordinator for contact with the Joint Service Records Research Center) to make a formal finding that sufficient information required to verify herbicide exposure does not exist. The claim may then be decided based on the evidence of record. Id.

If the Veteran furnishes the requested information within 30 days, the information is to be reviewed along with the other evidence of record (including the "Memorandum for the Record") and a determination is to be made whether herbicide exposure can be established. If such exposure cannot be established and the Veteran has not provided sufficient information to permit a search by the JSRRC, the claim will be referred to the RO's JSRRC coordinator to make a formal finding that sufficient information required to verify herbicide exposure does not exist. The claim may then be decided based on the evidence of record. Id. However, if herbicide exposure cannot otherwise be established and the Veteran has provided sufficient information to permit a search by the JSRRC, a request is to be sent to the JSRRC for verification of herbicide exposure. Id.

The Memorandum for the Record reports that tactical herbicides, such as Agent Orange, were used at the Pranburi Military Reservation from April to September 1964, but not near any U.S. military installation or Royal Thai Air Force Base. Other than the 1964 tests on the Pranburi Military Reservation, tactical herbicides were not used or stored in Thailand. See VBA Fast Letter 09-20. The Memorandum also reflects that some Operation RANCH HAND aircraft flew insecticide missions in Thailand from August 1963 to September 1963 and in October 1966. Id. While there was no reported use of tactical herbicides on allied bases in Thailand, the Memorandum indicated evidence of sporadic use of non-tactical (commercial) herbicides within fenced perimeters. Therefore, VBA has indicated that if a veteran's military occupational specialty (MOS) or unit is one that regularly had contact with the base perimeter, such as security police and dog handlers, there was a greater likelihood of exposure to commercial pesticides, including herbicides.

The Memorandum for the Record distinguishes between tactical herbicide agents and commercial herbicides; exposure to commercial herbicides alone may not qualify for the special presumptions for tactical herbicides, but the Memorandum for the Record suggests that such exposure still warrants consideration (with attention to the distinction between tactical and commercial herbicides):

While the Thailand CHECO Report does not report the use of tactical herbicides on allied bases in Thailand, it does indicate sporadic use of non-tactical (commercial) herbicides within fenced perimeters. Therefore, if a Veteran's ... unit is one that regularly had contact with the base perimeter, there was a greater likelihood of exposure to commercial pesticides, including herbicides.... However, as noted above, there are no records to show that the same tactical herbicides used in Vietnam were used in Thailand. Please consider this information when you evaluate the Veteran's claim.

The Memorandum for the Record indicates that a request to the JSRRC should be made "for any information that this organization can provide to corroborate the Veteran's claimed exposure." The Memorandum of Record instructs:

If the Veteran's claim is based on general herbicide use within the base ... there are no records of such activity involving tactical herbicides, only the commercial herbicides that would have been approved by the Armed Forces Pest Control Board and sprayed under the control of the Base Civil Engineer. Since 1957, the Armed Forces Pest Control Board (now the Armed Forces Pest Management Board) has routinely provided listings of all approved herbicides and other pesticides used on U.S. Military Installations worldwide. The Compensation and Pension Service cannot provide any additional evidence beyond that described above to support the Veteran's

claim. Therefore, unless the claim is inherently incalculable, clearly lacks merit, or there is no reasonable possibility that further VA assistance would substantiate the claim ... regional offices should send a request to JSRRC for any information that this organization can provide to corroborate the Veteran's claimed exposure. [Emphasis added.]

Significantly, however, a recent holding of the United States Court of Appeals for Veterans Claims (CAVC) has directed attention to the fact that "the VA Compensation Service has acknowledged that there was 'some evidence that the herbicides used on the Thailand base perimeters may have been either tactical, procured from Vietnam, or a commercial variant of much greater strength and with characteristics of tactical herbicides.'" Parseeya-Picchione, 28 Vet. App. 171, 176 (2016) (quoting Comp. & Pension Serv. Bull. (U.S. Dep't of Veterans Affairs, Washington, D.C.), May 2010, at 3). Accordingly, the Court has indicated that it would be error for the Board to conclude that only commercial herbicides were used on the Thailand base perimeters during the Vietnam War.

The AOJ has developed additional evidence including sets of the Veteran's service treatment and personnel records. The AOJ also attempted to corroborate the Veteran's exposure to herbicides in Thailand through a "Request for Information" in October 2010 (unaccompanied by any details of the alleged exposure), with a response simply indicating "NO RECORDS OF EXPOSURE TO HERBICIDES."

Testimony and written statements from the appellant (including in the February 2011 notice of disagreement, the October 2013 substantive appeal, and the January 2017 Board hearing) are to the effect that the Veteran's "duties in the supply department [featured] offloading cargo from aircraft parked right next to the perimeters (within 100 feet of the fences) of the Korat Air Base," that herbicides were "sprayed on the runways and taxi ways to remove the wild bamboo growth each month, and that the Veteran's "duties did in fact place him on and near the perimeters of the base" (as described in the February 2011 notice of disagreement, quotations adjusted from all-capitalization). The appellant further recalled the Veteran's description that "when the personnel went to lunch from the flight line to the chow hall they were bused over around the end of the runways and the spray on some days was so bad they had to close the windows on the buses" (as described in the October 2013 substantive appeal, quotation adjusted from all-capitalization).

The appellant has submitted images from a map of Korat RTAFB with markings highlighting the relative proximity of the base perimeter to one of the operational apron areas (where aircraft are parked, unloaded or loaded, refueled, or boarded). The Board finds that the appellant's description of the Veteran's service (citing her recollections of the Veteran's description) is reasonable in suggesting that the Veteran would be expected to have spent time in this area in his capacity supervising the base's receipt of outside deliveries of materiel. During the January 2017 Board hearing, the appellant suggested that she believed that the color markings on the black and white base map reflected information presented by the service department; however, the Board finds that the color markings have been superimposed upon an official base map by a private third party, as indicated by review of the website from which the appellant apparently downloaded the map (as part of a series of annotated maps publicly available on the third party's private website <https://www.westin553.net/batcatPDF/KoratRTAFBdata.pdf>). These third-party annotations do not represent direct service department information (although they may nevertheless be accurate).

Nevertheless, the Board finds that the map presents multiple important facts consistent with reliable service department information. First, the underlying original base map does show that the operational apron comes within approximately 170 meters of the base perimeter (this is labeled on what appears to be the original black and white version of the map, a credible unannotated/unaltered image of which is publicly available on the pertinent third party website [https://www.westin553.net/maps/Map\\_Korat\\_RTAFB\\_Full\\_Base.png](https://www.westin553.net/maps/Map_Korat_RTAFB_Full_Base.png)). Second, the added third party annotations appear to correctly point out that the underlying base map shows that a substantial proportion of the base's living quarters were equally close or significantly closer to the base perimeter (in addition to other facilities such as a physical training and recreation area with a softball field near the base perimeter). (The Board also observes that a third party annotation identifies one building near the base perimeter as the NCO [non-commissioned officers] Club; the Board notes that the Veteran was a non-commissioned officer during his service at this base, although the Board is unable to fully confirm the annotation identifying the building near the perimeter as the NCO Club.) Third, the third party annotations on the map depict a "500 meter Herbicide Drift Zone" marking areas of the base within 500 meters of the perimeter; these include significant portions of the operational apron, living quarters and other facilities and spaces on the base. Although these markings depicting an herbicide drift zone on the map are from a third party, they appear to be referencing and applying publicly available information from a 1971 Army field manual on the "Tactical Employment of Herbicides" which indicates that a spray drift of up to 500 meters was a service-department recognized phenomenon for ground-based herbicide dissemination. (This material is publicly available not only on the third party website to which the appellant has directed attention

(https://www.westin553.net/batcatPDF/vaClaimHerbicideInfo.pdf), but also on a U.S. Government website at https://www.nal.usda.gov/exhibits/speccoll/items/show/1240, and it instructs that "[a] 500-meter buffer distance should be maintained to avoid damage to desirable vegetation near the target.") The Board also observes, in passing, that the original unaltered version of the base map shows that at least one "OFF BASE MUNITIONS STORAGE AREA" required personnel to pass through and beyond the base perimeter to access.

The key question presented by the instant appeal is whether the Veteran was in fact exposed to toxic herbicides while in service. After reviewing the evidence discussed above, and affording the appellant the benefit of the doubt, the Board accepts that the Veteran is reasonably shown to have "served near the air base perimeter" at Korat airbase during his full year of service at that location, and therefore exposure to herbicides may be conceded on a facts found basis. See M21-1, Part IV, Subpart ii, Chapter 2, Section C, para. 10 (q); Gilbert v. Derwinski, 1 Vet. App. 49, 54 (1990). The Board has considered the specificity and plausibility of the assertions, and that they reasonably correspond to official documentation of the duration and the nature of the Veteran's duties at Korat RTAFB as well as shown elements of the layout of the base. The Board finds that the weight of the evidence is at least in equipoise as to whether the Veteran's full year of duty supervising the receipt of incoming materiel deliveries at Korat RTAFB from August 1967 to August 1968 placed him at or near the perimeter of the base. Given the indicated proximity to the base perimeter of locations reasonably associated with the Veteran's duties, the Board finds that contact with area that had been sprayed with herbicides seems probable. Thus, resolving reasonable doubt in the appellant's favor, the Board finds that the Veteran was exposed to herbicides during service while at the Korat RTAFB.

The Board recognizes, however, that exposure to general commercial herbicides on base perimeters (as discussed by the C&P Service's Memorandum for the Record on Herbicide Use in Thailand during the Vietnam Era) is not presumptively linked to development of Parkinson's disease in the manner that tactical herbicide agents are presumptively linked to development of Parkinson's disease. The Board has considered whether additional development of the evidence is warranted in this case. However, in contrast to the C&P Service's Memorandum for the Record, the CAVC has issued a precedential decision directing attention to the fact that "the VA Compensation Service has acknowledged that there is 'some evidence that the herbicides used on the Thailand base perimeters may have been either tactical, procured from Vietnam, or a commercial variant of much greater strength and with characteristics of tactical herbicides.'" Parseeya-Picchione, 28 Vet. App. 171, 176 (2016) (quoting Comp. & Pension Serv. Bull. (U.S. Dep't of Veterans Affairs, Washington, D.C.), May 2010, at 3). The question of whether the herbicides to which the Veteran was exposed near the perimeter of Korat RTAFB were more likely to have been standard commercial herbicides or comparable to tactical herbicide agents appears to be one upon which the official indications remain conflicting and unresolved following significant attention and research; the Board finds it unlikely that a remand for additional investigation of the question specific to this case would significantly advance knowledge of the matter. In light of the above, the Board finds that the evidence is reasonably in equipoise regarding (it does not preponderate against) finding that the Veteran's Korat RTAFB exposure featured "either tactical [herbicides], procured from Vietnam, or a commercial variant of much greater strength and with characteristics of tactical herbicides."

The evidence shows that the Veteran was diagnosed with Parkinson's disease that was a contributing cause of his death. As the Board now finds (for the purposes of this analysis) that the Veteran was exposed to tactical (or comparable) herbicide agents in service, and Parkinson's disease is a disease that has been shown to be associated with exposure to tactical herbicide agents, it is presumed that this disorder was incurred in service even without evidence of that disease during service. 38 U.S.C. § 1116(a); 38 C.F.R. §§ 3.307(a)(6), 3.309(e). As such, service connection for the cause of the Veteran's death (via the contributing cause of Parkinson's disease), as secondary to herbicide exposure on a presumptive basis, is warranted. 38 U.S.C.A. § 5107; 38 C.F.R. § 3.102.

ORDER

Entitlement to service connection for the cause of the Veteran's death is granted.

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M. C. GRAHAM  
Veterans Law Judge, Board of Veterans' Appeals

Department of Veterans Affairs

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