

Executive Summary

The Fourth Meeting of the Veterans' Advisory Board on Dose Reconstruction (VBDR or the Board) was held at the Hampton VA Medical Center in Hampton, Virginia on November 8 and 9, 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 R. Blanck, LTG, USA (Ret.); Dr. John D. Boice, CAPT, USPHS (Ret.); Dr. Patricia A. Fleming; Mr. Kenneth L. Groves, CDR, MSC, USN (Ret.); Dr. John F. Lathrop; Dr. David E. McCurdy; Mr. Thomas J. Pamperin, LTC, USAR (Ret.); Dr. Curt W. Reimann; Mr. George Edwin Taylor, COL, USA (Ret.); and Dr. Gary H. Zeman, CDR, MSC, USN (Ret.). Unable to attend were Dr. Kristin N. Swenson, Lt Col, USAF (Ret.); Dr. Elaine Vaughan and Mr. Paul G. Voillequé. 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 Fourth Meeting
November 8 and 9, 2006**

The fourth Meeting of the Veterans' Advisory Board on Dose Reconstruction was held at the Hampton VA medical Center, 100 Emancipation Drive; Hampton, Virginia 23667 on November 8 and 9, 2006. The meeting was called by the Defense Threat Reduction Agency (DTRA) of the Department of Defense (DoD) 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 VBDR 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, Dr. Patricia A. Fleming, Mr. Kenneth L. Groves, Dr. John F. Lathrop, Dr. David E. McCurdy, Dr. Curt W. Reimann, Mr. Thomas J. Pamperin, Mr. George E. "Ed" Taylor, and Dr. Gary H. Zeman.

Designated Federal Officer: Ms. Shari Durand, Deputy Director of the Business Directorate, DTRA.

Federal Agency Attendees: Ms. Mary Lyn Kelley, DVA; Col Charles A. Helms, USAF, DTRA; Mr. Blane Lewis, DTRA; LCDR Ralph J. Marro, MSC, USN, 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, Ms. Carlotta Teague, and Dr. Thomas Tenforde.

Members of the Public: See Registration.

Wednesday, November 8, 2006

Opening Remarks

Dr. James A. Zimble, Chair of the Veterans' Advisory Board on Dose Reconstruction, called the meeting to order and welcomed the attendees. He also thanked the VA in Hampton, Virginia for providing the facility, which might encourage more participation from veterans in the Hampton area.

Dr. Zimble then requested that the preliminary agenda be approved. Without objection, it was approved.

Ms. Shari Durand welcomed all members to the fourth meeting of the Board and thanked the local VA and pointed out the proximity of the date to Veterans Day and the Marine Corps birthday. She requested all cell phones and other electronics be turned off.

Dr. Zimble welcomed Ms. Mary Lyn Kelly, representative of the local VA, announced the absence of Dr. Swenson, Dr. Vaughan, Mr. Voilleque, and then called upon the Board members to introduce themselves.

Dr. Zimble requested that all participants be sure to sign in. He then introduced Dr. Paul Ziemer.

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**Briefing on Recent Activities and Actions of the Advisory Board
on Radiation and Worker Health**

Dr. Paul Ziemer
Chair, Advisory Board on Radiation and Worker Health (ABRWH)

Dr. Ziemer reviewed the public law that established the civilian compensation program for those who suffered illnesses incurred in the performance of the Department of Energy (DOE) activities or activities of DOE contractors. He pointed out that the ABRWH members are not only concerned with the science in which the men and women instrumental in building the nation's nuclear defense system were involved, but that they are also agents of public policy. Congress is aware that these activities have put some workers at significant health risk and have provided a lump sum payment of \$150,000 for those determined to be compensable.

ABRWH was established by Executive Order at the end of 2000 and reports to the Secretary of Health and Human Services (HHS).

ABRWH has three responsibilities. The first responsibility is to develop two sets of guidelines: to determine how to reconstruct ionizing radiation dosage and to establish guidelines for determining probability of causation (PC). The second responsibility is to audit the process and advise the Secretary of HHS on the validity and quality of dose reconstruction. The third responsibility is to determine if there is a class of employees for whom it is not feasible to estimate dose, but who may have been endangered due to exposure. Individuals in this category are labeled a Special Exposure Cohort (SEC).

ABRWH can consist of no more than twenty members, and currently consists of only 12 members. Membership includes affected workers and their representatives, as well as members of the scientific community.

Presenting statistics on the cases received by the National Institute for Occupational Safety and Health (NIOSH), Dr. Ziemer said that NIOSH has received 22,316 cases for dose reconstruction as of August 31st. He pointed out that, initially, the cases go to the Department of Labor (DOL) to establish that the individual worked at the place of interest and to confirm the medical information. The case is then sent to NIOSH for dose reconstruction. NIOSH has completed approximately 75 percent of those cases. While new cases continue to come in, NIOSH is completing dose reconstructions at a greater rate than new cases are received.

Dr. Ziemer stated that cases are then sent to DOL for determining PC. He said that 27 percent of the cases have received compensation, based on a PC equal to or greater than 50 percent at the 95 percent confidence level. He also stated that NIOSH uses guidelines that minimize the possibility that claimants who have cancer that may have been caused by radiation are denied compensation. While this procedure, no doubt, provides compensation for many whose cancer was probably not related to their exposure, it minimizes the possibility of missing a fair claim.

Moving to the topic of SEC, Dr. Ziemer said that Congress established this class, initially, for workers at Paducah, Portsmouth, and the Oak Ridge Gaseous Diffusion Plant (K-25 Site) and Amchitka Island Nuclear Explosion Site. Individuals must have at least one of 22 specific types of cancer and must have worked for a specified period of time at a particular site to be eligible for compensation without dose reconstruction. He pointed out that the responsibility for adding classes to the SEC belongs to the Secretary of HHS and the procedure for doing so is controlled by 42 CFR 83.

He pointed out that NIOSH is the action agency for this process and individuals or groups may petition them to be included in the SEC.

After NIOSH makes a decision, then it is the responsibility of ABRWH to review the NIOSH evaluation and make a recommendation to the Secretary of HHS.

Dr. Ziemer further explained that while it is expected that individuals or groups will initiate the petition to be included in the SEC, in fact, it is often NIOSH that initiates the petition by asking the individual or group to initiate such a petition. This occurs when NIOSH determines that they cannot reconstruct doses for that individual or group.

He also said that other individuals or groups may submit petitions if they think that monitoring data, dosimetry, or workplace data may be unreliable, not trustworthy or otherwise skewed. These petitions are evaluated separately by NIOSH and ABRWH. The recommendations from ABRWH will be submitted to the Secretary of HHS. The Secretary then recommends to Congress, who has the final decision, to make these individuals eligible for compensation without dose reconstruction. If the recommendation of the Secretary is not reversed within 30 days, it stands.

Dr. Ziemer summarized the two requirements for adding a class to SEC. First, NIOSH decides it is not able to do dose reconstruction with sufficient accuracy, and second, there is a reasonable likelihood that such radiation doses may have endangered the health of the members of the class.

Dr. Lathrop asked for clarification as to whether NIOSH actually originates petitions. Dr. Ziemer clarified that the petition must come from an individual or a group, but that NIOSH may urge a worker or a group to submit a petition.

Dr. McCurdy pointed out that some workers at sites might not have worked in an area involving radiation exposure. Dr. Ziemer responded that many of those workers have counter arguments and without definitive records to dispute the arguments, one must assume in favor of the worker.

Dr. Ziemer discussed extrapolations of time, based on hours worked, to equal 250 days as a consideration by ABRWH. He then addressed the question of sufficient accuracy. After reading the regulation aloud, he explained that NIOSH must be able to reconstruct the dose for each type of cancer. There may be cancers for which this can't be done. So, some plausible assumptions are made. Further, (reading) "If NIOSH has established that it has access to sufficient information to estimate doses to the members of the class more precisely than an estimate of maximum, that's also sufficient accuracy." He added that the foregoing statement simply means that it is allowable to do individual dose

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reconstruction for a site or facility, or they may be done as a group where everyone will be assigned the same maximum dose. Dr. Ziemer explained that ABRWH and NIOSH had disagreed over one case with respect to the reliability of the data and that led to the sufficient accuracy question.

He then showed a list of the 22 cancers covered by the SEC rule. Under the dose reconstruction rule every cancer except one is eligible for compensation. However, under the SEC rule, one must have a specific cancer to be eligible for compensation.

In response to Mr. Taylor's comment that skin cancer is not on the list, Dr. Ziemer replied that usually skin cancer calls for a dose reconstruction and that the external dose is the key to dose reconstruction for that type of cancer. Dr. Zimble pointed out that the list of SEC cancers is the same as the VBDR presumptive list.

Presenting the status of SEC petitions, Dr. Ziemer explained why some petitions did not qualify and, therefore, were administratively closed by NIOSH. He explained the various stages in the path of a petition as it moves through the process to the Office of the Secretary of HHS and listed the number in each stage. Sixty petitions were received; 24 were administratively closed by NIOSH; 13 are in the qualification stage; six are being evaluated by NIOSH; six are under review by ABRWH; 10 have been recommended by ABRWH and approved by HHS for SEC status; and one has approval by ABRWH and HHS, but has not been added to SEC.

Dr. Reimann asked about the size of cohorts. Dr. Ziemer replied that they are all sizes, ranging from one individual to several hundred.

Mr. Groves asked if there were non-cancerous diseases that can be compensated under dose reconstruction. Dr. Ziemer said there were none. Discussion between Dr. Zimble and Dr. Ziemer established that the ABRWH does not review non-radiogenic diseases and, perhaps, that should be the position of the VBDR.

Mr. Groves, Dr. Ziemer, and Dr. Fleming briefly discussed the Pacific Proving Grounds decision where it was awarded SEC status. Dr. Boice asked if the ABRWH web site contained more detailed discussion of these decisions. Dr. Ziemer responded that all the details can be found on the ABRWH Web site.

Mr. Beck, Dr. Fleming and Dr. Ziemer discussed the location of individuals versus technicality of dose reconstruction in assigning SEC status.

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Continuing, Dr. Ziemer discussed the petitions currently under review by ABRWH and stated that they recommended approval of Los Alamos, Oak Ridge Gaseous Diffusion Plant and Oak Ridge Institute for Nuclear Studies for SEC. At its next meeting, ABRWH will review Rocky Flats, Chapman Valve, and Blockson Chemical. He also said that NIOSH is evaluating six additional petitions which the Board will review.

Mr. Groves pointed out that the petitions currently under evaluation by NIOSH potentially contain large numbers of people. Dr. Ziemer said they are mixed. He further elaborated that Bethlehem Steel presents special problems because the lack of monitoring made it necessary to use surrogate data for dose reconstruction. Those persons who did not qualify are questioning the validity of the dose reconstructions because the data did not come from Bethlehem Steel.

Dr. Ziemer then presented data showing the number of individuals covered by the various petitions. Mr. Pamperin inquired whether population figures shown were absolute or the number of people filing claims. Mr. Beck said it was claims filed. Dr. Zimble raised the question of the total number of population at risk. Dr. Ziemer said he had seen an estimate of 50,000. Dr. Zimble added that VBDR is looking at a population of about 460,000.

Dr. Ziemer pointed to the accomplishments of the ABRWH and discussed the audit of dose reconstructions. The goal is to audit two and a half percent of the dose reconstructions, or approximately 400 of the 15,000 that have been done. They are well along on 120 audits. He also discussed petition reviews and site profile reviews. There are contractors who assist the ABRWH in carrying out its duties. The contractor drafts are made public before the ABRWH review and this can be a point of contention. The ABRWH does not always adopt all the recommendations of the contractor. Further, ABRWH has developed a resolution process to settle differences which may arise between NIOSH and the contractor.

Dr. Ziemer concluded his presentation by highlighting the site profile reviews, case tracking, NIOSH dose reconstruction procedures, individual case reviews, and SEC petition evaluation reviews. He emphasized that ABRWH is not an appeals board, but if it appears a case has been rejected that should have been compensated, ABRWH will make it known to NIOSH.

Dr. Ziemer, Dr. McCurdy, and Dr. Zimble discussed the difference between the VBDR presumptive cases and the ABRWH SEC cases. There are no presumptive cases in SEC, said Dr. Ziemer. Their compensability is dependent upon a site profile analysis, their length of employment and type of work.

Dr. McCurdy raised the issue of quality assurance (QA) and Dr. Ziemer provided a broad picture of the ABRWH procedures. A checklist has been developed with about 70 criteria to be evaluated. The seriousness of each case is weighed and the implications are considered. Are the errors/omissions systematic or isolated? Will it affect other cases?

Dr. McCurdy questioned the level of reliability of the process when conducted by different individuals. Dr. Ziemer responded that internal quality control is in place to minimize the differences, but that it is largely intuitive at this time and there is no constant by which the work is measured.

Dr. Fleming asked if the \$150,000 compensation payment is offset by other payments. Dr. Ziemer said he was not aware of any offset and Mr. Pamperin added that for military personnel, it had been changed within the last two years. It was unclear how it was changed.

**A Briefing on Activities and Actions of the Veterans' Advisory
Committee on Environmental Hazards**

Henry D. Royal, M.D.
Associate Director of Nuclear Medicine
Mallinckrodt Institute of Radiology
**Scientific Chairman of the Veterans' Advisory Committee on
Environmental Hazards**

Dr. Royal began by lauding the VBDR for its acceptance and trust by the veterans. He provided a brief explanation of the history, rationale, and composition of the Veterans' Advisory Committee on Environmental Hazards (VACEH). VACEH was originally involved with dioxin and radiation claims, he said.

VACEH is charged with advising the VA on any new science that would affect the compensation program. Dr. Royal listed and explained the background and qualifications of members of VACEH. He noted that the PC tables were published in 1984 or 1985 and his committee was to track new scientific developments to determine if adjustments should be made to the tables.

He then pointed out that there are two groups in the presumptive category: 1) approximately 195,000 participants in the occupation of Hiroshima and Nagasaki and 2) approximately 210,000, mostly military members, confirmed participants in the U.S. atmospheric nuclear weapons tests between 1945 and 1962 in the U. S., and Pacific and Atlantic Oceans prior to the 1963 Limited Test Ban Treaty.

The list of presumptive diseases for these populations includes most of the common cancers except skin cancer and prostate cancer, Dr. Royal said. VACEH has been asked by Dr. Zimble for an opinion as to whether skin and prostate cancer should be added to that list. A formal response will be forthcoming shortly, but Dr. Royal indicated what the response would be.

First, Dr. Royal discussed the difficulty of doing PC calculations with a disease such as skin cancer. It is very common, he said, and mostly caused by exposure to the sun. It also has a low mortality rate. There is no good way to track the incidence of cancers when they don't have serious health consequences and get recorded in tumor registries. The baseline of skin cancer incidence depends on how hard one looks for it. It also depends on complexion. So, there are a myriad of variables that make measuring the endpoint of skin cancer difficult.

Dr. Royal then pointed out that the dose to the skin is not from penetrating gamma radiations, but it is from betas. He went on to discuss the complications in considering beta versus gamma radiation dose to determine PC of skin cancer. Skin dose due to dermal contamination from betas can be spatially very heterogeneous, depending on where fallout might fall on the skin and where a skin cancer occurs. While all this is frustrating in determining compensation, it actually benefits the veteran because the greater the uncertainty of the dose, the more likely that the veteran will be compensated. That is because the upper limits of dose are used for the PC calculations.

Discussing prostate cancer, Dr. Royal pointed out that there is a dose-response relationship, but it is not statistically significant. The number of prostate cancers among atomic-bomb survivors is small, and the smaller the number of cancers in a population, the more difficult it is to demonstrate a statistical significance.

Dr. Lathrop inquired as to the confidence level of the statistical data. It was not readily at hand, Dr. Royal said. He then discussed the dangers of relying too heavily on the vagaries of statistical significance in determining PC. From a scientific point, prostate cancer is not generally considered a radiogenic disease, but in the context of compassionate compensation, it may very well be potentially considered to be radiogenic.

In a discussion with Dr. Zimble, Dr. Royal pointed out that it is difficult from a scientific point of view to determine why some diseases are on the presumptive list and others are not. He went on to say that probably more than 50 percent of men 70 years of age and older show signs of potential to develop prostate cancer.

Dr. Royal also discussed the group of people who are not in the presumptive disease group. He said that the percentage of cases awarded compensation, based on PC, is small because radiation is a weak carcinogen. One must be exposed to a rather large dose of radiation for it to be the likely cause of cancer.

Dr. Royal pointed out that medical radiation is the greatest source of radiation among the general population and it is not factored into the formula for PC calculations. This further complicates the determination of PC.

To end his presentation, Dr. Royal discussed issues important to the overall subject of radiation compensation.

- First, he raised the issue of credibility in dose reconstructions. There is a gap between the credibility among stakeholders and the credibility among scientists. It is ameliorated largely by the desire of Congress to give benefit of the doubt to the claimant.
- Second, there is the question about how much is spent administering the program versus how much is paid out in claims. Some think that cutting out the administrative costs and paying all of the claimants might be a good thing.
- Third, the all or nothing results of the PC finding is an issue. In England, for example, a claimant who has a 10 per cent PC for cancer receives 10 percent of the maximum payment.
- Fourth, is the issue of parity. Are all categories of people receiving comparable compensation? He feels the veterans probably are not treated equitably. He went on to explain that lumping melanoma with all other skin cancers is probably unfair.

Dr. Royal drew attention to two publications where compensation was discussed. One was a nurses' journal which discussed the DOE program and had some comparisons to the veterans' program. The other publication comes from the National Academy of Science and the article discussed what sort of diseases should be screened in the uranium cohort, and it attempted to compare the compensation programs. It is clear, he said, that there are some major differences among all the programs.

Dr. Zimble asked if the two advisory committees, VBDR and VACEH, are interacting properly and sharing information to insure consistency in their advice. Dr. Royal responded that they probably were consistent, considering the differences in each committee's tasks.

Dr. Lathrop requested clarification concerning the place of medical radiation exposure in PC calculations. Dr. Royal said it should be a factor if the medical radiation exposure was required as part of the

employment, but that other background radiation exposure was not considered. In further discussion of this issue, Dr. Royal pointed out the difficulty of calculating an accurate dose resulting from medical radiation and pointed out that PC results would probably be reduced if medical radiation were in the equation.

Dr. McCurdy asked if the NIOSH program included the uncertainty of dose calculation in the value provided to the Department of Labor. Dr. Royal said that they enter a single value which is 99 percent upper confidence bounds of that dose. Dr. Ziemer provided a more thorough explanation of various calculations involved.

Dr. Royal, Dr. Blake, Dr. Lathrop, Dr. McCurdy and Mr. Beck discussed the various rules for PC calculations as set forth by the various agencies involved.

Dr. Zeman inquired about maximum permissible radiation doses and dose limits. Dr. Royal explained that it is difficult to measure cancer caused by occupational radiation exposure and the only way to know the answer to the question is to go to epidemiologic studies. He pointed out that radiation is not a major cause of disease in this country and that money should only be spent on it proportionate to its importance.

Mr. Pamperin requested clarification of the compensation methods used by Great Britain. It was explained that, rather than requiring a 100 percent PC for active cancer, and providing 100 per cent compensation, the British use varying levels of probability and compensate individuals according to that level, i.e., 20 percent probability equals 20 percent compensation.

Dr. Fleming raised the issue of ethics in compensation and protection and cautioned not to wander too far into the broad spectrum of policy.

Mr. Groves also questioned the British method of compensation and the NIOSH system.

**Radiation Exposure Compensation Program
U.S. Department of Justice**

**Dianne Spellberg
Acting Director for Radiation Exposure Compensation Program
U.S. Department of Justice (DOJ)**

Ms. Spellberg began with a brief history of worldwide nuclear testing and some of the negotiations attendant to that activity. She discussed

uranium mining and the miners who brought a class action lawsuit against the U.S. Though the lawsuit was unsuccessful, the court decreed that Congress should redress the claims brought in *Begay v. the United States*.

Congress acted by apologizing and enacting a compensation program, according to Ms. Spellberg. The program covered two types of claimants:

1. Occupational Exposure
 - o Onsite participants
 - o Ore Transporters
 - o Uranium Miners
 - o Uranium Millers

2. Innocent Exposure
 - Downwinders

Congress defined onsite participants as those who participated onsite in a test involving atmospheric detonation of a nuclear device. Onsite refers to the Nevada Test Site, the Pacific Proving Grounds and the Trinity Test Site.

Ms. Spellberg defined onsite participants as follows: "Individuals who participated "onsite" in a test involving the atmospheric detonation of a nuclear device, and later developed a specified compensable disease." The cutoff date for participants is January 1, 1963, the date of the Limited Test Ban Treaty halting atmospheric testing. Twenty one compensable diseases were defined by Congress, and the compensation was set at \$75,000.

The Radiation Exposure Compensation Act (RECA) office is in Washington D.C. with a small staff of claims examiners who review claims and assist claimants in obtaining the necessary documentation to file, Ms. Spellberg said. She also noted that the average processing time is about nine months.

In 2002, Congress established six health care facilities to do medical screening, education and to assist RECA claimants, according to Ms. Spellberg. Workers who have claims approved are informed of the Energy Employees Occupational Illness Compensation Act (EEOICPA) program where they may obtain additional compensation.

Ms. Spellberg explained the offset, required by law, between VA payments and RECA compensation. If a person is receiving VA payments and is approved for RECA compensation, the \$75,000 is offset by the amount of money the individual has received in VA payments. Changes to VA regulations allow the individual to continue to receive VA payments

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after he or she has been compensated by RECA, but the VA payments are offset by the lump sum RECA payment.

Statistics offered by Ms. Spellberg show a fairly large number of claimants in 1992, but that number dwindled through 1999. Congressional changes to the law in 2000 added a large number of eligible claimants. Consequently, figures have gone up dramatically and have remained relatively stable. There are about 200 new claimants per month.

Ms. Spellberg used financial statistics to show that about one billion dollars have been paid to various claimants. She asked the VBDR to inform onsite participant claimants that they need not give up their VA payments to receive RECA compensation.

Dr. Zimble suggested that VBDR might recommend that the VA do outreach to onsite participants to inform them of the possibility of RECA compensation.

Dr. Zimble and Ms. Spellberg then discussed the outreach further and Dr. Zimble asked if there were different levels of compensation for other workers and downwinders and is it for the same list of 20 diseases? Ms. Spellberg explained that for uranium workers, lung cancer and five non-malignant respiratory diseases were added. For millers and ore transporters, Congress added chronic renal disease and renal cancer. Uranium workers receive a lump sum of \$100,000 and under EEOICPA, they are entitled to an additional \$50,000 plus medical benefits.

Dr. Zimble pointed out that renal and bone cancers are not listed under RECA, though they are in the VA presumptive group.

Mr. Pamperin and Ms. Spellberg discussed eligibility of spouses and children under the various programs, i.e., RECA, VA and EEOICPA.

Mr. Groves asked what percentage of onsite participants were veterans versus DOE or DOE contractors. Ms. Spellberg responded that 43 percent of the claims received are from veterans. Mr. Groves pointed out that there was a small number of veterans' claims when one considers there are 210,000 in the eligible population and questioned whether it was actually beneficial for a veteran to file a claim with RECA when VA compensation is offset by RECA compensation. Ms. Spellberg responded that the veteran might be receiving compensation for something other than radiation-connected disability, and Mr. Pamperin elaborated that, in that case, VA compensation would not be affected by RECA compensation.

Mr. Taylor mentioned that there are many veterans who may qualify for RECA compensation, but just aren't aware of it. He also discussed with Ms. Spellberg the feasibility of making the presentation to atomic veterans organizations.

Dr. Zeman asked about the effect of RECA compensation on medical care. Ms. Spellberg compared EEOICPA and RECA where there is a special group of claimants—millers, miners and transporters—who may receive \$100,000 from RECA and an additional \$50,000 from EEOICPA. Further discussions involved various eligibility groups and fees for lawyers assisting claimants.

Dr. Fleming stated that, under RECA, eligibility for compensation could go to grandchildren. She raised the issue of whether RECA would adopt PC as a criterion for eligibility? Ms. Spellberg indicated that question, along with the attendant studies PC would entail, is in the hands of Congress and her office does the bidding of Congress.

Ms. Durand suggested a change to the chart, Claims to Date Summary, which would clarify claims denied by RECA versus claims refused by veterans. A short discussion among Dr. Lathrop, Mr. Taylor and Ms. Spellberg revealed there are many reasons for veterans filing for RECA and then refusing payment.

Mr. Beck inquired about the status of the area of eligibility included in the downwind group. Ms. Spellberg said that legislation has been introduced to include Idaho and Montana, but the status of the bill is not known.

Mr. Oyer asked if any other laws are considered in the RECA compensation decisions. Ms. Spellberg said she is limited by the Radiation Compensation Act, passed in 1990 and amended in 2000.

Risk Perception and Risk Communication

Mr. David Ropeik
Instructor, Harvard School of Public Health

Mr. Ropeik announced he would talk about why we feel the way we feel about risks. Using a series of pictures, he surveyed the fear factor of the audience. He pointed out that reactions to the pictures are based on perceptions, not facts. He asked for a show of hands if one considered bioterrorism a serious threat to public health. Similar actions were requested for pesticides and radiation.

Mr. Ropeik pointed out that talking on a cell phone, hands-free, is more dangerous than one-handed driving. The brain is still distracted, but there is a perception of control. Mr. Ropeik and Dr. Lathrop had a short discussion about facts and rational decision-making which led to the introduction of "bounded rationality," i.e., humans aren't purely rational beings. Mr. Ropeik said we never have all the facts and when we do, we do not have time to think them through. Even when we have the facts and the time, certain things are hard to understand. Those things limit our ability to be purely rational. Nevertheless, we must make decisions and get on with life.

After illustrating certain human responses to common situations, Mr. Ropeik talked about the three organs of the brain involved in fear response: the cortex, the hypothalamus, and the amygdala. The amygdala is where fear recognition begins. The external message is sent to the amygdala which sends it to the hypothalamus, and from there it goes to the part of the brain that thinks and the part that fears. The signal reaches the fear part first. This part of the brain is the primitive part, where instinct resides. It prompts us to move or react before we think.

In about 40 milliseconds, Mr. Ropeik said, the information reaches the cortex where we can think about the external stimulus. However, there are more circuits going from the amygdala to the cortex than from the cortex back to the amygdala. Consequently, we feel first and think second. We also feel more than we think. These are adaptive mechanisms which have contributed to our survival.

Mr. Ropeik moved to an illustration of bounded rationality by proposing, within certain parameters, a forced choice decision-making exercise. He elicited audience participation. He restated his proposal without the parameters to illustrate how thinking changes when bounded by facts, circumstances and other limiting or delimiting factors. He added that people are naturally more likely to choose a situation which will save a percentage of lives than one which will lose a percentage that produces identical results.

Mr. Ropeik listed individual factors that affect feelings of fear:

1. Trust: In the communicator; in the protective organization; in the organization creating the risk; in the process.
2. Harm versus Benefit: Nuclear radiation in a medical setting; nuclear radiation in a non-medical setting; vaccines, prescription drugs, using a cell phone and driving.
3. Control: Riding as a passenger in the front seat of an automobile, a process in which you can not participate; driving an automobile, a process in which you can participate.
4. Choice: Food with potentially harmful ingredient, not listed on the label. The government chooses you for duty at an atomic test

- site. Food with a harmful ingredient listed on the label; you volunteer for duty at an atomic test site.
5. Natural versus Human-Made: Industrial chemicals; technologies; terrorism; organic foods, solar radiation, severe weather.
 6. Dread: Anything associated with radiation (cancer); pesticides; plane crash; heart disease; flu; food poisoning.
 7. Catastrophic or Chronic: Terrorism; plane crashes; nuclear disaster; heart disease; motor vehicle crashes; air pollution from fossil fuels.
 8. Uncertainty: New technologies; complex technologies; conflicting studies (hormone replacement therapy); artificial sweeteners, microwave ovens; electrical and magnetic fields; fossil fuels.
 9. Me or Them: Terrorism in the Homeland after 9-11; radiation from power lines when lines are installed near your home; HIV/AIDS to those in high risk groups.
 10. New or Familiar: West Nile virus in year one; terrorist attacks in America; avian flu; West Nile virus in year two, three...; terrorist attacks in Israel; regular flu.
 11. Children: Plastics in children's toys; abduction; pollution problems in schools.
 12. Personification: Fear when there is a specific child abducted; fear of war rises when we see pictures of dead and injured; concern about medical errors increases when we learn of a specific victim of a doctor's mistake.
 13. Awareness: Terrorism; Avian flu, nuclear power; heart disease; influenza; fossil fuel pollution.

Dr. Lathrop raised the issue of trust in institutions. Mr. Ropeik used the illustration of an upside down brick pyramid without mortar. When one brick is disturbed the entire pyramid tumbles. So, if an institution loses trust in one aspect of its operations, it often loses trust overall. Fear is reduced if there is confidence in the organization that creates the risk. The process is also important in building trust. Listening to people and acting sincerely on their concerns builds trust, i.e., openness.

Mr. Ropeik turned to Harm versus Benefit. Veterans may receive more radiation from hospital care than from military exposure, but the benefit of the x-ray or radiation treatment outweighs the fear of exposure. Benefit from military exposure is minimal at best so the fear is greater.

Discussing control as a factor of fear, Mr. Ropeik used statistics on vehicle versus plane travel to Las Vegas, following 9-11. Statistics showed vehicle travel to be more dangerous, but people perceived it to be safer because they were driving, i.e., in control. While feelings can be a safety factor in some instances, the foregoing illustrates that they can lead to more danger in certain circumstances.

Talking on a cell phone while driving is an example of how benefit, control and choice affect our feelings of fear, Mr. Ropeik said. We need to know who is calling; we think we have control; and we choose to do it. All these things ameliorate our fears. In the same vein, he pointed out that volunteering for a duty produces less fear than if one is ordered to do the job. This effect may very well be affecting, indirectly, some of the decisions of this Board.

In discussing Natural versus Human-made as a fear factor, Mr. Ropeik cited a case in Boston where an herbal remedy on the shelf had 14,000 times the danger threshold dose for heavy metals. It was purported to be a natural substance. He then showed a film which compared fear of the Three Mile Island accident with the comfort of the same people who lived atop a rock formation which produced a great deal more radiation exposure from radon than the accident produced. He also compared pharmaceuticals with herbal medications.

To make his point concerning dread as a fear factor, Mr. Ropeik elicited audience participation and gave several choices for death. The choices included violence, sudden death, protracted illnesses, painful, painless, etc. Though there are 100,000 more deaths from heart disease in the U.S. than there are from cancer, we spent 2.5 times as much on cancer as we did on heart disease. That is based on the perception of the two diseases.

Dr. Lathrop, Dr. Boice, and Mr. Ropeik discussed the relative merits of national funding of research for cancer versus heart disease.

The catastrophic versus chronic aspect of fear was illustrated by Mr. Ropeik by comparing the Chernobyl incident to the atomic veterans. The deaths at Chernobyl occurred all at once, or nearly so, while the deaths of atomic veterans has been spread over a number of years. He also pointed out the commonality of skin cancer makes it less frightening.

Mr. Ropeik used the Washington, D.C. sniper incident to make his point about the relationship between fear and uncertainty. The less you know, the greater the fear. It certainly applies to attitudes toward radiation.

Fear or the feeling of fear is enhanced by the proximity of a given incident, or the likelihood that the danger may affect your area of concern. Mr. Ropeik talked about the distribution of contaminated food products, as well as the 9-11 incident, as the type of incidents that affect the level of our fearful feelings. Dr. McCurdy, Mr. Ropeik, and Dr. Lathrop discussed the statistical aspect of the illustrations.

Fear factor is also affected, according to Mr. Ropeik, by whether the phenomenon is something we have lived with for a period of time or whether it is a new outbreak, discovery, event, or disease. We tend to become enured to conditions such as common flu, suicide bombers in Israel and harmful air particles from fossil fuel, while an exotic flu virus, threats to domestic flights and airborne radiation produce greater feelings of fear. He quoted statistics from the Hiroshima and Nagasaki studies to illustrate that radiation is a weak carcinogen.

Mr. Ropeik discussed the definition of Risk Communication: "Actions, words, and other interactions that incorporate and respect the perceptions of the information recipients, intended to help people make more informed decisions about threats to their health and safety."

**Veterans' Advisory Board on Dose Reconstruction
(VBDR)**

Dr. James A. Zimble
Chair, Veterans' Advisory Board on Dose Reconstruction

Prior to opening the meeting for public comments, Dr. Zimble expressed his disappointment at the small number of atomic veterans present, and reminded attendees that the Board had two objectives. The first is oversight of dose reconstruction and the filing and processing of veterans' claims dealing with ionizing radiation. The second is to assist DTRA, specifically NTPR (Nuclear Test Personnel Review Program), and the VA in communicating with the veteran and keeping the veteran informed.

Dr. Zimble then emphasized there are issues for which the Board is not responsible. They include individual dose reconstruction cases; the Board is not an appeals board; if the system is not working, the Board needs to know, but the Board has no legislative power.

For those interested in what the Board is doing, Dr. Zimble suggested that a visit to the web site at www.vbdr.org is the easiest way to keep up with Board activity.

Dr. Zimble also said that the Board attempts to speed up the process for the veterans and to keep the two agencies well informed of the veterans' issues. He also said that the Board may help a veteran get to the right agency, but that it is not an appeals board. Further, the Board can't help with claims, and the Board does not make policy. The Board has made fairly substantive communications to the two agencies

through recommendations.

The meeting was then opened to the public for comments. Comment was received from Lieutenant Oyer. He presented his history of service aboard the USS Shea DM-30 during the BRAVO shot on Operation CASTLE. He also presented information from shipmates and from acquaintances who were/are atomic veterans. He discussed his experience with cancer and the treatments he has undergone.

Dr. Zeman asked how information about classification of material and about the Veterans' Benefit Act can be better disseminated. Lieutenant Oyer said he did not know. Dr. Zimble reiterated the need to get veterans to understand that material has been declassified and to come forward to make rightful claims.

Dr. McCurdy asked if Lieutenant Oyer had filed a claim. He filed with DOJ for prostate cancer and for compromise to his immune system. Dr. Zimble pointed out that prostate cancer is not on the DOJ list of compensable diseases and recommended he file with VA.

In reply to Lieutenant Oyer's query as to how to file, Dr. Blake offered to assist him with that information. He said Mr. Pamperin could assist with his filing through the VA.

Mr. Campbell (by phone) gave a detailed history of his service and radiation exposure at Enewetak in 1950 and 1951. Further, he elaborated on his own research and study of work done by government agencies on radiation exposure. He recounted his experience with dose reconstruction where his initial value was downgraded because of heavy rain and pointed out that this action did not seem credible in light of later studies. He alleges that DTRA is not always truthful in their deliberations.

Dr. Zimble assured Mr. Campbell that the Board is doing everything possible to assist the atomic veterans and to ensure that findings give benefit of the doubt to the veteran. He then asked if Mr. Campbell had filed a claim. Mr. Campbell answered no and explained that his condition is Chronic Obstructive Pulmonary Disease stage four, which, according to Dr. Zimble is not compensable.

Dr. Blake assured Mr. Campbell that, while the agency and Mr. Campbell disagree, the agency is attempting to provide the best answers possible to veterans. Dr. Lathrop responded that since Mr. Campbell had not filed a claim, it was impossible to know whether compensation was due, and that all concerned were interested in getting to the truth. Mr. Campbell said he had provided evidence of fallout in his paper, "Operation GREENHOUSE: Two Months of Fallout, Decades of Deceit," and that none of it had been used. He questioned the ethics

of members of the Board.

Dr. Lathrop assured him the Board operates ethically and openly. Mr. Campbell reiterated his belief that pertinent studies have been incomplete and less than honest. Dr. Fleming then clarified the purpose of Mr. Campbell's call as a concern that the government has not paid attention to the studies done by Mr. Campbell.

Update on Nuclear Test Personnel Review Program

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

Dr. Blake began by stating that VBDR recommendations have a major effect on his program. He recounted the history of the dose reconstruction for prostate cancer, dating back to Board recommendations made in January 2006. There were 117 cases and based on the Board's recommendation to expedite the cases, the exposure scenarios were reviewed and updated uncertainties applied and resubmitted to VA.

At the third meeting, DTRA made some proposals that resulted in four additional recommendations by the Board. The following represents a summary of DTRA actions that have been completed or will be completed to address the Board's recommendations.

1. *NTPR develop a screening procedure for skin cases that would allow for expedited processing.* Status: A screening procedure was developed and VBDR Subcommittee 1 (SC1) has been briefed on its implementation. Next week, NTPR will sign out 427 veteran's cases and mail them to VA. There were a total of 600 cases in this category and the remainder will take about another month to complete. The recommendation for expedited skin cases will drop processing time from six months to one month. He said that there is an immediate \$7,000,000 cost saving and a future annual saving of \$1,000,000.
2. *NTPR develop a screening procedure for prostate cancer cases that would allow expedited processing of those cases for which doses are well below the level likely to result in a successful claim.* Status: A screening procedure has been developed and by the end of November, almost all the backlog prostate cases will be signed out. This has a positive impact on the veteran, reducing processing time from six months to four months. Dr.

Blake also discussed the procedure developed for processing these cases. He said that the procedure provides an immediate saving of about \$2,500,000 and future savings of about \$1,000,000 per year.

3. *NTPR undertake a comprehensive analysis of uncertainties for all beta dose scenarios.* Status: This is not as crucial as it was; there still are skin cases to evaluate in the future where beta dosimetry will be a factor. NTPR will be issuing publications that can be cited by NTPR analysts and others in the field. He also explained in some detail procedures for their analysis and mentioned recent publications where they may be found.
4. *NTPR hire a consultant to write a QA plan and that NTPR develop and implement a QA program on a schedule that allows it to be integrated into the contracting process.* Status: ORAU (Oak Ridge Associated Universities) has been hired as a consultant. They have prepared a checklist, similar to one used for Energy workers to review dose reconstruction. Metrics and Standard Operating Procedures (SOPs) have been included in contract procedures. NTPR has released a number of extensive SOPs on radiation dose assessments and QA through subcommittees for review and feedback.

Dr. Blake then used a graph to show the impact of the VBDR recommendations. While the backlog is now about 630 cases, the goal is to reduce that to about 165 cases and have no case pending in the agency for longer than six months. He said recommendations are welcomed on how to do the process more efficiently.

Addressing skin cancer cases, Dr. Blake pointed out that there is a lot of uncertainty associated with this subject, but by giving the benefit of the doubt to the veterans, most of the cases in the Pacific Proving Ground and Nevada Test Site are appropriate for expedited processing, with one exception; the Hiroshima/Nagasaki veterans where the amount of radioactive fallout was very minimal and almost all of the occupying troops did not come in until two to three months later so the fallout in most cases had minimal impact on them. Those cases would be handled as a full dose reconstruction.

There are four factors that justify the expedited processing, according to Dr. Blake. First is the difficulty in determining upper bound skin dose, to include effects of partial showering. The initial assumption was that all the radioactive fallout was removed; however, that does not appear to be the case. Second, is the uncertainty associated with particle size and skin retention factors. There are unique scenarios where marching troops were subjected to radioactive

fallout. Descending fallout, resuspended fallout, effects of high winds, dust, skin moisture and other environmental factors contribute to the uncertainty in those cases. Third is the uncertainty associated with the mixed beta and gamma dose in many scenarios. Fourth, the calculated upper bounds for many previous skin cancer claims exceeded the screening dose for compensation.

Dr. Blake addressed skin dose values. He said there were cases where the dose estimate to skin has exceeded 1,000 rem. He cited 23 cases that had skin dose values over 500 rem. The empirical data verifies some very large doses. Deterministic effects are taken into account. Skin burns appear from beta exposure at between 300 and 500 rem, so it is possible to set an upper limit for what the veteran received unless there are actually skin burns.

Discussing compensation decisions, Dr. Blake said DTRA will soon publish some data based on the Interactive Radio-Epidemiological Program (IREP) that shows screening doses for three different types of skin dose, along with prostate cancer and a number of other effects. When the data are released to VA, most of the veterans will qualify for compensation for melanoma and basal cell skin cancer. In squamous cell cancer, however, the screening doses for compensation are much larger.

Dr. Blake said one could expect that when the expedited doses go to VA, most veterans will receive a positive medical opinion, resulting in a positive decision for compensation.

The VBDR recommendation to VA regarding centralized processing has a major impact on DTRA, according to Dr. Blake. It reduces the administrative load of keeping over 50 separate VA offices informed of the status of cases. Other efficiencies gained from the centralization are all to the benefit of the deserving veteran.

Dr. Blake raised a point which is an issue between DTRA and VA. The VA sends DTRA cases of non-radiogenic diseases, not listed in the regulations, for dose reconstruction. The dose reconstructions cost about \$12,000 per case and they require many hours by NTPR contract staff to complete. Among the cases in this category are memory lapses, blindness, acute respiratory failure, and high cholesterol. None of these cases have been compensated as radiogenic diseases. Two reasons to discontinue dose reconstruction for these types of cases are: 1) unsuitability of the veteran's evidence, and 2) lack of a causal relationship between the conditions and the radiation exposure.

Dr. Blake recommended VA use data contained in a DTRA point paper, titled "Dose Reconstruction for Conditions Not Likely Induced by

Exposure to Ionizing Radiation" to determine if cases are appropriate DTRA referrals. While these cases now represent about two percent of the caseload, as the backlog is reduced, that percentage will go up. He further elaborated by comparing the doses required for a radiation induced illness of the sort listed and the maximum doses that a small number of veterans received and pointed out that a veteran who received a dose high enough to cause the disease would, in fact, have died much earlier of radiation exposure. Dr. Blake's recommendation, then, is that the Board makes a recommendation to VA that VHA do a preliminary screening of non-radiogenic cases before they are sent to DTRA.

Dr. Zimble, Dr. Blake, Dr. Blanck, and Mr. Pamperin discussed the recommendation the Board should send to VA regarding cases of non-radiogenic diseases.

Dr. Blake closed his presentation by stating that the backlog of dose reconstruction cases is easing, but the cases still take far too long; and the NTPR program remains focused on publishing the technical and QA bases for their processes. He also stated that he looked forward to the Board recommendation on the DTRA point paper.

Dr. Boice asked if the calculations took into account the effect of alpha particles. Dr. Blake responded that Dr. Kocher is writing a publication on that topic. Dr. Boice also asked at what depth of skin layers is the dose computed. Dr. Blake said the calculations go seven millimeters deep—to the basal cells.

Presentation to Advisory Board on Veterans and Dose Reconstruction

Mr. Thomas Pamperin
Assistant Director
Policy of Compensation and Pension Service
Department of Veterans Affairs

Mr. Pamperin announced that the VBDR made six recommendations affecting VA. One has been implemented, three are in the process of implementation, one was not accepted and one is in the process of clarification.

Mr. Pamperin discussed the first recommendation which was for VA to provide NTPR with the outcomes of adjudicated claims. VA is willing to do that as an aggregate figure. Detailed information on individual claims may violate privacy laws. VA is working with the General Counsel to resolve this issue.

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The second recommendation that VA grant presumptive service connection for basal cell skin cancers and melanomas under 3.309 was not accepted. However, based on Dr. Blake's presentation, this recommendation may have become unnecessary.

Dr. Zimble said that, based on Dr. Blake's report, VBDR could withdraw the recommendation.

Mr. Pamperin said Recommendation three – centralization of claims processing, and Recommendation four – place all veterans with validated radiation exposure in the Ionizing Radiation Registry, are accepted. VA is working with the Veterans Health Administration to work out the technical details for implementing the recommendation.

Mr. Pamperin said that the Board recommended that VA award service connection retroactively to the date of initial claims for all current and future additions to the presumptive list. It is questionable that this can be done. *Lundgren v. Kodak*, a Supreme Court decision held that regulations could not be retroactive unless specifically authorized by Congress.

The Board provided sample letters to improve communication with atomic veterans. The letters, with slight modifications, have been accepted by VA, according to Mr. Pamperin and will be sent to the regional office in Jackson, Mississippi as soon as the modifications are complete.

The Jackson, Mississippi regional office has been designated the single point of contact for handling radiation claims. Mr. Pamperin said this includes nuclear test claims, risk activity claims and occupational radiation exposure claims. The office has been in contact with DTRA. Approximately 2,500 cases will be sent to Jackson. About 1,200 cases a year are expected and consolidating will result in greater consistency and efficiency in processing the claims. The Jackson office will have jurisdiction over all the radiation claims.

The Board developed a brochure for all new claims. Mr. Pamperin said the review of the brochure resulted largely in re-ordering of paragraphs, and there were portions more related to RECA that were recommended to be deleted.

Mr. Pamperin raised the issue of claims up to four or five years old. He asked if, in the case of skin cancer, all the sites were being evaluated or if the procedure only involved the maximum skin dose. Dr. Blake responded that VA would get doses for external exposure, internal exposure as requested plus skin doses. The maximum doses they report for skin doses are for all areas of the skin.

Dr. Zimble asked if IREP, as a tool, could be bypassed in PC of skin cancer. Mr. Pamperin responded that he hoped that could be the case; however, a court case, *Colden*, made it clear that rating specialists should not presume to be doctors. You need a medical opinion. It may be possible to get a blanket medical opinion, but at this time, unless it is approved by VHA, it could be a *Colden* violation.

Report of the Nominating Subcommittee

Mr. Kenneth Groves, Chairman

Mr. Groves began by reviewing the goal of the nominating subcommittee. He explained that to replace Dr. Elaine Vaughan as the specialist in risk communication, the National Council on Radiation and Protection and Measurements (NCRP) assisted in the search for a candidate. In addition, VBDR thought it is important to add an enlisted atomic veteran to the Board. The following two members were selected by the nominating committee for consideration: Mr. David Ropeik is nominated to fill the vacancy of Dr. Vaughan. The atomic veteran nominated is Mr. R.J. Ritter, president of the National Association of Atomic Veterans (NAAV).

Dr. Zimble announced that the Board would vote tomorrow to accept the nominees as new members and their names would be forwarded through channels to all the approving agencies for confirmation.

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**Having concluded the day's business, an adjournment was taken
until Thursday, November 9, 2006 at 9:00 a.m.**

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Thursday, November 9, 2006

Dr. Zimble reconvened the fourth meeting of the Veterans' Advisory Board on Dose Reconstruction, observing that the previous day's meeting had been something of an educational session. Today will be a working session with reports from the four subcommittees, assessing recommendations, and then voting on these recommendations.

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Reports of the Subcommittees

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

Mr. Beck outlined the major points in his report and referred attendees to the written report. He went on to say that NTPR generally provides benefit of the doubt in development of the Scenario of Participation and Radiation Exposures (SPAREs). Further, the benefit of the doubt is usually applied in radiation dose assessments (RDAs), but it is not always done consistently. Issues raised in the SPARE are not always addressed in the RDA.

Case file documentation can still be improved, Mr. Beck said. Uncertainty for some skin doses is likely to be significantly underestimated. For some scenarios, the upper bound is improperly calculated. The NTPR contractor is preparing an updated review and assessment of the credible upper bound in dose from skin contamination. SC1 believes this assessment should be extended to reassess the current interim upper bound estimate for skin doses based on beta to gamma ratios.

Mr. Beck cited Dr. Blake's presentation and said information in a recent publication adds significantly to the credibility and defensibility of the portion of reconstructed skin dose due to external exposure. However, the article fails to consider a number of sources of dose uncertainty.

Skin dose audits are complicated and uncertain, Mr. Beck said. New methods in use now have not been reviewed by VBDR or documented in SOPs. There is a lack of consistency between contractors and between analysts working for the same contractor. The first 18 audits also showed that the upper bound dose estimates due to ingestion of radionuclides are very conservative. In some cases the point upper bound dose estimates exceed the 95th percentile of the likely dose calculated by a reconstruction procedure.

Mr. Beck reported that NTPR has not issued a formal technical analysis demonstrating that the interim upper bound factors always provide an upper bound dose that is at least at the 95th percentile level. For some internal dose scenarios, it appears that unreasonably high upper bounds are applied, while for some external dose scenarios, the upper bounds may be too low. NTPR must complete this assessment if they are to redefine the interim upper bound factors.

Mr. Beck said NTPR is not informed of claims outcomes after RDAs are provided to VA. Therefore, there are no statistics regarding the percentage of successful non-presumptive claims. Referring to Mr.

Pamperin's presentation, Mr. Beck said SC1 would like to do a statistical analysis of cases they audit.

Mr. Beck added that analysts working for new subcontractors did not always have complete information before them to complete a RDA.

Based on the preliminary findings, Mr. Beck highlighted the need for uncertainty analysis in beta dosimetry. While a contractor is preparing an updated review and assessment of the credible upper bound in dose from skin contamination, SC1 recommends this report have a high priority. It should also contain guidance that will lead to greater coherence in the dose assessments, and it should be extended to assess the upper bound for doses based on beta to gamma ratios.

Mr. Beck also said SC1 recommends that an interim upper bound factor for all skin dose estimates be applied to beta to gamma ratios until an updated assessment of the credible upper bound in uncertainty is completed. While this will not apply to the expedited cases, it will still be necessary for those that require a complete RDA.

SC1 recommends VBDR review any proposed expedited skin cancer RDA methodology prior to its implementation. Mr. Beck said this has already been discussed and coordinated with Dr. Blake. SC1 suggests VBDR consider whether upper bound factors adopted in response to the 2003 Academy report should be made permanent. NTPR should document that these factors always provide upper bound estimates that attain or exceed the 95th percentile.

Mr. Beck said a key assumption associated with establishing the upper bound for ingestion may not be credible. Dr. Blake has been asked to reevaluate the methodology and justify whether the methodology is correct.

Uncertainty associated with cohort film badges versus individual badges is an issue for SC1. Mr. Beck said they recommend NTPR develop a method for adjusting estimates of the upper bound to reflect the larger uncertainty for cohort film badges.

Mr. Beck discussed the RDA QA and recognized the benefits of the ORAU audits. He said the QA program should be extended to include the performance of selected duplicate blind RDAs for comparison with the original. This process would require contractors to seek greater consistency.

Dr. Zimble pointed out that many of the recommendations have already been accepted by NTPR and suggested that the Board ask Dr. Blake to provide an update on the recommendations at the March meeting.

The recommendation for blinded RDA is new, but Dr. Blake is aware of it and has been considering it, Mr. Beck said. Mr. Beck and Dr. Zimble discussed sending a letter: 1) requesting a general update and; 2) recommending the blinded RDA analysis.

Dr. McCurdy and Mr. Beck discussed and clarified the details in the recommendation for blinded RDA analysis. That recommendation should be included in the SOPs. Dr. Zimble asked that Mr. Beck and Dr. McCurdy work together to put the recommendation in writing.

Mr. Pamperin interjected that the outcomes of 18 cases can be made available if VA gets a formal request from VBDR. Mr. Pamperin agreed to draft the letter of request.

A detailed discussion of the point estimate ensued among Dr. Boice, Mr. Beck and Dr. Zeman. SC1, according to Mr. Beck, agrees with Dr. Blake's approach to expediting the cases and thinks his implementation is defensible. Dr. Zeman stated that heterogeneous dermal contamination is generally unquantifiable, therefore, the expedited process, using a reasonable upper bound for all cases is desirable.

A motion was made and seconded to accept the report of Subcommittee 1. There being no objection, the report was accepted.

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

Dr. Blanck began by announcing that Subcommittee 2 (SC2) hired Ms. Jean York as a consultant to review additional cases. Her findings have been consistent with those of the subcommittee and add validity to the recommendations of SC2. SC2 asked VA to follow up on the centralization action by establishing an SOP for the processing of atomic veterans' claims.

Dr. Blanck also acknowledged the VA response to the other recommendations. He further commended NTPR for developing the expedited dose estimates for certain skin cancers.

A recommendation, not in the report, was read by Dr. Blanck. "As DOL does not forward non-radiogenic claims to NIOSH for dose reconstruction, SC2 recommends that the Veterans Administration explore the feasibility of developing a similar program of not forwarding non-radiogenic claims for dose reconstruction." He said the recommendation would be included in the final report.

Dr. Fleming said that Ms. York's audits were largely from VA Regional Offices located in the eastern U.S. She has been asked to do additional audits from the Midwestern and Western VA Regional Offices. Once the Jackson office is firmly established and has developed the requested SOPs, she will be asked to audit their processes.

A motion was made and seconded to accept the report of Subcommittee 2. There being no objection, the report was accepted.

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

Dr. Reimann briefly defined the interest and task of Subcommittee 3 (SC3) as providing for the integration of VBDR activities as they relate to an integrated program between DTRA and VA services. The responses of both agencies have been positive. The various reports indicate progress in many aspects. Recommendations have been implemented, and this has enhanced the processing of claims and increased integrity of the system.

However, Dr. Reimann said that the pace of progress could be improved. With the dose reconstruction contract in flux and some of the quality assurance (QA) documentation pending, it will be a while before everything is in place. Once those actions are complete, every effort should be made to move toward a system of metrics and audits that would track all steps in the various processes and, further, create a basis for QA and performance assurance.

Dr. Reimann cited a number of achievements that are encouraging and noted that the agencies are moving toward an integrated system with energy and spirit.

Dr. Reimann discussed the SC3 recommendations. The first is to complete a quality plan that creates an integrated program involving DTRA and the prime contractor and subcontractors. The second recommendation is that the QA plan must incorporate four dimensions: defensibility, consistency, objectivity, and appropriate documentation. The third recommendation is that SC3 be involved in the review of various documents and move toward a checklist that provides for a good auditing system. Fourth, SC3 should be involved as the documents for QA are produced and SC3 should review the quality metrics, the performance metrics, problem solving strategies and the plan for improvements. The fifth recommendation was for the VA to

produce an SOP and metric scoreboard that provides a clear picture of the status of all facets of the radiation claims process.

Dr. McCurdy pointed out that one of the key elements for QA is validation of dose reconstruction methods used by NTPR and its contractor organizations. SC1 is moving in that direction as they develop a basis document for all calculations. Up to this time, the focus has been on the performance aspect, i.e., getting case studies done to reduce the backlog, but now SC3 will be reviewing the QA plan, procedures and metrics. The hope is that things will move along more quickly.

Dr. Reimann reinforced the recommendation of SC1 regarding blinded analyses of RDA. It need not be done on all cases as it would be too costly, but it could be done selectively. SC3 will be directing more attention to VA, especially now that they have centralized radiation claims. Ties between SC3 and SC1 will be strengthened and close coordination between them will continue.

Mr. Beck commented that it is especially important to have representatives of SC3 at the SC1 meetings so they can see the QA issues associated with the audits. He proposed that the Board formally recommend that a member of SC3 attend the meetings of SC1.

Dr. Zimble accepted Mr. Beck's suggestion as a formal recommendation.

Dr. Fleming, Dr. Reimann and Dr. Zimble discussed the possibility of carrying independent analyses all the way through the process to include PC. Dr. Reimann said the idea is reasonable, but it would be difficult at this time because all the elements are not firmly in place. Dr. McCurdy questioned whether this action is included in the scope of VBDR's responsibility. Dr. Zimble indicated it probably is because Congressional intent is that the Board oversee the dose reconstruction process to determine the appropriateness of the outcome.

Dr. Blanck said DTRA will be explaining the dose reconstruction process and the VA will be briefing the Board on PC at the next meeting. After those presentations, the Board and the subcommittees will be able to better decide whether the independent analyses should include PC.

Dr. Reimann commented that the integration of the subcommittees should be beneficial to the work of the Board as it would allow problems to be identified early.

Dr. Zeman asked if there were lessons learned in RECA and NIOSH that would benefit NTPR. Dr. Reimann opined that NTPR, as the more

experienced organization, is probably in the forefront on QA. Dr. McCurdy elaborated on the evolution of the NIOSH program and quoted several publications that illustrate where they are with respect to QA.

Mr. Groves stated that it seems critically important that there be consistency between the VA dose reconstructions and the DOL dose reconstructions. Many things do match and it would certainly be advantageous to be more alike than different.

A discussion among Mr. Groves, Dr. Zimble, Mr. Pamperin and Dr. Lathrop regarding communications and QA followed. Mr. Pamperin agreed that the VA could comply with the various requests.

A motion was made and seconded to accept the report of Subcommittee 3. There being no objection, the report was accepted.

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

Mr. Groves said Subcommittee 4 (SC4) will be looking for a number of ways to publicize that the Board has made a number of substantial recommendations and that most of those recommendations have been accepted and are being implemented.

Mr. Groves described the Board's reception at the NAAV meeting and listed the members who participated. He said the experience was very positive and provided an excellent opportunity to communicate activities of the Board to a large number of veterans. Mr. Groves went on to recommend that members of the Board attend more meetings of veterans in order to get their message to those who need to hear it.

Mr. Groves described improvements to the VBDR web site to make it more user-friendly. Recognizing that a large part of the target population does not rely on the Internet for primary communication, SC4 continues to search for creative ways to communicate with approximately 200,000 remaining potential beneficiaries.

Mr. Groves mentioned that SC4 will lead the discussion on future meeting dates, sites and speakers. He also stated that SC4 has developed a standard VBDR presentation for any Board member who may be in a position to make a presentation. The presentation is flexible and can be modified for time-length or audience composition.

Mr. Groves listed the future actions of SC4:

1. Look for a number of ways to publicize that the Board has made substantial recommendations and that most of those recommendations have been accepted and are being implemented.
2. Continue to meet with the other subcommittees to identify issues related to communication that SC4 can help resolve or improve.
3. Work with the other subcommittees to ensure consistent messages get to the stakeholder community.
4. Continue public meetings with the stakeholders to assess and collect information needed by VA and DTRA to better serve the veteran community.
5. Continue to work with the VA and DTRA to implement the Board's recommunication-related recommendations.

Discussing the brochure that was developed in conjunction with the VA, Mr. Groves emphasized that information was added to inform veterans that admonitions regarding security classification of their activities no longer apply.

All the atomic veterans should be informed by letter, or some means, of the centralization of the radiation claims office and they should be further informed about how the system will work for them, Mr. Groves said. He said SC4 would be glad to help with that effort.

DTRA has agreed to assist the VA with the initial printing of the brochure—500 to 1,000 copies—to expedite its availability, Mr. Groves said. Then VA will follow up with additional printings.

There is concern, Mr. Groves said, with the number of veterans at the Board meetings. DTRA and NCRP have issued any number of press releases and notices of meetings, but the lack of veterans' attendance remains a problem. He then recommended a meeting of VBDR, VA and DTRA representatives to brainstorm ideas to increase the effectiveness of communications and to develop new strategies for enhancing attendance. Mr. Groves recommended that meeting might take place before the March meeting. He recognized Mr. Wyant as a veteran who has been to every VBDR meeting.

Mr. Taylor added that he intends to become a member of all the various organizations associated with atomic veterans. He further explained that within these groups, it might be feasible to have an internal group that monitors the activities of the Board and thereby create interest among all the members. He also suggested that if Mr. Ritter is appointed to the Board, he will be an asset to increasing attendance.

Dr. McCurdy inquired whether accommodations for veterans had been considered, i.e., parking spaces, etc. Mr. Groves answered that they were and that the Board needs to be sensitive to cost, accessibility and other convenience aspects of whatever location is chosen. Dr. McCurdy continued with a question about the possibility of acquiring rooms for veterans at government rates. Dr. Zimble suggested that the Board could negotiate rates for a given number of rooms and make them available to the veterans who attend.

Dr. Zimble highlighted three formal recommendations from the SC4 briefing.

1. The VA communicate to veterans that their claims have been forwarded to the Jackson facility, the central site for radiation claims.
2. Work with VA and DTRA to communicate to the veterans that none of the activities in which they participated are classified at this time.
3. That Board funds be used to place advertising in newspapers serving the meeting area, a suggestion made by the executive director.

To reinforce the third recommendation Mr. Beck suggested that those veterans who belong to the atomic veterans' organizations comprise only a small part of the total population that the Board, DTRA and VA are attempting to reach. Dr. Zimble agreed with Mr. Beck and suggested his comments be incorporated into the third recommendation.

Mr. Wyant pointed out that many of the atomic veterans are aging and many of the younger veterans do not know about the program. He said he has made several efforts to encourage membership and participation, but without great success. He suggested television advertising and talk shows might be a better investment than newspaper advertising.

Mr. Groves drew attention to the publication, Ionizing Radiation Review, which is a great vehicle for getting news out to the veterans. He regretted that the editor is retiring. He suggested that VBDR prepare an article that would highlight various recommendations and Board actions for the next edition.

He further pointed out that about 100 people a year are added to the Ionizing Radiation Registry. It was recommended that all people—600 to 1,200 people a year—who file claims be added to the Registry. The advantage of the Registry is that it could be used as a source to identify people who could benefit from the VBDR program.

Ms. Irene Smith listed a number of actions that are underway, involving publications and articles, aimed at getting out the word to

all entities that have an interest in the VBDR program. Mr. Ropeik will be working with SC4 and will assist with energizing the communication efforts. She pointed out that the press release on the meeting was sent to 13 media outlets two times—one month and one week—prior to the meeting.

A motion was made and seconded to accept the report of Subcommittee 4. There being no objection, the report was accepted.

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Board Discussion Session

Discussion of the Nominating Subcommittee's report:

Mr. Groves noted that Board members were furnished a copy of the nominating committee report. He presented the name of David Ropeik as the nominee to replace Dr. Vaughan as the risk communication specialist on the Board. Dr. Fleming asked if Dr. Vaughan could/would remain as a consultant to the Board. Dr. Zimble noted that she has been asked and has accepted the offer to consult.

Mr. Ropeik's nomination was accepted without objection.

Mr. Groves presented the name of Mr. R.J. Ritter as the nominee to be the second atomic veterans' representative to the Board. Mr. Taylor and Mr. Wyant made recommendations in favor of Mr. Ritter.

Mr. Ritter's nomination was accepted without objection.

Future Meeting Dates and Invited Speakers:

Mr. Groves addressed the location and date of the next Board meeting. It will be in Las Vegas on March 7-8, 2007. The meeting will include a tour of the Nevada Test Site on the afternoon of the 9th. There will be a tour of the National Atomic Testing Museum on the 8th. He recommended there be three speakers for the March meeting. One will speak on dose reconstruction, another will speak on IREP, and Dr. Otchin will describe the claims evaluation process at VA. The standing presentations from Mr. Pamperin and Dr. Blake will round out the day. So, there will be five presentations on the first day. The second day will be devoted to subcommittee reports and new business.

Dr. Zeman commented that there was no provision for public comment. Mr. Groves suggested there would be time for public comment each day.

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Mr. Groves then asked for comments on the proposed July meeting versus the September date. Dr. Blake gave several reasons why he needed more time, rather than less, between meetings.

Mr. Groves indicated his understanding that there was a need for three meetings a year, between four and five months apart.

Dr. Zimble recommended the March meeting be followed by a meeting on September 17th to give more time to obtain results from the centralization at Jackson and to allow people more time to work on recommended actions. He said there seems to be no urgency for a meeting in July. Mr. Beck voiced agreement with Dr. Blake and Dr. Zimble.

Dr. Zeman voiced his support of Mr. Beck's position. The workload of SC1 is such that meetings too close together affect the quality of reviews they are able to do.

Dr. Zimble recommended that the Board meetings be scheduled for March and September. It was seconded by Dr. Boice and Dr. Blanck.

Dr. Fleming noted that SC2 would need to meet prior to September to review SOPs regarding radiation responsibilities at the Jackson Regional Office. Dr. Zimble assured her that subcommittees could meet as required, without regard to the Board meetings.

Dr. Zimble then announced the meetings for 2007 would be March 5th through the 9th and September 17th through 21st with a December meeting to be determined based on the progress the Board makes at the March meeting. Mr. Groves suggested NCRP poll Board members to determine their availability in January or February 2008 as a contingency against a December meeting.

Location for the September meeting elicited a great deal of discussion. Major areas considered were the Northwest encompassing the Washington/Oregon area and the Northeast, i.e., New England. Dr. Fleming pointed out that the Midwest is worthy of consideration. Mr. Pamperin said weather would be a major factor in scheduling a meeting in the Northeast in January or February.

Additional discussion ensued concerning weather, facilities, and other amenities. Dr. Zimble instructed Mr. Groves to select a site for the September meeting and inform the Board at the March meeting.

Dr. Zimble announced that there was no further business for the Board, but that public comments would be heard, beginning at 2:00 PM. Dr. Zeman commented on the excellent support of the Board by the NRC staff. Mr. Oyer expressed his thanks and spoke of a very positive

experience from attending the Board meeting.
Dr. Zimble lauded all the participants and the supporting staff before announcing a recess.

* * * * *

Public Comment Period

Mr. Groves announced that the VBDR reconvened at 2:00 PM for the purpose of hearing testimony from veterans in the audience.

Mr. Wyant recounted his early service with Dr. Oppenheimer at Los Alamos; his experience with various security measures, including the Federal Bureau of Investigation; his compensation for disabilities; his willingness to talk to other atomic veterans about the VBDR; and a number of other issues not bearing on the subject. He generously thanked the Board members and expressed satisfaction with their efforts to assist him.

A transcript of the public comments in their entirety is available on the VBDR web site at www.vbdr.org.

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With no further business to come before the Board, the meeting was adjourned at 2:20 p.m.

End of Summary Minutes

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

/S/

James A. Zimble, M.D., Chair
VADM, USN (Ret.)

January 26, 2007

Date