REPORT TO THE SECRETARY OF VETERANS AFFAIRS

ON THE

NATIONAL ACADEMY OF SCIENCES
INSTITUTE OF MEDICINE REPORT
VETERANS AND AGENT ORANGE: C123

January 2015
PURPOSE

This report provides VA senior leaders with policy recommendations in response to the National Academy of Sciences (NAS) Institute of Medicine (IOM) letter report titled; “Post-Vietnam Dioxin Exposure in Agent Orange-Contaminated C-123 Aircraft” (publicly released January 9, 2015).

BACKGROUND

From 1972 to 1982, approximately 1,500 – 2,100 Air Force (AF) Reserve personnel trained and worked on UC –123 aircraft, of which about 30 formerly had been used to spray herbicides in Vietnam as part of Operation Ranch Hand (ORH). Results of air and wipe samples taken between 1979 and 2009 by the AF from the aircraft formerly used in ORH indicate that residual chemical from Agent Orange (AO) and other herbicides that were sprayed in Vietnam remained in the interior of some of the aircraft. There was contradictory scientific opinion as to the significance of this residual contamination in terms of adverse health effects for the AF Reservist who flew and maintained these planes from 1972 to 1982. Because of lingering concerns among AF Reserve personnel about the potential for adverse health outcomes as a result of their service, the VA requested that the IOM conduct a review of the available C-123 sampling data, compare the data to existing safety guidelines, and make a determination about the potential for exposure to the residual chemicals by C-123 personnel and associated concerns regarding possible adverse health consequences.

In 1991, the President signed into law, Public Law 102-4, the Agent Orange Act of 1991. According to this legislation, any “veteran who, during active military, naval, or air service, served in the Republic of Vietnam during the Vietnam era [January 9, 1962 – May 7, 1975 for compensation purposes] … shall be presumed to have been exposed during such service to an herbicide agent.” VA has long interpreted the phrase “served in the Republic of Vietnam” to include “service in the waters offshore and service in other locations if the conditions of service involved duty or visitation in the Republic of Vietnam.” 38 C.F.R. § 3.307(a)(6)(iii). In turn, VA has long interpreted the regulatory phrase “duty or visitation in the Republic of Vietnam” to require that a claimant have been present within the land borders of Vietnam at some point in the course of his or her duty. VA interprets service on inland waterways to constitute presence within the land borders of Vietnam. VA has also extended a presumption of exposure to Veterans who served in the Korean demilitarized zone between April 1, 1968 and August 1, 1971. Many Veterans have expressed concerns about AO exposure in numerous other locations to include Okinawa, Thailand, various US military bases [Fort McClellan], and
even Gagetown, Canada, where Maine National Guardsmen claim exposure to Agent Orange while on field exercises.

**VA TASK FORCE REPORT AND RECOMMENDATION PROCESS**

To facilitate action on this report, the Department of Veterans Affairs (VA) established the Agent Orange C-123 Technical Work Group. The Work Group was chaired by the Deputy Chief Consultant, Post-Deployment Health Group, Office of Public Health. The Work Group consisted of representatives from VHA's Office of Public Health, Veteran Benefits Administration, VHA's Office of Research and Development, Office of General Counsel, VHA's Patient Care Services, the Office of General Counsel, the Veteran Benefits Administration, and the Office of Policy and Planning. The Work Group included experts in disability compensation, health care, occupational and environmental medicine, toxicology, epidemiology, and expertise on VA's legal requirements under the relevant statutes (members are listed in Attachment 3). The Technical Work Group received a briefing by the IOM Committee Chair on January 8, 2015 and immediately commenced work on writing this report for the Secretary.

The Technical Work Group reported to the VA IOM Task Force chaired by the Assistant Secretary for Policy and Planning and composed of the Principal Deputy Under Secretary for Health, the Principal Deputy Under Secretary for Benefits and the Assistant General Counsel. The VA IOM Task Force and lead subject matter experts obtained concurrences of the report throughout the Department, and subsequently reported to the Secretary of Veterans Affairs.

**SUMMARY OF THE IOM REPORT**

The IOM Committee was charged with; 1. Evaluating the reliability (including representativeness, consistency, methods used) of the available information for establishing exposure, and; 2. Address and place in context (qualitatively by comparison to established exposure guidelines) whether any documented residues represent potentially harmful exposure by characterizing the amounts available and the degree to which absorption might be expected. The Committee considered a wide range of material including Air Force sampling data, published journal articles, technical articles, and documents submitted by VA, Veterans, and other interested parties. IOM also heard public comments and received additional material at a public meeting on DATE, to add further transparency to the Committee’s process in preparing the report.

The Committee first evaluated the reliability of the C123 aircraft wipe samples. They concluded that the sampling data was very limited and had major limitations. Few
samples were collected many years after the potential exposure of the aircraft crews and, in the case of the air samples, the collection method was not appropriate to evaluate human exposure. Even with these limitations there was sufficient information to establish a screening level of analysis.

The Committee next evaluated the behavior of dioxin residues within a closed environment such as the interior of a C-123 aircraft. They concluded due to the physical and chemical characteristics of dioxin, residues would “not have been immobilized on surfaces ..., [and] were available for transfer by dermal contact, inhalation, and ingestion. AF Reservists serving in the contaminated C-123s, therefore, experienced some degree of exposure to TCDD (Dioxin) and herbicides through multiple routes when working in ORH C-123s.”

The Committee then compared the levels of dioxin in the C-123s to accepted exposure guideline. While there are no occupational guidelines for military aircraft, there are indoor occupational guidelines “derived for protection of office workers working in TCDD-contaminated buildings, and use exposure scenarios and assumptions pertaining to work practices of office workers, such as breathing rates, rate of contact of hands and arms with contaminated surfaces.” These existing international TCDD surface guidelines which range between 1-25 ng/m², were developed for hypothetical long-term office workers over a 30 to 40 year working lifetime. “Although the cumulative time the AF Reservists spent in ORH C-123s was less than 30- to 40-year working lifetimes, the nature of the C-123 personnel ‘s work activities may have increased the exposure experienced per unit time, thereby reducing the “protectiveness” of the guideline.” This finding by Committee suggests that casual contact, such as being a passenger in an ORH C-123s would not exceed TCDD exposure guidelines.

The Committee integrated the AF sampling data and existing surface guidelines and concluded that the samples taken from the ORH C-123 aircraft fell within or above accepted protective guidelines. The Committee’s consensus opinion was “that it is quite plausible that, for some Reservists, the exposures received during their work on C-123s exceeded TCDD guidelines for workers in enclosed settings.” This information is depicted in the graph below. (Figure 3-1 in the report).

This chart shows the concentrations of the available samples over time from the three aircraft that were sampled. The horizontal gray bar indicates the accepted range of protective guideline. Data points that fall below the bar are deemed "safe", points that fall above the bar are deemed “unsafe.” Points that fall within the bar cannot be definitively ruled “safe” or “unsafe"
POTENTIAL POLICY CHALLENGES

While the conclusion of the IOM Committee is fairly straightforward any policy implementation by the VA will be challenging. These challenges include identification of Veterans who served on contaminated aircraft and the Veteran status of those who were exposed.

Most of the C-123s that flew in Vietnam and were later retrograded to the US were used to transport personnel and cargo and were not contaminated with Agent Orange. It will be challenging to determine if a Veteran flew on a contaminated C-123. Approximately 24 ORH C-123 aircraft were assigned to USAF Reserve units based in Ohio, Pennsylvania, and Massachusetts.

It is estimated that between 1,500 and 2,100 AF Reservists were assigned to these units. It is possible that many of the exposed AF reservists do not qualify as a "Veteran" as that term is defined in title 38, of the United States Code, and therefore do not fulfill the statutory requirement for basic eligibility for VBA benefits. Whether a member of the Guard and the reserve qualifies as a "Veteran" for purposes of eligibility for disability compensation related to their reserve service depends upon several factors. (see Appendix A).

POTENTIAL COURSES OF ACTION (COA)
1. Expand the presumption of exposure to AO to those Veterans who were exposed to ORH C-123 Aircraft. AO exposed Veterans are then eligible for disease-based AO presumptions.
   a. Pros
      • Would demonstrate commitment by the VA to this group of Veterans
   b. Cons
      • Will require regulations and take significant time to enact.
      • Will define “exposure” as any contact with a contaminated C-123.
      Dioxin and related chemical compounds are toxic industrial pollutants that are ubiquitous and persistent in the environment. They accumulate in the fat tissue of animals and humans. Foods of animal origin are the primary source of human exposure to dioxins. Not placing some type of exposure time component into the definition of “exposure” is not supportable by science. This “one-molecule” definition of “exposure” may lead to undue concern by Veterans whose time of exposure to contaminated ORH C-123s falls within the recognized safety guidelines of 1 ng/m².
      • May result in increased action by other Veteran groups to further expand the presumption of AO exposure. (Thailand, Blue Water Navy, military bases where AO was tested, Veterans exposed to other Vietnam era military equipment)

2. Expand the presumption of exposure to AO to Veterans with sustained and repeated exposure to ORH C-123 Aircraft. AO exposed Veterans are then eligible for disease based AO presumptions.
   a. Pros
      • Would demonstrate commitment by the VA to this group of Veterans
      • Creates a presumption for those exposed for a time period supported by science.
   b. Cons
      • Will require a determination of what constitutes “sustained and repeated exposure”. In effect this presumption will require a case-by-case evaluation.
      • Will require regulations and take significant time to enact.
      • May result in additional pressure by other Veteran groups to further expand the presumption of exposure. (Thailand, Blue Water Navy, military bases where AO was tested, Veterans exposed to other Vietnam era military equipment)
3. Direct VBA to use the information in this report to immediately adjudicate claims on a case-by-case basis for those Veterans exposed to ORH C-123 Aircraft
   
   a. Pros
      
      • This change could be instituted fairly quickly and would not require regulations.
      • Would ensure that exposure determinations are guided by science rather than a broad presumption that defines “exposure” as any contact with a contaminated C-123. The current presumption of exposure in Vietnam was enacted due to the almost total lack of exposure sampling data. This legislated “one-molecule” definition of without any time component in the definition of “exposure” is not supportable by science and should not be the basis for decisions where sampling data is available. Dosage which is the product of level of exposure and time of exposure is used in other environmental exposure issues such as exposure to ionizing radiation. Similar to dioxin there is a ubiquitous level of exposure. The VA should be concerned about adverse health effects when the level of exposure exceeds established safety guidelines. A blanket presumption such as the “boots on the ground” presumption in Vietnam is not necessary as the IOM report and available sampling data allows VA to estimate when safety guidelines have been exceeded.
      
      • Possibly reduced pressure by other Veteran groups to further expand the presumption of exposure. (Thailand, Blue Water Navy, military bases where AO was tested, Veterans exposed to other Vietnam era military equipment)
      
      • Some legislators have been concerned about the growth of presumptions and the resultant fiscal impact.
   
   b. Cons
      
      • Veterans will possibly see this as VA continuing to deny benefits because of the belief that a presumption “forces” VA to do the right thing.

VA RECOMMENDATIONS

After careful review of the findings of the IOM report: Post-Vietnam dioxin Exposure in Agent Orange-Contaminated C-123 Aircraft, VA arrived at the following recommendation for responding to the IOM Committee’s conclusions.
Recommendation: **COA 3 – 3.** Direct VBA to use the information in this report to immediately adjudicate claims on a case-by-case basis for those Veterans exposed to ORH C-123 Aircraft

VA recommends that the Secretary of Veteran Affairs:

- **Make a determination** that the available scientific evidence presented in the 2015 IOM report titled “Post-Vietnam dioxin Exposure in Agent Orange-Contaminated C-123 Aircraft” is sufficient to establish exposure for Post-Vietnam Veterans who had repeated and sustained contact with Agent Orange contaminated C123 aircraft. Crew members or those personnel who performed maintenance on contaminated C-123 are examples of those personnel who would have typically had sustained and repeated contact.

- **To speed resolution** of already submitted VBA claims VBA will publish training guidance to immediately consider Veterans exposed to ORH – C123 Aircraft as “exposed” to Agent Orange.

- **Send a letter** to the chairs and ranking minority members of the House and Senate Veterans’ Affairs Committees informing them of his determination (see attached draft letters).

**Supporting Arguments:**

VA has flexibility in weighing IOM Committee findings and may consider additional factors affecting the strength of the available evidence. Consistent with this flexibility, and the totality of the scientific evidence and the limitations of the available studies, the VA concurs with the IOM Committee report that “It is probable that the TCDD exposures experienced by some AF Reservists were larger than those that would be associated with international screening guidelines delineating “acceptable” safety levels.”

**CONCLUSION**

Based upon the available scientific and medical evidence presented in the 2015 IOM Committee report and other information available to the Secretary, the VA has concluded that the evidence:

- Is sufficient to direct VBA to use the information in this report to immediately adjudicate claims on a case-by-case basis for those Veterans exposed to ORH C-123 Aircraft.
Submitted on behalf of IOM Task Force

Robert Snyder
Assistant Secretary
for Policy and Planning

Task Force Members:
Office of General Counsel
Office of the Under Secretary for Benefits
Office of the Under Secretary for Health
Office of Policy and Planning
Appendix A, “Veteran Status for Purposes of Disability Compensation”

Basic eligibility for disability compensation requires that an individual be a “veteran” as that term is defined in title 38, United States Code. A “veteran” is defined as “a person who served in the active military, naval, or air service, and who was discharged or released therefrom under conditions other than dishonorable.” 38 U.S.C. § 101(2); see 38 C.F.R. § 3.1(d). The term “active military, naval, or air service” is defined to include:

(A) active duty;

(B) any period of active duty for training during which the individual concerned was disabled or died from a disease or injury incurred or aggravated in line of duty; and

(C) any period of inactive duty training during which the individual concerned was disabled or died--

   (i) from an injury incurred or aggravated in line of duty; or

   (ii) from an acute myocardial infarction, a cardiac arrest, or a cerebrovascular accident occurring during such training.


The plain language of the statute indicates that to qualify as a “veteran” under subparagraphs (B) or (C), an individual must have both 1) become disabled or died during the period of active duty for training (ADT) or inactive duty for training (IDT); and 2) incurred or aggravated a disease or injury during the period of ADT, or incurred or aggravated an injury during the period of IDT. Even assuming dioxin exposure constitutes an “injury,” such exposure would not confer veteran status under the plain

1 Congress has authorized the United States to pay a “veteran” compensation for any disability resulting from personal injury suffered or disease contracted in line of duty in “the active military, naval, or air service” during a period of war or peacetime. 38 U.S.C. §§ 1110, 1131.

2 The term “active duty” includes, among other things, “full-time duty in the Armed Forces, other than active duty for training.” 38 U.S.C. § 101(21).


4 The term “inactive duty training” includes, among other things, “duty (other than full-time duty) prescribed for Reserves (including commissioned officers of the Reserve Corps of the Public Health Service) by the Secretary concerned under section 206 of title 37 or any other provision of law” 38 U.S.C. § 101(23).
language of subparagraph (B) or (C) unless the individual became disabled or died during the period of service as a result of the injury or some other injury.

Although the statutory language strongly suggests that an injury during active duty for training or inactive duty training does not confer veteran status unless the individual is disabled or dies during that period, there is some indication that VA has not consistently interpreted the statute to be so limited. For example, VBA’s Manual M21-1MR, Part III, Subpart ii, Chapter 6, para. 2.b. provides:

A Reservist may meet the criteria for establishing Veteran status for compensation and pension purposes if he/she

- dies or becomes disabled from
  - a disease or injury incurred or aggravated in the line of duty during a period of active duty for training (ACDUTRA or ADT),
- dies or becomes disabled from an
  - injury incurred or aggravated in the line of duty during a period of inactive duty training

This provision suggests that, if an injury was incurred during active duty for training or inactive duty training, the individual may be considered a Veteran even if disability or death does not occur until after the period of service. In a similar manner, a 2001 precedent opinion of VA’s General Counsel stated that “PTSD can result from a traumatic event in service even though the disorder is not manifested until much later’ and that “PTSD resulting from sexual assault may be considered a disability resulting from an injury for purposes of section 101(24).” VAOPGCPREC 8-2001. Because section 101(24) uses the term “injury” only in relation to active duty for training and inactive duty training, that conclusion suggests that an in-service injury resulting in later-manifested disability may confer Veteran status.

The above-referenced statements in the VBA manual and General Counsel opinion appear inconsistent with the clear statutory language, and contain no analysis explaining how those statements can be reconciled with the statutory reference to a period of service "during which the individual concerned was disabled or died." However, the VBA Manual and General Counsel opinion provide some basis for arguing that VA has adopted a liberal interpretation of the statute and should continue to adhere to that interpretation. Although the legislative history of section 101(24) does not clearly resolve this issue, certain aspects of the legislative history may lend some support to the more liberal interpretation of the statute. We not also that, at the time the operative language in current section 101(24) was enacted in 1958, congress may not have
contemplated the potential for long latency periods between an injury and resulting disability.

Based on the foregoing, we believe section 101(24) is most logically read, in accordance with its plain meaning, to provide that injury during active duty for training or inactive duty training does not confer veteran status unless disability or death also occurs during such duty. Under that interpretation, if VA believes that disability compensation should be provided to reservists for disabilities associated with herbicide exposure during reserve duty, it could propose legislation similar to 38 U.S.C. § 1112(3)(A), which provides that the term “radiation-exposed veteran” includes a reservist “who . . . participated in a radiation-risk activity during a period of active duty for training or inactive duty training.” However, as noted above, there may also be some basis for VA to adopt the interpretation that, notwithstanding the ordinary meaning of the language in section 101(24), that provision should be interpreted to apply to individuals who incur injury, such as herbicide exposure, during service and who later become disabled or die because of that injury. Such an interpretation would affect claims based on active duty for training and inactive duty training based on circumstances other than herbicide exposure.

Significantly, the Federal Circuit and the Veterans Court have held that a person must first qualify as a “veteran” before he or she can avail themselves of a presumption applicable to veterans. See Bowers v. Shinseki, 748 F. 3d 1351, 1353-54 (Fed. Cir. 2014); Biggins v. Derwinski, 1 Vet. App. 474, 477-78 (1991). Thus, an individual cannot rely solely upon a presumption of service-connection for a particular condition in order to establish veteran status. Id. In addition, generally an individual is eligible for disability compensation only if he or she is a veteran for the period of service on which the claim is based. See 38 U.S.C. § 101(2), (18); VAOPGCPREC 6-04. Therefore, a reservist who is a veteran as a result of a prior period of active duty is not necessarily eligible for disability compensation for a subsequent period of reserve service. For these reasons, the eligibility of an individual reservist for disability compensation will depend upon their particular factual circumstances.
ATTACHMENT 1 – VA ACTION ON PRIOR NAS REPORTS

As provided in Public Law 102-4 and through historical precedent, VA has accorded significant weight to previous NAS conclusions on the health effects of exposure to herbicides and dioxin. All of the conditions categorized by the NAS as having “sufficient evidence of an association” have been recognized by VA as being entitled to presumptive service-connection and most of the conditions characterized by the NAS as having “limited or suggestive evidence of an association” have been recognized by VA in the same manner.

The 1993 initial NAS report. On the day the first NAS report, Veterans and Agent Orange: Health Effects of Herbicides Used in Vietnam, was released, VA announced that it would establish presumptions related to Hodgkin’s disease and porphyria cutanea tarda, in addition to soft tissue sarcoma, chloracne, and non-Hodgkin’s lymphoma, which had already been recognized by VA as connected to herbicide and dioxin exposure for Vietnam Veterans. Two months later, VA announced that multiple myeloma and respiratory cancers would also be added to the list of conditions presumed to be service connected based on exposure to an herbicide containing dioxin. VA declined to presumptively service connect prostate cancer at that time, although the NAS report placed prostate cancer in the “limited/suggestive evidence of an association” category.

Update 1996. The second biennial NAS report Update 1996 elevated acute and sub acute transient peripheral neuropathy into the “limited/suggestive” category of positive association. Their report also provided additional data to support the “limited/suggestive” association between herbicide and dioxin exposure and prostate cancer found in the initial report. The update also placed into the same category an association between herbicide exposure and the birth defect spina bifida in the children born to exposed individuals. In the months following release of the 1996 update, VA announced the recognition of prostate cancer and acute and subacute transient peripheral neuropathy as presumptively associated with herbicide exposure in Vietnam. VA also asked for and received authority from Congress to provide benefits and services to Vietnam Veterans’ children born with spina bifida.

Update 1998. Update 1998 provided no significant changes in conclusions about long term health effects from exposure to herbicides and dioxin.

Special report 2000. Veterans and Agent Orange: Herbicide/Dioxin Exposure and Type 2 Diabetes. Shortly after Update 1998 was finalized, VA became aware that an occupational study by NIOSH had recently been released providing some evidence of
an association between herbicide exposure and Type 2 diabetes. In response, VA requested the NAS to make an expedited review of this finding in view of this study. The expedited special report was delayed, at VA's request, to allow for consideration of a new Air Force Ranch Hand report that included additional findings regarding diabetes. In October 2000, the NAS released the special report, concluding that there was "limited/suggestive evidence" of an association. VA subsequently announced that VA would presumptively recognize Type 2 diabetes for service connection. Implementing regulations were published in 2001.

**Update 2000.** Update 2000 reported that there was "limited/suggestive evidence of an association" between herbicide exposures by Vietnam Veterans and acute myelogenous leukemia (AML) in their children, leading VA's Secretary to announce that he would seek authority to provide benefits and services for these children. Shortly after the report came out, however, an Australian study upon which the conclusion was partially based was reported by its authors to be in error.

**Special report 2002.** Veterans and Agent Orange: Herbicide/Dioxin Exposure and Acute Myelogenous Leukemia in the Children of Vietnam Veterans. In response to the withdrawal of some of the data used to reach the conclusion that herbicide exposure of Vietnam Veterans was associated with Acute Myelogenous Leukemia (AML) in their children, VA requested that NAS conduct a special reassessment on this key issue. The NAS special report, released in 2002, reassessed the remaining data on AML and concluded that there was now, "inadequate/insufficient evidence to determine whether an association exists" between herbicide exposure of the parent and this illness in their children. Consequently, VA dropped plans to seek legislative authority to provide benefits and services for individuals with this condition.

**Update 2002.** The findings contained in Update 2002 were generally the same as those in previous reports, with one major exception. Based on the scientific evidence reviewed for that update, as well as the cumulative findings of research reviewed in the previous Veterans and Agent Orange reports, the NAS concluded that there is "sufficient evidence of an association" between exposure to the herbicides used in Vietnam or the contaminant dioxin and chronic lymphocytic leukemia (CLL). For other forms of leukemia, the NAS concluded that there was still "inadequate/insufficient evidence to determine whether an association exists," consistent with earlier reports. Previous reports had lumped all leukemias together including CLL, and had found "inadequate/insufficient evidence to determine whether an association exists" for leukemias as a whole. With the exception of CLL, all diseases discussed in the NAS report remained in the same category as in the last prior NAS report.

VA also determined that for presumptive service connection purposes, respiratory cancers must show up within 30 years after the herbicide exposure. That is, respiratory cancers among Vietnam Veterans would be presumed to be service connected only if they manifested within 30 years following exposure to herbicides while in Vietnam [see 59 Fed. Reg. 5161 (February 3, 1994; proposed rule); 59 Fed. Reg. 29723 (June 9, 1994; final rule)]. In proposing the rule, VA explained that the 30-year presumption period was based on studies indicating that the increased risk of respiratory cancers due to certain other types of chemical exposures was thought to have a definite duration, beyond which the risk abated, and on VA’s observation that the longest latency period between herbicide exposure and respiratory cancer noted in a scientific study was 30 years. The underlying NAS report, however, had not referenced any maximum time period for respiratory cancer risk following herbicide exposure.

The Veteran’s Benefits Improvement Act Of 1994, Public Law 103-446, codified the presumption of service connection for respiratory cancers, including the 30-year presumption period, as 38 U.S.C. 1116(a)(2)(F). Congress, however, through section 201 of Public Law 107-103 (“Veterans Education and Benefits Expansion Act of 2001”) eliminated the 30-year limitation on the period during which respiratory cancers must become manifest for service connection (and disability compensation) to be granted on a presumptive basis.

Public Law 107-103 also directed the Secretary of Veterans Affairs to contract with the NAS to conduct a study to review “all available scientific literature on the effects of exposure to an herbicide agent containing dioxin on the development of respiratory cancers in humans,” and, “whether it is possible to identify a period of time after exposure to herbicides after which a presumption of service-connection” of respiratory cancer would no longer be warranted. In response, VA requested the NAS committee that had just delivered the “Update 2002” report use funds remaining from that effort to review the issue of a latency period for respiratory cancers among Vietnam Veterans exposed to Agent Orange.

The 2004 NAS report, “Veterans and Agent Orange: Length of Presumptive Period for Association Between Exposure and Respiratory Cancer,” concluded that
“[b]ecause there are no epidemiologic data on the length of time after exposure to TCDD [dioxin] during which an increase in respiratory cancer is associated with that exposure, the [C]ommittee cannot determine a period beyond which occurrence of respiratory cancer could no longer be presumed to be related to exposure to TCDD, that is, no upper limits on the latency or presumptive period could be determined.” The report added that, “the effects of TCDD on respiratory cancer could last many decades.” In other words, the Committee was not able to find a scientific basis to support an outer limit on the presumptive period for developing respiratory cancer based upon their exhaustive review of the relevant literature.

In response, the 2004 Task Force on Respiratory Cancer Presumptive Period recommended in its report to the Secretary of Veterans Affairs that he make a determination that there is no scientific basis to support an outer limit on the presumptive period for an association between herbicide exposure and respiratory cancers.

**Update 2004.** Update 2004 provided no significant changes in conclusions about long term health effects from exposure to herbicides and dioxin. In response, the 2004 Task Force formed to evaluate the NAS report recommended to the Secretary of Veterans Affairs that he make a determination that there is no scientific basis to support any changes in current VA compensation policies relative to herbicide exposure of Vietnam Veterans. The Secretary accepted the Task Force’s recommendation.

**Update 2006.** Update 2006 provided no significant changes in conclusions about long term health effects from exposure to herbicides and dioxin, with two major exceptions. Update 2006 put AL amyloidosis and hypertension in the category of “limited or suggestive evidence of an association.” In response, the 2006 Task Force formed to evaluate the NAS report recommended to the Secretary of Veterans Affairs that he make a determination that there is a valid scientific basis to support a presumption of AL amyloidosis, but not for hypertension. The Task Force further recommended that he make a determination that there is no scientific basis to support any other changes in current VA compensation policies relative to herbicide exposure of Vietnam Veterans. The Secretary accepted the Task Force’s recommendation, and on June 10, 2008, he notified Congress of his determination to create a presumption for AL amyloidosis, but no other disease. VA published a final rule creating that presumption on May 7, 2009.

**Update 2008.** Update 2008 provided significant changes in conclusions about long term health effects from exposure to herbicides and dioxin. Ischemic heart disease and Parkinson’s disease were included in the “limited or suggestive evidence of an association” category. Chronic B-cell leukemias to include Hairy Cell Leukemia were
placed in the “sufficient evidence of association” category. In response, the 2008 Task Force formed to evaluate the NAS report recommended to the Secretary of Veterans Affairs that he make a determination that there is a valid scientific basis to support a presumption for ischemic heart disease, Parkinson’s disease, and B-cell leukemias to include Hairy Cell leukemia, but not for hypertension. The Task Force further recommended that he make a determination that there is no scientific basis to support any other changes in current VA compensation policies relative to herbicide exposure of Vietnam Veterans. The Secretary accepted the Task Force’s recommendation, and on October 13, 2009, he publicly announced his determination to create a presumption for ischemic heart disease, Parkinson’s disease, and B-cell leukemias. VA published a final rule creating that presumption of August 31, 2010.

**Update 2010.** Update 2010 broadened the category of peripheral neuropathies NAS found to have “limited or suggestive evidence of an association” with herbicide exposure. In Update 1996, NAS found limited or suggestive evidence of an association between herbicide exposure and “acute or subacute transient peripheral neuropathy.” VA thereafter established a presumption of service connection for that condition, which VA defined as “transient peripheral neuropathy that appears within weeks or months of exposure to an herbicide agent and resolves within two years of the date of onset.” 38 C.F.R. § 3.309(e), Note 2 (1997). Based on that definition, the presumption did not apply to peripheral neuropathy that arose during or shortly after service in Vietnam and which persisted to the present. In Update 2010, NAS determined that there was limited or suggestive evidence of an association between herbicide exposure and “early-onset peripheral neuropathy” that may be persistent in nature. In September 2013, VA revised its regulatory presumption to encompass all “early onset peripheral neuropathy” – i.e., peripheral neuropathy that arose within one year of the date of last exposure to any herbicide agent.
ATTACHMENT 3 – WORK GROUP MEMBERS

Scientific SMEs:

- Dr. Terry Walters (lead SME) - Office of Public Health
- Dr. Ralph L. Erickson – Office of Public Health
- Dr. Victor Kalasinsky – Office of Research and Development
- Dr. Robert Jaeger – Office of Research and Development
- Dr. Terra Irons, Toxicologist, OPH (10P3), VHA

Other SMEs (Exofficio):

- Mr. David Barrans, Deputy Assistant General Counsel, OGC
- Mr. Jon Coen, Congressional Relations Officer, OCLA
- Ms. Janet Coleman, Chief, Regulations Special Projects, OGC
- Ms. Janet Crow, IOM Liaison, 10P, VHA
- Mr. Brad Flohr, Senior Advisor for Compensation Service, VBA
- Ms. Kathleen Heaphy, General Attorney, OGC
- Mr. John Kruse, Director, Benefits Legislative Affairs Service, OCLA
- Mr. Raun Lazier, Policy Service, Office of Policy and Planning
- Ms. Susan Poff, VHA Communications Office (phone participation)
- Mr. Bill Russo, Director, Regulation Management, Office of General Counsel (OGC)
- Mr. Jim Sampsel, VBA