

Executive Summary

The second meeting of the Veterans' Advisory Board on Dose Reconstruction (VBDR or the Board) was held at the Sheraton Gateway Hotel, Los Angeles Airport, Los Angeles, California, on January 12 and 13, 2006. Members in attendance were Dr. James A. Zimble, VADM, USN (Ret.), Chairman; Mr. Harold L. Beck; Dr. Paul K. Blake, CAPT, MSC, USN (Ret.); Dr. Ronald Blanck, LTG, USA (Ret.); Dr. John D. Boice, CAPT, USPHS (Ret.); Mr. Kenneth L. Groves, CDR, MSC, USN (Ret.); Dr. John Lathrop; Dr. David E. McCurdy; Mr. Thomas J. Pamperin, LTC, USAR (Ret.); Dr. Curt R. Reimann; Dr. Kristin Swenson, Lt Col, USAF (Ret.); Mr. George Edwin Taylor, COL, USA (Ret.); Mr. Paul G. Voillequé; Dr. Gary H. Zeman, CDR, MSC, USN (Ret.); and Dr. Elaine Vaughan (via telephone). Others in attendance included staff of various Federal agencies, as well as members of the public.

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**The Veterans' Advisory Board on Dose Reconstruction
Department of Defense and Department of Veterans Affairs**

**Summary Minutes of the Second Meeting
January 12 and 13, 2006**

The second meeting of the Veterans Advisory Board on Dose Reconstruction (VBDR or the Board) was held at the Sheraton Gateway Hotel, Los Angeles Airport, Los Angeles, California, on January 12 and 13, 2006. The meeting was called by the Defense Threat Reduction Agency (DTRA) and the Department of Veterans Affairs (VA). These summary minutes, as well as a verbatim transcript certified by a court reporter, are available on the internet on the Advisory Board Web site located at www.vbdr.org. Those present included the following:

VBDR Members: Dr. James A. Zimble, Chair; Mr. Harold L. Beck; Dr. Paul K. Blake; Dr. Ronald R. Blanck; Dr. John D. Boice; Mr. Kenneth L. Groves; Dr. John Lathrop; Dr. David E. McCurdy; Mr. Thomas J. Pamperin; Dr. Curt Reimann; Dr. Kristin Swenson; Mr. George Edwin Taylor; Mr. Paul Voillequé; Dr. Gary Zeman; and Dr. Elaine Vaughan (via telephone).

Designated Federal Officer: Mr. William R. Faircloth, Acting Director, Combat Support Directorate, DTRA.

Federal Agency Attendees: Mr. Dave Algert, DTRA; Ms. Shari Durand, DTRA; Mr. Karl W. Fischer, DTRA; Mr. Blane Lewis, DTRA; Ms. Irene Smith, DTRA; Mr. Eric Wright, DTRA.

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National Council on Radiation Protection and Measurements Staff: Dr. Isaf Al-Nabulsi, Ms. Melanie Heister, Mrs. Carlotta Teague, and Dr. Thomas Tenforde.

Members of the Public: See Registration

Thursday, January 12, 2006

Opening Remarks

Dr. James A. Zimble, Chair of the Veterans' Advisory Board on Dose Reconstruction, called the meeting to order. He explained the operation of the microphones, and asked that cell phones be turned off. He then turned the meeting over to Mr. Faircloth.

Mr. William R. Faircloth added his welcome and explained his role as Designated Federal Officer. He emphasized the importance of communication in getting maximum attendance at the Board meeting and expressed his appreciation to those responsible. He pointed out that this is the second public meeting of the Board and that much progress has been made since the Board's first public meeting in Tampa. He invited guests to make use of the available handouts, and emphasized the busy agenda.

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**Chairman's Welcome and
Introduction of Board Members**

Dr. Zimble thanked the members of the four subcommittees for their work over the past few months, and emphasized that the Board's job is to find ways to expedite the processing of the claims that have been made by the veterans. He then called upon the Board members to introduce themselves.

Following introductions, Dr. Zimble reminded the Board of their tasks: 1) conduct periodic and random audits of dose reconstructions; 2) audit the decisions that have been made by the VA on claims for service-connected radiogenic diseases; 3) assist the VA and DTRA in communicating with veterans; and 4) provide recommendations to DTRA and VA for improvements.

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Review and Approval of Minutes

Dr. Zimble remarked that the first order of business for this meeting is to review the minutes of the Tampa meeting. He invited comments prior to the formal act of accepting the minutes. He reminded the Board that the minutes will be posted on the VBDR Web site, www.vbdr.org.

Dr. Zimble then welcomed Dr. Elaine Vaughan who was unable to be present and introduced her via telephone. The Tampa meeting minutes were accepted without modification or objection.

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**A Briefing on Interactive Radio-Epidemiological Program-
Future Developments?**

Dr. Charles E. Land
Senior Investigator
Radiation Epidemiology Branch, National Cancer Institute

Dr. Land explained that the Interactive Radio-Epidemiological Program (IREP) is an example of quantitative uncertainty analysis. He also explained that ionizing radiation is a very well-quantified risk factor. We understand and have quantified the relationship between radiation dose and cancer risk factor better than for other carcinogens, he said.

Dr. Land explained that his approach to first, take the problem apart; second, identify the component parts; third, evaluate their uncertainties and their fit together; and last, evaluate the overall uncertainty of the solution.

Dr. Land went on to say that the most important component parts are the radiation dose and the excess relative risk (ERR). ERR is used because it easily translates into assigned share (AS) or probability of causation (PC). The problem of using estimates based on other exposed populations, and there are a lot of exposed populations -- the most important are those of Hiroshima and Nagasaki -- is transferring them to a U.S. population. There is also the problem of transferring the risks from exposure at high doses to much lower doses that would be more typical of population exposures.

Dr. Land pointed out that IREP is mandated in the United States for the adjudication of some claims against the government for radiation-related cancer. He explained that since a great deal is known about radiation-related cancer risks in exposed populations, it is possible to estimate a site-specific ERR by knowing the exposure history and age at exposure. In an exposed population the proportion of cancers that would not have occurred in the absence of exposure is estimated by AS. The population quantity can be used as a guide for adjudication.

Dr. Land referred to the use of insurance companies' actuarial tables as a description of the population. He said that the National Institutes of Health (NIH) epidemiological tables as mandated by Congress were not very popular in court; however, the Department of Veterans Affairs (VA) saw them as a tool in adjudicating claims based on service-related exposure.

He pointed out that the VA commissioned the Committee on Interagency Radiation Research and Policy Coordination (CIRRPC) to develop a screening tool to eliminate claims that had very little causation behind them. But particular cases were essentially settled, based on

radiation-related risk.

The 2003 National Cancer Institute (NCI) and Centers for Disease Control and Prevention (CDC) report was requested by the VA because the law requires the epidemiological tables be updated as new information becomes available. Dr. Land also mentioned that the reports issued by the National Academy of Sciences' Committee on Biological Effects of Ionizing Radiation (BEIR) are considered to be the most authoritative in the United States, and were used to generate the epidemiological tables. However, BEIR V was not easily adaptable and BEIR VII is not yet available. The 2003 NCI-CDC report is an interim update targeted to VA requirements, but based on scientific consensus, produced by a small working group of investigators from NCI, CDC and SENES Oak Ridge.

Dr. Land stated that the calculations contained in that report are based on Atomic-bomb survivor cancer incidence data. He went on to say that BEIR VII, as well as similar reports produced by the United Nations, are based on the same data.

He pointed out that the two components of IREP are:

1. Individual characteristics, such as sex, date of birth, type of cancer claimed, date of diagnosis, smoking history and exposure history. The exposure history should be rather detailed. It should include date of exposure, the dose estimate and its uncertainty estimate, and radiation quality.
2. The calculation components of IREP.

Dr. Land said it is important to understand the uncertainty in the radiation effectiveness factor. Different kinds of radiation have different effects, but there are uncertainties associated with that. After computing excess risk factors, one must move the risk estimates from the Japanese atomic-bomb survivors to the U.S. population. Simulation models are used to do this because it is easier than a paper and pencil analysis.

Dr. Land pointed out that BEIR VII, now in press, will be the most authoritative review of mainstream science on radiation-related risk. It takes all the data from more than 50 years of the Japanese atomic-bomb survivor tumor registry, as well as data from other populations, and applies it to later times. He also said that he anticipates IREP will be improved when it adopts the models and risk estimates of BEIR VII.

Dr. Zimble thanked Dr. Land and pointed out that there is no test to prove a condition exists because of radiation. The subcommittee's work has reduced and continues to reduce the uncertainties with which they are dealing. But when the PC is 50% or greater, it is mandated that the benefit of the doubt goes to the veteran.

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Briefing on National Academy of Sciences (NAS) Report Assessment of the Scientific Information for the Radiation Exposure Screening and Education Program

Dr. R. Julian Preston
Associate Director for Health
National Health and Environmental Effects
EPA at Research Triangle Park, N.C.

Dr. Preston announced that he was speaking as the Chair of the NAS Committee, and emphasized that the report on which he was briefing the Board involved a broad range of expertise in areas of ethics, radiation physics, radiation biology, epidemiology, medical screening and education. Bringing it all together was a difficult task. He said his briefing would cover only how the committee established the approach for compensation.

The NAS committee's job was to reassess the Radiation Exposure Compensation Act (RECA) to see whether the scientific information developed over the years would affect the risk estimates, and to evaluate the criteria used in the program. It was found that this was not the case, Dr. Preston said. In some instances the recommendations are scientific recommendations as opposed to policy recommendations.

Dr. Preston noted that RECA provides compassionate payments to individuals who contracted certain cancers and certain nonmalignant diseases presumed to be related to their exposure to radiation released during aboveground nuclear weapons tests or their exposure to radiation during employment in underground uranium mines.

The RECA population includes uranium miners, uranium millers, ore transporters, downwinders, and onsite test participants. Slides presented by Dr. Preston contained all the specific diseases specified by RECA. Part of the committee's task was to determine if this was the appropriate set of diseases to consider, he said.

Dr. Preston then presented a map outlining the areas of the United States covered by RECA and emphasized that areas covered by RECA were largely determined by geography and not by scientific criteria.

He went on to say that in 2003 additional information allowed alternative approaches to be considered.

Dr. Preston noted that part of the committee's charge was:

1. To make recommendations to Health Resources and Services Administration (HRSA) that are based on scientific knowledge and

principles.

2. To determine whether other classes of individuals or additional geographic areas should be covered under the RECA program.

Using graphs, Dr. Preston outlined the methodology used in the study. From the data gathered using geographical criterion, it was determined that on a scientific basis and dosimetric considerations there is a need to reconsider the compensation program. The committee also recognized that dosage alone would not satisfy the scientific determination for compensation eligibility.

Dr. Preston presented slides outlining the need to use a risk-based approach to determining compensation. His risk assessment model is called the PC and it has been through three iterations. Its essential goal is to determine the probability that a particular tumor was caused by radiation rather than other agents, lifestyle, or genetics.

PC is the relative relationship between a cancer being radiation-induced at a given age versus the specific cancer developing from other causes. The PC can fluctuate based on policy changes.

A significant issue is the choice of a value of PC that is accepted as "proof" that radiation is responsible for the cancer in any individual. That is the starting point. Dr. Preston explained that a PC of 0.5 indicates that there is a 50% chance the cancer was caused by radiation. But when considering all the other factors in risk estimation, there is a large degree of uncertainty that must be factored into the model.

According to Dr. Preston, dose is a major factor in determining ERR, but for some individuals there was no way to determine dose. Therefore, it was necessary to go to previous studies, such as the NCI 1997 iodine-131 study, to obtain pertinent data. He outlined the data found in the NCI study and emphasized that the more variables one can include in determining the PC the more this tends to reduce the number of individuals who might be compensable.

While the IREP has not been updated, it is clear that it should be, Dr. Preston said. He added that each new study on radiation-exposed populations should be considered in the update of a risk-related compensation program.

The implementation of IREP has met some of the needs for a compensation program, Dr. Preston explained, but who is working on improving the system? The IREP and its modifications are used throughout government agencies, so there is a sense that the committee has proposed something that is relevant to the needs of this Board.

Dr. Preston then used a series of slides delineating the six recommendations his committee submitted to HRSA. He then introduced a slide naming all the members of his committee and gave a short

biography of each.

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Public Comment Period

Dr. Zimble emphasized the need for veterans' input to the Board and announced two hours would be devoted to public comment. He noted that veterans' concerns are important and must be accounted for as the Board carries out its tasks. The following is a summary of comments made by the public on the first day of the meeting. A verbatim record of those statements is available on the VBDR web site at www.vbdr.org.

**Mr. Carlos Contreras
Veteran of Operation WIGWAM**

Mr. Contreras thanked the Board and announced he would read from a letter outlining veterans' concerns. He pointed out that the VA nationwide does not comply with VA handbook 1301.1. Guidelines of the Ionizing Radiation Registration (IRR) program do not comply with Public Law 99576. The VA coordinator in Tucson is responsible for two jobs and is always behind.

He explained that the Form 101079 is seldom used as it should be. The care providers know little or nothing about radiation diseases or the programs associated with them. Doctors are afraid to relate a diagnosis to radiation. The VA and DTRA present obstacles and stalling tactics, and VBDR is just another stalling tactic. Obtaining service-connected disability compensation has been an uphill battle for veterans when dealing with the VA and DTRA.

Mr. Contreras then described the circumstances of his exposure and presented photos showing the blasts and a map showing the disposition of the ships involved in Exercise WIGWAM. He emphasized that many veterans have lost faith with DTRA and VA.

Dr. Zimble thanked Mr. Contreras and reassured him that VBDR is not a blocking mechanism and that recommendations will be made to both agencies to improve the process.

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**Mr. Clyde Wyant
Veteran**

Mr. Wyant began by describing his initial association with Dr. Robert Oppenheimer. In 1945 he was in Los Alamos at the time of the TRINITY test. He described in great detail the test of which he was a part, to include the crater size and the effects of the blast on a locomotive and six boxcars.

Mr. Wyant continued by contending that the only recognized atomic veterans are those who participated in the Pacific tests. However, there are the veterans of the '40s who were in the Los Alamos test. He then recounted a number of personal experiences involving numerous surgeries and illnesses. He continued with a litany of examples where he met people who could not believe he was an atomic veteran.

Mr. Wyant then suggested that dose reconstruction should be eliminated. He declared that veterans who were in the same situation as his were written off as dead, and that no government official would recognize the needs of his group.

According to Mr. Wyant, since his appearance at the Board's meeting in Tampa over 4,500 claims have been denied because of dose reconstruction. He also advocated that he and his fellow soldiers should have been awarded the Purple Heart. He made an emphatic point that the American people are uninformed about the atomic veterans and he suggested a publicity campaign to educate the public.

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Mr. Dale G. Welch
Veteran of Operation WIGWAM

Mr. Welch began by introducing himself as an atomic veteran who took part in Operation WIGWAM, an underwater detonation that took place off the coast of San Diego on 14 May 1955. He described his exposure to radiation from the blast and recounted that he had no protective clothing or devices of any sort.

Mr. Welch then explained that 20 years later he was afflicted with serious stomach problems, and in 1979 he experienced severe bleeding and stomach ulcers. In 1982 he had most of his stomach and upper duodenal intestine removed in an emergency surgery. His VA claim was rejected. A short time later he filed a claim with the VA and that claim was denied. Some time later, Mr. Welch recalled, he began trying to contact shipmates of Operation WIGWAM, only to find that two of the three he was trying to contact had died of cancer of the stomach. Another shipmate passed away with cancer of the esophagus.

Mr. Welch further related that to his knowledge only one of his shipmates' families had received any kind of compensation. He further stated that he had an IRR physical exam in Tucson in 2000 or 2001 and the doctor's initial conclusion was that she could find no evidence that his physical problems were radiation-related. After conferring with the state area commander, Mr. Contreras, it was pointed out that the doctor was only to do the exam and not render opinions. He thanks the Board for their time.

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Dr. Zimble asked if any of Mr. Welch's diagnoses were cancer or cancer-related, and the answer was no.

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Mr. John Conrad
Veteran of Operation REDWING

I would like to ask the Board three questions that I think might give a different perspective on dose reconstruction than what I heard this morning, Mr. Conrad began. First, has any one of you witnessed an atomic explosion or an H-bomb explosion? Have you ever gone into your sleeping and eating area with a Geiger counter?

Mr. Taylor remarked that he had done so with a film badge. After Mr. Conrad mentioned that he was on Operation REDWING and served five months on Enewetak and Bikini where he monitored radiation with a Geiger counter that went off the scale, Mr. Taylor inquired if the readings of the Geiger counter coincided with the readings of the film badge. Mr. Conrad responded that he never was told what his film badge readings were.

I started my claim three or four years ago, said Mr. Conrad, and I have not been notified of its status. It was later sent to DTRA. The same information is requested again and again. Dr. Zimble asked for what condition the claim was filed. It was for the development of subcapsular cataracts at age 37.

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Mr. John Pontillas
Son of Atomic Veteran

Mr. Pontillas began by pointing out that atomic veterans may have issues other than those that are cancer or cancer-related. He suggested that more sensitivity should be shown to the individual, as opposed to looking at the problem as one encountered by a certain population. He pointed out that time is running out for many of the people who are the subject of the Board.

He also questioned the adequacy of the list of diseases considered by the Board, and he raised the issue of whether offspring of atomic veterans might also be a population that should be studied.

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Mr. Sam Cordova
Marine Corps Veteran,
Atomic, Biological and Chemical Warfare Unit Veteran

Mr. Cordova introduced himself as a Korean veteran with a 70%

disability due to combat injuries suffered to his legs. However, he said he has had problems breathing for the past 40 years. The problems began shortly after he attended the Atomic, Biological and Chemical (ABC) school, which he says the Marine Corps denies ever existed. During the training at the ABC school Mr. Cordova recalled the smell of new-mown hay while running the obstacle course. It created a burning sensation in his lungs. Some years ago when he went for a lung exam, the examiner told him his lungs are damaged from smoking, yet he insists he has never been a smoker of any consequence.

Over time Mr. Cordova has been able to find two other marines who attended such a school. He further implied that he was part of a unit in Korea that may have used some sort of chemical weapons on the enemy. He was denied eligibility for screenings by the VA, but he insists he has residual difficulties resulting from the effects of the ABC training to which he was exposed.

Mr. Taylor verified that the Marine Corps had such schools because he attended one in Japan in 1954.

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Mr. Robert Hampton
Participant, Operation DESERT ROCK,
Nevada Test Site

Mr. Hampton stated he was at Operation DESERT ROCK in Nevada Test Site, Operation TUMBLER SNAPPER, "Charlie Shot." The bomb was approximately 33.1 kiloton. He was told he was within 1.8 to 2.3 miles from ground zero. The fire ring and the mushroom were directly overhead. He stated they were not in trenches, just shallow furrows. They were equipped with no type of safety equipment, and within 15 minutes were ordered to march directly to zero point. They marched past charred, bleeding and dead sheep, and no one was checked for radiation exposure prior to loading onto trucks. (Presumably to return to living quarters.)

After quoting from an unnamed publication on the effects of near exposure to an atomic blast, Mr. Hampton listed his medical problems over the years: thyroidectomy, anxiety and depression, inflammation and blood problems, renal kidney disease, arthritis, hypertension, indigestion and severe stomach acid, pulmonary inflammation and scarring, loss of hearing, bone soreness, brain damage, posterior subcapsular cataracts, fatigue and lethargy, asthmatic condition, prostate problems. He noted most had been diagnosed by the VA, and some recently.

It was about four years ago that he did the IRR registry. He was to be examined by a doctor, but was told he had no problems. Since that time he has written many letters and has been classified as a problem patient.

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According to Mr. Hampton, he was at one time on 100% disability, but it was cut to 10%; then after protest was raised to 40%. He is presently on 40% disability. He has been told by the VA that they can do no more for him until the dose reconstruction is retabulated.

Mr. Hampton stated dose reconstruction has no meaning for him. He has proof of his participation and the extent of it. The Russians and the Japanese studies have shown there are more lethal effects from circulatory, pulmonary and digestive problems than from cancer. Dr. Zimble inquired if the thyroid condition was cancerous, and Mr. Hampton replied that it was.

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Mr. Eusebio Pontillas, Sr.
Crew Member of the USS Sheraton (DD 790), A Destroyer in 1956

Mr. Pontillas, Sr. mentioned that he was in the Bikini/Enewetak tests of the hydrogen bomb. When he "shipped over" (reenlisted) for six years shortly after participating in the tests, he received no physical exam from a medical officer. He was okayed by a medical corpsman 3rd class. Two weeks later he reported blisters all over his body. He itched, could not eat, and had an upset stomach. When questioned by his wife, he refused to tell her anything because it was all top secret.

After going on leave Mr. Pontillas insisted on seeing a doctor, who told him he was going to get on a plane to Travis AFB on Monday morning. From there he was sent to Atlantic Fleet, Norfolk, Virginia. Apparently he received no treatment there but was shipped to Newport, Rhode Island. From there he was shipped to the Mediterranean.

While in the Mediterranean Mr. Pontillas became so sick he was transferred back to the states. At some point, it seems, his wife also had blisters on her body.

After 32 years' service he retired, but he says he was bleeding and the VA denied his claim. He says he has suffered since 1956 when they dropped the hydrogen bomb.

Dr. Zimble asked if Mr. Pontillas had registered with the IRR. Yes, Mr. Pontillas replied.

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Mr. Terry T. Brady, Atomic Veteran
Marine Corps NCO, Lake Mead Base, Nevada, 1950s

Because of his security clearance, Mr. Brady said it was not until 1995 that he was able to discuss whether his service-connected ailments may

have been radiation related. Though the panel is charged only with dose reconstruction, he said it is a matter of fairness of the process. The requirements of the claims, including dose reconstruction, are equal to requiring the veteran to prove the unprovable.

Mr. Brady suggested dose reconstruction amounts to voodoo science, given the great variation in individual circumstances. For that reason dose reconstruction should be terminated and H.R. 2962 should be supported. The atomic veterans do not see themselves as victims, but rather are looking for respect and appreciation for their service.

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Mr. James B. Malone
Served in Seabee Battalion 11 on Guam, 1960 to 1962

Guam is an island infested with radiation, according to Mr. Malone. From 1962 to 1964 Mr. Malone was assigned to Yokusaka, Japan. He was sent to ABC school at Atsugi in April 1963, where he was exposed to unknown gases, toxins, radiation and biological agents.

He was discharged in August 1964 and in December 1966 he was diagnosed with fibrosarcoma cancer. The cancer occurred in the same leg where he injected himself with an unknown substance during ABC school. He has suffered other maladies which are presumptive under Federal Regulations.

Mr. Malone insisted his cancer resulted from his exposure at ABC school. However, VA has denied his claim in spite of confirmation by the IRR physician in Tucson, Arizona that his disease was presumptive.

Dr. Zimble clarified with Mr. Malone the degree and extent of his exposure and questioned if he were part of any atmospheric test. He also questioned the Board as to whether Mr. Malone's case qualified for consideration by the Board. Mr. Taylor responded that he thought it should be considered at this time.

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Mr. R. J. Ritter, National Commander
National Association of Atomic Veterans

Mr. Ritter thanked the Board and the atomic veterans who had testified. He also presented a letter from a veteran of Operation REDWING, Mr. Roger Genen, and asked that it be made a part of the record.

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Mr. Julian Cohen
Served as Seaman 1st Class, US Navy,
VA Volunteer, Jewish War Veteran, DAV

Mr. Cohen stated that he was 18 when his LST landed on Nagasaki about two months after the bomb was dropped. The next day he was trucked to the site, where he walked around at ground zero. Within six months he began having eye problems and developed macular degeneration from exposure to radiation.

When he was discharged he was having lung problems and was assured the VA would handle those problems. When he applied for benefits as a victim of radiation, the government denied that his ship had ever been to Nagasaki. Further, the government asserted that radiation was insufficient to cause damage. Two eye doctors have indicated that his problem probably stemmed from radiation.

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Mr. Ramon Garcia
Participant in Operation CASTLE

As a participant in Operation CASTLE Mr. Garcia said he was never on virgin ground in Bikini and Enewetak. They also swam in the surrounding waters. His point in speaking was to ask the Board to forget about dose reconstruction because they were servicemen, doing their duty, and they had no choice in the matter but to be there.

Mr. Malone reiterated his point about Guam being a radioactive island where he was required to live for a time.

Mr. Wyant commented that he would like to hear from the Board about his situation after the Board adjourns.

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**A Briefing on NTPR Dose Reconstruction Quality Assurance Manuals
and Veterans Communication Activities**

Dr. Paul K. Blake
Program Manager, Nuclear Test Personnel Review Program
Defense Threat Reduction Agency

Dr. Blake announced he would provide an update on improvements made to the Nuclear Test Personnel Review (NTPR) program at DTRA as a result of the 2003 NAS report. He outlined his presentation as a discussion of some of the prostate dose results, skin dose results, quality assurance, veterans' communication activity, and look at the road ahead.

The NAS issued a report, *The Green Book*, in 2003 that resulted in a revision to the procedures in the program. No dose reconstructions were performed for approximately six months following the report. Further,

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the Department of Veterans Affairs returned a number of dose reconstructions to DTRA for rework.

Dr. Blake used a slide to illustrate the level of dose reconstruction backlog at DTRA. This is important because it means that veterans' claims are delayed, and some have been in the office for up to three years. At the present there are just over 1,500 cases pending.

Cases with presumptive diagnoses can be turned around very quickly, and are handled quickly. The real challenge is in supporting VA cases that are non-presumptive and require a dose reconstruction, said Dr. Blake.

When the cases came in for rework they contributed to a significant backlog, Dr. Blake said. There are primarily two types of cancer that require dose reconstruction: skin cancer and prostate cancer.

An analysis of the prostate dose rework shows that in no case was there a significant change to the estimated prostate dose in the 78 cases reworked. Dr. Blake said they report a dose within the 95% upper bound, per the Code of Federal Regulations. It appears that none of the 78 cases resulted in the veteran receiving compensation.

A slide was presented showing the prostate dose rework breakout. The data presented is all non-Hiroshima/Nagasaki cases. This is to show the pre-2003 results versus the post-2003 results. Dr. Blake pointed out the slight changes that occurred in the averages pre- and post-2003. Then he compared the 95% upper bound dose reconstruction value versus the dose threshold resulting from the 99% credibility limit for probability of cancer causation by ionizing radiation.

He explained that the VA has a set of values and DTRA calculates a reporting value. If the DTRA values do not exceed VA values, the veteran will usually not be compensated. None of the 78 cases analyzed in rework came close to reaching the dose threshold established by the VA. Dr. Blake pointed out that the cost of doing a dose reconstruction is approximately \$9,000, and there are 128 prostate rework cases in the backlog. Experience indicates the veteran is probably not going to meet VA requirements for compensation, so the value of the reworks is dubious. Consequently, he recommends discontinuing dose reconstruction on prostate rework cases.

Dr. Blake said his office would review the 128 remaining cases looking for unusual circumstances, and would generate correspondence to the VA, with a copy to the veteran, that DTRA stands by its previous prostate dose estimate. He then explained the multipliers used to achieve the 95% upper bound.

Dr. Blake then moved to skin cancer and stated that it is the only radiogenic disease reviewed that depends on skin color. The outcome of the rework indicates that approximately 11% of basal cell carcinomas,

3% of the squamous cell carcinomas and zero percent of the melanomas would receive compensation. He then presented a slide with a breakout of the raw data.

Dr. Blake presented all the data discussed above on detailed slides. Based on that presentation, he recommended continuing with the skin dose rework cases, at this time.

Moving to quality assurance, Dr. Blake listed the following NTPR achievements in 2005:

1. ISO certification for L-3 Titan NTPR team.
2. Independent technical reviews.
3. DTRA's NTPR program hosted reviews by VBDR subcommittees.

In 2006 the Policy and Guidance Manual has been modified to ensure consistency regarding radiation dose assessment. This supports bringing in more assessment teams. It is hoped this will reduce the backlog.

On the topic of veteran communication activity, Dr. Blake used slides to depict NTPR accomplishments in 2005:

1. 3,741 phone calls to veterans made by the NTPR Program Communications and Outreach Team.
2. NTPR Case Manager conducted more than 1,100 veteran contact calls.
3. Finalized more than 500 individual SPAREs.
4. Compiled feedback from veterans.

In discussing the road ahead, Dr. Blake listed the number one priority as serving the veterans. At the next VBDR meeting, he will be reporting on the status of DoD action items and looking forward to VBDR input to improve the NTPR program.

Dr. Zimble agreed with the suggestion and logic for modifying the prostate dose reconstruction and suggested that the same logic might be applied to squamous cell carcinoma.

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**A Briefing on VA Radiation Claims Compensation Program for Veterans
and VA Quality Assurance Manuals**

**Mr. Thomas Pamperin, Assistant Director for Policy
Compensation and Pension Services
Department of Veterans Affairs**

Mr. Pamperin began by announcing that his presentation would cover the general quality assurance program of the VA. Specific quality assurance measures concerning ionizing radiation were covered at the end of the presentation.

VA's quality assurance program is multi-dimensional and is covered in manual M 21-1. Mr. Pamperin's office also provides guidance to regional offices. Quality review consists of individual office performance and national accuracy. Supervisors and other qualified individuals conduct individual performance reviews at the regional offices. At the national level, the central office in Washington and the satellite office in Nashville review approximately 6,000 decisions a year. This is sufficient to give an accuracy rate for regional offices, but is not sufficient to give individual performances reviews.

Mr. Pamperin said individual performances require a second signature; i.e., two people evaluate the decision. Each individual has a quality measure that is monitored through monthly quality reviews. If their quality falls below expected standards, they may receive training, be put on an improvement plan, or receive a 100% review.

Six years ago Veterans Benefits Administration (VBA) adopted Statistical Technical Accuracy Review (STAR), the most rigorous quality review program in the country, according to Mr. Pamperin. It includes over 60 employees, in addition to those at the regional office who perform individual performance.

In 2005 the core accuracy rate was 85%, Mr. Pamperin said. Errors occurred in pay, notification and development; there are things that, while these are important, they did not affect the veterans' compensation. The STAR staff also conducts specialized reviews of specific issues when required -- women's health issues, for example.

Consistency is also a major factor in the reviews. There has been criticism that different regional offices produce different results, and this has triggered a need to look at consistency as an issue.

Mr. Pamperin explained that inconsistencies are examined by two other people, and it has been found that the reasons for disagreement tend to be quite varied. This phenomenon is attributed in large part to the complexities of the issues of each case.

Issues that create a 15% error rate are usually in the letters sent to the veterans. They fail to list all of the conditions that a veteran might claim. The 825,000 claims that will be handled this year will include claims from previous wars, as well as veterans leaving service this year. Eight or more disabilities will be claimed in 18% of the claims. We try to make sure every disability is evaluated, but the complexity of claims is getting much higher, Mr. Pamperin said.

Among the regions there is a compensation disparity from highest to lowest of about \$5,500. One of the reasons for the difference is whether the veteran uses the services of a professional in making his claims. Older veterans tend to rely on their initial evaluation and do

not return for follow-ups. Retirees tend to get high compensation, and then there is the issue of timely development of claims cases.

Mr. Pamperin pointed out that ionizing radiation cases are relatively few -- about 600 per year -- which means that an individual rating specialist might see a case every two years. This presents a problem with the initial development of radiation cases in that the rating specialist may not be familiar with that type of case.

Presumptive cases present few problems to the VA. However, where a dose reconstruction is required, a decision is made by the Veterans Health Administration (VHA) using the IREP model. If it is an active cancer, the benefit is 100%, but errors most often occur in the initial development of the case.

The issues in radiogenic cases, according to Mr. Pamperin, are lack of volume at the regional office level, improper referrals to DTRA, and the extremely lengthy process. In the last two years no errors were found in radiogenic cases. VA is not satisfied, however, with its overall performance level. We believe the decision-making is correct, but the process of getting there leaves room for improvement, Mr. Pamperin remarked.

Mr. Pamperin addressed the issue of children's disability claims and explained that there are only two categories of children eligible to submit claims. Further, the updating of IREP will be a decision coming from VHA.

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Friday, January 13, 2006

Dr. Zimble called the meeting to order and announced Dr. Vaughan preferred to defer her comments until after the reports of the subcommittees.

**Review and Board Approval of Revised Scope of Work
Subcommittee 1, DTRA Dose Reconstruction Procedures**

Mr. Harold Beck, Chair of Subcommittee 1, Subcommittee on DTRA Dose Reconstruction Procedures, recommended that the word "audit" at Task 2 be changed to "assess." Dr. Zimble asked that the request be put in the form of a motion. It was presented and adopted without objection.

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**Review and Board Approval of
Renaming and Expansion of Responsibilities
Subcommittee 4, Communication and Outreach**

Mr. Kenneth L. Groves, Chair of Subcommittee 4, recommended renaming the committee and adding responsibilities to provide communications-related issues within the committee as well as activities with the veterans. The motion carried without objection.

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Reports from the Subcommittees

Mr. Harold Beck, Chair Subcommittee 1 on DTRA Dose Reconstruction Procedures

First we reviewed our task list, Mr. Beck said. Then we selected six cases randomly from those that have been completed. The sampling used a stratified random sampling to ensure that it represents the type of cases they have been doing the past few years. The sampling represented four areas. It also included three prostate cancers, three skin cancers and one thyroid cancer. One veteran had skin and prostate cancers.

Mr. Beck explained that a meeting was held at the NTPR radiation dose assessment contractor facility to provide access to the contractor analysts who did the assessments. Items discussed included an audit plan. In discussing these cases with the analysts, some issues arose with respect to documentation, calculations and consistency. Audits are not complete, but when they are the results will be posted on the VBDR web site.

Mr. Beck summarized the preliminary findings.

1. The most significant area of progress in the dose reconstruction process since the 2003 NAS report was issued was in the application of the benefit of the doubt and the development of SPARE.
2. The ability of the NTPR contractor to validate veteran participation through relevant documents was commendable.
3. Analysts are not always consistent in the methodology used for the assessments. This is partially due to mandated changes in procedures.
4. Case file documentation should be improved.
5. NTPR contractors are developing templates to more rapidly perform dose assessments.
6. Skin dose calculations are complicated and uncertain. Based on the average cost of \$9,000 per case, it may not be beneficial to perform skin dose radiation assessments, especially for squamous cell carcinoma.
7. NTPR has not issued a technical analysis indicating that upper bound factors always provide an upper bound dose at the 95th percentile.

Mr. Beck went on to say that while the interim upper bound factors are adequate for generic radiation dose assessment using templates, it is

not consistent with the 2003 NAS Report or the 2004 report to Congress. It might be reasonable to implement a policy change to require an actual calculation of the upper bound only when the outcome might be affected. Even though the subcommittee found some problems with documentation and some inconsistencies, there were no indications of any errors that might have affected the VA decision on the veterans' claim.

Subcommittee 1 cannot adequately evaluate the calculation of skin doses at this time because the DTRA methodology has not been formalized and the beta to gamma dose ratio has not been validated, Mr. Beck said.

Plans are to choose another six cases between VBDR meetings and continue interviews with analysts. We would then do 24 audits per year, Mr. Beck observed.

Subcommittee 1 did not finish reviewing any specific NTPR methodologies. However, there will be an effort to assess both established and new methods. Findings will be reported at future VBDR meetings.

The subcommittee suggested issues for discussion by the Board.

1. NTPR files contain no record of the outcome of the cases for which dose reconstruction was conducted. To rectify this, VA could simply provide a copy to DTRA of their notification letter to the veteran.
2. The proposed discontinuation of revised radiation dose assessments for prostate rework cases. The subcommittee agrees that the reassessment of the 128 pending cases should not be done unless unusual circumstances can be validated.
3. The use of screening doses in lieu of detailed radiation dose assessments for new cases as well as reassessments.
4. Continued use of upper bound factors.
5. Consider making certain types of skin cancer presumptive. The cost-effectiveness of preparing radiation dose assessments may point toward making some or all skin cancers presumptive. It would certainly reduce the backlog and expedite future claims.

Mr. Beck explained that since Dr. Blake is the NTPR representative, it is not appropriate for him to take positions on the subcommittee's findings. However, he is a valuable member of the subcommittee.

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Board Discussion Session

Dr. Vaughan questioned the wisdom of discontinuing RDA for the prostate cancer rework cases. It could have unintended consequences. In the past using monetary criteria has caused misunderstanding and a lot of conflict. She asked about what has been communicated to the veterans

and what their expectations are.

Dr. Blake responded that the backlog cases he referred to had not even begun and there had been little or no communication with the veteran.

Dr. Zimble asked Dr. Vaughan if applying the recommendation to the 128 backlog cases would meet with her approval.

Dr. Vaughan then raised the issue of transferring population figures and averages to individual cases because that often neglects relevant factors, such as subsequent activities, duration of exposure, availability of decontamination and others. That is, the individual should not be the victim of a huge backlog. She suggested if there are individual-level context factors that could be incorporated, she would feel more comfortable in agreeing to the abbreviated RDAs. We have value issues and ethical and moral issues, as well as the integrity of the science that must be considered, Dr. Vaughan said.

Dr. Blake assured that cases would be studied individually to determine any unusual circumstances. Dr. Vaughan suggested it was important to take a proactive approach in explaining the policy to reduce the conflict and to ensure the veterans understand it is to their benefit.

Dr. Lathrop assured Dr. Vaughan that the communication with the veterans would be closely examined and framed in understandable terms. Dr. Vaughan pointed out that there is a lot of guidance available to assist the subcommittee in framing the communication for a non-scientific audience.

Mr. Groves reinforced the notion that the communications will be intelligible to the non-scientific audience. Further, he wondered if there would be a need to prepare a separate communication to the 128 claims that their cases were treated differently.

Dr. Blake suggested that DTRA would provide input to the review of how the information would be released. Mr. Groves assured that his committee would assist in developing the communication.

Dr. Reimann expressed concern with communicating the policy change that makes all skin cancers presumptive. Relabeling a condition to more rapidly expedite it might raise communication problems. It is not a question of changing the risk, Mr. Beck said. Rather it is a matter of cost-benefit of dose assessments that gives the veteran an extra benefit. Dr. Reimann reiterated it could be a communication problem.

Dr. Zimble recognized Dr. Zeman, who had comments about the application of averages to individual cases. There was a real difference between credibility of dose reconstruction in prostate cases versus skin cancer cases. Prostate cases were much more credible. Skin cancer has a much larger number of variables than prostate cancer. Therefore the

uncertainty is virtually unquantifiable. For that reason it is practical to classify skin cancers as presumptive.

Dr. Swenson commented that making skin cancers presumptive may not save the government money because applying that rule to veterans opens up the possibility that it might be applied to the Department of Labor program, ergo the number of claims will climb. Mr. Beck remarked that his recommendation is that an analysis be done of that possibility.

Dr. Zimble reminded members that the veteran is the party of interest and that the Board's recommendations should be based on what is in the interest of veterans without regard to other Departments. Dr. Lathrop reinforced Dr. Zimble's comments.

Mr. Pamperin reminded the Board that any law, or regulation change would require an accompanying change outlining the funding source for the change. Raising uncertainty levels allows claims to be processed without identifying funding sources.

Dr. Boice raised the issue of whether the Board wanted to lean so far in favor of uncertainty in skin cancer cases while adhering to strict rules of dose reconstruction for prostate cancer. Dr. Zimble suggested this is a matter of who has the burden of proof, the veteran or the government. He made it clear that the burden of proof should be with the government.

Mr. Beck pointed out that in skin cancer the dose has a high level of uncertainty, but probable cause also has high levels of uncertainty and the combination of the two gets into the 99th percentile concept. Dr. Lathrop questioned whether treating skin cancer as presumptive without officially listing it as such was not a bit too clever for the Board to suggest as policy.

Dr. Zimble proposed that Dr. Blake work with Mr. Beck and Mr. Groves to present a formal recommendation to the Board. It was further proposed that Mr. Pamperin be included.

Mr. Beck suggested that Dr. Blake would like a decision on his proposal regarding rework prostate cancers. After a short discussion with Dr. Vaughan, the proposal passed with no objections.

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Dr. Ronald Blanck, Chairman
Subcommittee 2 on VA Claims Adjudication Procedures

Dr. Blanck called attention to the written report provided to Board members. He pointed out that Mr. Pamperin, a member of his subcommittee and an employee of the VA, took no formal position on the findings or the proposed recommendations in the report. He credited Dr. Fleming and

Dr. Vaughan with excellent suggestions and assistance in developing the report.

The task of subcommittee 2 is to review policies and procedures used by the VA and the Veterans Benefit Administration (VBH) for claims by veterans, Dr. Blanck said. Random audits will be conducted on radiogenic and non-radiogenic diseases to evaluate procedures and decisions. Further, the subcommittee was to evaluate methods of adjudication and the scientific validity of the decisions.

Dr. Blanck noted with complimentary comments that VA has established an Ionizing Radiation Registry in which more than 23,000 veterans have participated. Further, the VA publishes *Ionizing Radiation Review*, which is instrumental in keeping veterans informed and in educating others at VA and DoD.

At a meeting at the VBH Office in Washington, D.C. the subcommittee was briefed on the processes and procedures used to adjudicate claims. Since cancers other than skin and prostate are presumptive, the only issue was the timeliness of the claims processing. In light of the foregoing, the subcommittee focused on non-presumptive conditions.

Each VA regional office obtains medical evidence to support the claim and sends a development letter to the claimant. After coordination with the appropriate service (Army, Navy, etc.), the claim eventually is sent to DTRA for dose reconstruction. In spite of efforts at VA to give priority to atomic veteran cases, they are not always expedited as efficiently as one would like.

DTRA conducts dose reconstruction through contractors. This process seems to take the longest. After dose reconstruction, the information is relayed to Public Health and Environmental Hazards for determination of service connection. Very few non-presumptive cases qualify for compensation.

Dr. Blanck said the subcommittee also considered the equity and fairness issue between the presumptive and the non-presumptive cases. Random audits still must be prepared on radiogenic and non-radiogenic claims, and the scientific validity of the decisions must be examined. Dr. Blanck presented seven topics for further discussion:

1. Centralize ionizing radiation exposure claims.
2. Provide VA liaison to DTRA.
3. Develop templates to expedite individual cases.
4. Develop worst-case scenario templates to aid veterans in better understanding the chances of receiving compensation.
5. Develop a protocol for those with presumptive diagnoses.
6. Verify veterans' participation in qualifying activities.
7. Develop a centralized database.

Dr. Zimble asked that the subcommittee present the report as an action item for Board approval. There were no objections to the report.

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Dr. Curt W. Reimann, Chairman
Subcommittee 3 on Quality Management and
VA Process Integration with DTRA NTPR Program

Dr. Reimann stated that Subcommittee 3 will review all aspects of quality management in dose reconstruction and claims adjudication procedures used by NTPR and VA. A quality management system should be designed and deployed that makes direct contact with, and engenders cooperation with, other subcommittees.

The subcommittee looked at the scope of work, details of implementation and the core elements of a quality management system. The goal will be to relate to the veteran as a valued customer, as opposed to designing an administrative process. In October the subcommittee took part in meetings with NTPR and VA to assess the working relationship and cooperation between them.

Dr. Reimann emphasized the outreach of Subcommittee 3 as it attended other VBDR subcommittee meetings and contacted the three military Services offices to encourage cooperation in the handling of claims. They held meetings with contractors and NTPR to assess their quality management system. They reviewed major issues centered on process reliability and efforts to reduce caseload.

In pulling this information together, Subcommittee 3 developed the following:

Observations and Next Steps:

1. NTPR and VA have been cooperative and responsive in addressing requests from VBDR.
2. SPARE has been a positive step in assisting atomic veterans recollect their experiences.
3. NTPR has made progress in improving management of claims. There is still room for improvement, especially in dose reconstructions.
4. NTPR is attempting to speed up dose reconstruction to reduce case backlog.
5. VA and NTPR should continue to strive for improvement.
6. In NTPR's new contract, it would be wise to incorporate incentives, technical quality, timeliness and independent review.

Dr. Zimble thanked Dr. Reimann and recapped his last observation regarding standard operating procedures, metrics and goals. Dr. Reimann verified Dr. Zimble's remarks, and emphasized the difficulty of achieving this level of discipline.

Dr. McCurdy reiterated the need for present and future contractors to have a Quality Assurance program written into the contract to ensure compliance with the subcommittee's recommendations.

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Mr. Kenneth L. Groves, Chairman
Subcommittee 4 on Communication and Outreach

Mr. Groves introduced members of Subcommittee 4 and recapped the changes in the subcommittee's scope, approved earlier in the day.

The subcommittee met with the web master for VBDR.org and added attributes to the site that will benefit the Board and the veterans who use the site. It is seen as the timeliest way to share information from the Board. In looking for ways to communicate with veterans, Mr. Taylor, along with DTRA and NCRP, compiled a list of veterans' organizations to which press releases for this meeting were sent.

Mr. Groves said that it is the goal to reach out to every surviving veteran (from a possible pool of 400,000) to let them know of the Board and its activities.

Subcommittee 4 was charged with assisting in selecting meeting locations. Keeping in mind the guidance to meet in areas where there is a high concentration of veterans, locations in California and Texas were selected. The next meeting will be in Austin, Texas in June.

Mr. Groves pointed out that the subcommittee has established protocols for responding to inquiries through the Web site or through the 800 number. In addition, a PowerPoint presentation will be made available (currently in draft form). It outlines activities of the Board and gives a brief description of the activities of DTRA and Department of Veterans Affairs. It will also be used by members of other VBDR subcommittees.

Mr. Groves attended a meeting of the Advisory Board on Radiation and Worker Health that is a Department of Health and Human Services board with responsibilities similar to the VBDR. They have developed a number of straightforward fact sheets, written in lay terms, which seem to be very beneficial to the recipients. He said that Subcommittee 4 will work with other subcommittees to develop similar fact sheets.

To summarize, Mr. Groves said SC4 will continue to work with all subcommittees, continue to monitor the VBDR Web site, complete the fact sheets, complete the PowerPoint presentation, and continue to develop

meeting sites. A possible project might be the development of an oral history program. Based on testimonies from veterans at meetings of VBDR, a history might prove valuable and it would come from a rapidly perishing source.

Dr. Zimble thanked Mr. Groves and commended the subcommittee on their efforts.

Mr. Taylor suggested there were two areas where the entire Board could be involved. First, the PowerPoint presentation, and secondly, the oral history mentioned by Mr. Groves. Mr. Taylor indicated he knew of a gentleman, Mr. Weiner, who has published a book and is the historian of the Veterans History Project. His wealth of information might be valuable to the Board.

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Public Comment Period

The following is a summary of comments made by the public on the second day of the meeting. A verbatim record of those statements is available on the VBDR Web site at www.vbdr.org.

Mr. Charles Clark, atomic veteran, announced he had four items to bring before the Board. The first was beta radiation as discussed in the *Green Book* and as it relates to the skin. The second item was the water in the Nishijima Reservoir during the period September/October 1945. The third issue was Guam and the concern that there might be a possibility of contamination from the radioactive dump on Enewetak. The fourth item was that widows of atomic veterans need an invitation to address the Board directly.

Dr. Zimble assured Mr. Clark that widows have a right to address the Board. He then called on Dr. Blake to address the other points raised by Mr. Clark.

Dr. Blake suggested Mr. Clark provide documentation for the beta issue and the Nishijima Reservoir. Mr. Beck also assured Mr. Clark that he would look into the Reservoir situation.

Mr. Clark raised the issue of timeliness for veterans' claims, which is terrible.

Mr. Groves observed that when Mr. Clark, an officer of the National Atomic Veterans Association, received notice of the Board's meeting, he sent out 150 letters to atomic veterans urging their attendance.

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Mr. John Bankston announced he works with Veterans Affairs in Maryland

for atomic veterans and Radiated Veterans of America. He vented his anger with the leadership, all the way back to President Truman, for exposing American troops to the dangers of radiation while the government leaders knew the danger involved.

Dr. Zimble responded to one of Mr. Bankston's written questions by explaining that the VBDR was created by Congress to specifically offer recommendations to VA and DTRA.

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Mrs. Senoth Bankston, wife of John Bankston, recounted her ancestry and listed a long line of immediate relatives who have served honorably in the armed services. She further detailed the members of her family and acquaintances who have died of cancer or who now have cancer. She also pointed out the many health issues in Mr. Bankston's family.

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Mr. Clyde Wyant gave a long, detailed account of his experience in Los Alamos in the '40s. He also berated the VA and the services for their lack of understanding of the suffering he has experienced as a result of his exposure to radiation.

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Dr. Zimble announced that **Dr. David Kocher**, a senior scientist at SENES Oak Ridge, had requested an opportunity to make some comments regarding IREP, and he invited him to speak to the Board.

Dr. Kocher reminded the Board that the Interactive Radio-Epidemiological Program (IREP) is a living entity. The Board, if it chooses, may very well have a role to play in determining future developments in the program. Members of NIOSH and SENES Oak Ridge meet two or three times a year for retreats to discuss new scientific developments and how to better the program.

Future developments in IREP are driven in part by BEIR committees, Dr. Kocher noted. BEIR VII is a crucial benchmark. While there is no conflict, there are two aspects to future development. One is the high-level committees that make pronouncements every so often, and then there is the foot soldier in the trenches who may have a different point of view.

Dr. Kocher pointed out that they have been working for a year to change present assumptions about DDREF in IREP. It is virtually certain that they will not recommend what the BEIR committee recommended to NIOSH. It is a dynamic system and the Board can have an influence on the developments.

In answer to Dr. Preston's desire for a program to calculate dose risk and probability of causation in one process, there is such a program, according to Dr. Kocher. One further point that might prove helpful in communicating with veterans is a table that has dose calculations for every kind of cancer. While it is complicated in itself, it can be simplified and communicated in lay terms.

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Board Discussion Session

Dr. Isaf Al-Nabulsi, Program Administrator for the VBDR, stated that Subcommittee 4 had suggested a library for the Board, and asked for guidance on what the Board needs.

Mr. Groves suggested a copy of the RECA report would be desirable. Dr. Al-Nabulsi informed the Board that she had made a copy available.

Mr. Taylor explained the discussion he had with Dr. Al-Nabulsi regarding the library, and indicated she had been working on such a project for some time. Dr. Swenson suggested checking with the American College of Radiology for publications on cancer patients.

In answer to Dr. McCurdy's inquiry regarding how the operation of the library was being envisioned, Dr. Al-Nabulsi indicated she would send members a list of publications. When they informed her of any they would find of interest, she would send them out. Dr. McCurdy observed much of the material was available on the web.

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Dr. Zimble asked for input on who might be invited as experts in their field to present at the next Board meeting. One suggestion was Dr. Royal of the Veterans' Advisory Committee on Environmental Hazards. Dr. Lathrop suggested Paul Slovic, an expert on perceptions of risk and public attitudes toward risk. He felt he might provide relevant assistance in communicating risk aspects of radiation to veterans.

Mr. Beck suggested finding someone to put radiation risks in perspective with other risks. Dr. Zimble offered that Dr. Thomas Tenforde, President of the National Council on Radiation Protection and Measurements, might know a person for that. Dr. Swenson suggested perhaps Dr. Boice might do a presentation on epidemiology.

Mr. Taylor proposed the author of *Shockwave*, a book about TRINITY, Hiroshima and Nagasaki. Dr. Zeman suggested an expert in beta dosimetry and skin dosimetry.

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Veterans' Advisory Board on Dose Reconstruction

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In coordination with Dr. Al-Nabulsi and Dr. Zimble, November 9 and 10 were selected as the dates for the fall meeting. After discussion, members selected the Tidewater area of Virginia as the site for the November meeting.

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Dr. Zimble recognized the VBDR support staff, the audio-visual support, the hotel staff, all the Board members and the atomic veterans.

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With no further business to come before the Board, the meeting was adjourned at 3:30 p.m.

End of Summary Minutes

I hereby confirm these Summary Minutes are accurate to the best of my knowledge.

/S/

Vice Admiral James A. Zimble MC, USN (Ret.), Chair

Date: March 28, 2006