

**U.S. Environmental Protection Agency**  
**Science Advisory Board**  
**Radiation Advisory Committee (RAC)**  
**Augmented for Review of the Agency's Radiogenic Cancer Risk Assessment**  
Summary Minutes of Public Conference Call Meeting<sup>1</sup>  
February 27, 2009

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**Committee:** U.S. Environmental Protection Agency's (EPA's) Science Advisory Board (SAB) Radiation Advisory Committee (RAC ) augmented for review of EPA's radiogenic cancer risk assessment. (See Roster - Attachment A.)

**Date and Time:** Friday, February 27, 2009 from 11:00 a.m. to 2:00 p.m. eastern standard time (See Federal Register Notice - Attachment B).

**Location:** This is a conference call with no location announced. All participants were connected via the conference lines.

**Purpose:** The purpose of this public conference call meeting is to plan for the review meeting scheduled for March 23-25, 2009, to take place at the Marriott Key Bridge Hotel, 1401 Lee Highway, Arlington, VA. During this public conference call, the augmented RAC will be introduced to the subject and discuss the charge to the Panel; determine if the review and background materials provided are adequate to respond to the charge questions directed to the U.S.EPA/SAB's RAC augmented for review of ***"EPA's Radiogenic Cancer Risk Models and Projections for the U.S. Population,"*** draft December 2008 (also referred to as the "Blue Book"; See Attachment E-9), request specific items to be presented or clarified by the EPA Office of Radiation and Indoor Air (ORIA) staff during their March 23, 2009 presentation, to hear from the public, and to organize and discuss possible charge assignments for the participants.

The main document to be reviewed is entitled ***"EPA's Radiogenic Cancer Risk Models and Projections for the U.S. Population,"*** draft December 2008. During the February 27, 2009 public conference call, the augmented RAC will begin the process of organizing to answer the charge questions from the client office, ORIA (see Attachment E-8; See also the meeting agenda - Attachment C.)

**SAB/RAC Augmented for the Radiogenic Cancer Risk Assessment Review as Attendees:**

The augmented RAC in attendance include the following: Dr. Bernd Kahn, RAC Chair, Dr. Susan Bailey, Dr. Thomas Borak, Dr. Faith Davis, Dr. Brian Dodd, Dr. R. William Field, Dr. Shirley A. Fry, Dr. Ethel Gilbert, Dr. William C. Griffith, Dr. Genevieve Matanoski, Dr. William

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<sup>1</sup> NOTE: Please note that these minutes represent comments that are individual statements and opinions and are not necessarily consensus comments at this stage of the process in the review of any given topic. In all cases, the final SAB report to the EPA Administrator represents the consensus on the topic.

F. Morgan, Mr. Bruce Napier, Dr. Dale Preston, Dr. Genevieve Roessler, and Dr. Daniel Stram were present. (See Attachment A); Dr. K. Jack Kooyoomjian (Designated Federal Officer of the augmented RAC participated.

**SAB/RAC Augmented for the Radiogenic Cancer Risk Assessment Review not Present:** The augmented RAC individuals not present included Drs. David Hoel, Peter Groer, Richard Hornung, and Jonathan Links.

**Agency Staff Attendees:** Members of the EPA Office of Radiation and Indoor Air (ORIA) Washington, DC Staff Office included Dr. Mary E. Clark, Dr. David Pawel, and Dr. Jerome Puskin.

**Public Attendees:** The members of the public included Ms. Beverly Anderson, Massachusetts Department of Public Health; Dr. A. Iulian Apostoaei and Dr. F. Owen Hoffman from SENES Oak Ridge, Inc.; Ms. Dawn Bain and Ms. Francine Robinson from Floridawatch Institute; Ms. Kay Cumbow, Interested Citizen from Boon City, Michigan (She joined later in the conference call); Ms. Diane D'Arrigo from the Nuclear Information Resource Service (NIRS); Mr. Lynn Howard Ehrle, Senior Biomedical Policy Analyst for The Organic Consumers Association; Mr. Douglas P. Guarino, Associate Editor, Inside Washington Publishers; Mr. Daniel Hirsch, President, Committee to Bridge the Gap; Ms. Mary Lampert, Pilgrim Watch; Dr. John H. Samuelian, AMEC Earth & Environmental; and Ms. Janice Valverde, Reporter for BNA's Environment Report.

**Meeting Summary:** The meeting followed the issues and general timing as presented in the meeting Agenda (see Meeting Agenda - Attachment C), except that the public comment time period was extended from the original 15 minutes allocated for this item to accommodate all the commenters requesting time, and exceeded 45 minutes. Written public comments were provided to the augmented RAC (See Attachments H-1, H-2 and H-3). Extensive verbal comments were also provided by the public at the meeting (see text below for a summary of that discussion). Despite the extended comments, the augmented RAC completed their work ½ hour ahead of the planned adjournment, and adjourned the meeting at 1:27 pm.

**Welcome and Introductions:** Dr. K. Jack Kooyoomjian, Designated Federal Officer (DFO), opened the meeting at approximately 11:04 am with identification of the participants logging into the call and with opening remarks (See Attachment M). He introduced himself as the DFO for the Radiation Advisory Committee (RAC) augmented for the review of the EPA's radiogenic cancer risk assessment, explained the purpose of the call, indicating that the augmented RAC operates under the requirements of the Federal Advisory Committee Act (FACA) and is chartered to conduct business under the SAB Charter. He explained that, consistent with FACA and with EPA policy, the deliberations of the augmented RAC are conducted in public meetings, for which advance notice is given. He explained that he is present to ensure that the requirements of FACA are met, including the requirements for open meetings, for maintaining records of deliberations of the augmented RAC, and making available the public summaries of meetings, as well as providing opportunities for public comment.

Dr. Kooyoomjian also commented on the status of this Panel's compliance with Federal ethics and conflict-of-interest laws. The augmented RAC follows the Committee and Panel Formation Process, as well as determinations made by the SAB staff and others pertaining to confidential financial information protected under the Privacy Act. Each person on the augmented RAC has complied with all these provisions; hence, there are no conflict-of-interest or appearance issues, nor did any individual need to be granted a waiver or be recused. Dr. Kooyoomjian further noted that the Form 3110-48 Financial Disclosure (or the SGE-450 Form for government employees) and Ethics Training was completed by all augmented RAC participants and is on file at the SAB, that there is no need for disclosure at this time, other than the individual participants to briefly introduce themselves and their relation to the topic. He advised that there is no particular matter that may pose a potential conflict of interest. He also advised that each participant's relations and experiences to the issues pertaining to the discussions to take place today will in fact be required at the upcoming March 23, 24, and 25, 2009 face-to-face meeting, and that the biosketches of each participant are posted on the SAB website.

Dr. Bernd Kahn, Chair of the augmented RAC, provided some brief introductory remarks at 11:22 a.m., and then asked the augmented RAC participants to "log-in," and introduce themselves and their relation to the topic. (See Roster, Attachment A as well as Attachment K).

At 11:30 a.m., Dr. Kahn asked that Dr. Mary Clark, Assistant Director for Science from the ORIA Staff Office, provide an overview and brief introductory remarks of EPA's request to the SAB. She thanked the RAC for assembling the augmented RAC and for the opportunity to receive feedback on specific issues the ORIA staff will need to focus on. She welcomed suggestions from the augmented RAC for areas of interest for the ORIA presentation at the March meeting.

#### **Planning for March 23-25, 2009 Meeting:**

At 11:32 a.m., Dr. Kahn referred the augmented RAC to the Cotsworth memo containing the charge questions (See Attachment E-8). He then asked each member of the augmented RAC, starting alphabetically, if they had any issues they wish to bring up at this time. Drs. Bailey and Davis had no comment at this time. Dr. Dodd indicated his interest in having the ORIA staff highlight how they handled the RAC's various comments raised in the earlier review of the draft White Paper and to highlight how the RAC recommendations were translated into the latest version of the Blue Book that is now before the augmented RAC for their review.

Dr. Kahn offered commentary that the ORIA staff have consistently been extremely meticulous to follow the RAC's advice on many reports reviewed by the RAC. He expressed an interest to have an explanation of how that advice translates into a revised Federal Guidance Report (FGR) 13, noting the RAC's earlier review of the uncertainty analysis component in 1999. His understanding is that the draft White Paper was reviewed by the RAC for revisions to the Blue Book, and that all the recommendations of the RAC have been incorporated into the current draft version dated December 2008, which is before us to review. He observed that after

review of this draft version of the Blue Book, the Agency staff will incorporate the changes in edits to FGR-13, which may also be reviewed by the RAC.

Dr. Faith Davis observed that she doesn't see the brain tumor epidemiology and asked for explanations of how and why the cited cancer sites were selected in the Blue Book.

Dr. William Field would like to hear a presentation on the association between nominal risk coefficients and the risk analysis and how they are derived.

Dr. Kahn again stressed that each participant on the augmented RAC should be free to, and is encouraged to comment on any aspect of the charge questions or other matters. He made it clear that the first day of the March meeting (March 23<sup>rd</sup>) will be largely devoted to the ORIA presentations. He asked the augmented RAC participants to clarify what each participant wants the EPA/ORIA staff to clarify and address in their presentation. He also noted, that with the time allocated for the 3-day meeting, he is anticipating that the augmented RAC will prepare a rough draft of the responses to the charge questions. On the third day, he anticipates that the augmented RAC will look over the draft responses to the charge questions.

Dr. Shirley Fry was interested in the points raised by Dr. Jonathan Links pertaining to the BEIR VII committee logic. Tangential to this, she was interested in thoughts from her colleagues, such as Dr. Dale Preston, on whether there is an update on LSS mortality/incidence data, and whether it will be available in the near future. Dr. Dale Preston indicated that it may not be available this year.

Dr. Kahn followed up with the question of whether pieces of information have been developed since BEIR VII and the Blue Book draft and whether they might be available.

Dr. William Griffith thought that there could be a section in the Blue Book that captured the ICRP approach.

Dr William Morgan offered some comments pertaining to low doses, and asked if these are available from ORIA for consideration.

Dr. Daniel Stram had an interest for the ORIA staff to describe the basic methods for the transfer uncertainty coefficients.

Dr. Ethel Gilbert thought it would be helpful to learn how the EPA estimates of uncertainties get used in age, gender and other specific categories. She would be interested in more discussion on other approaches to calculate transport. She is interested in the UNSCEAR and ICRP estimates and how they relate to the current exercise.

Dr. Kahn thought that some follow-up is needed on how these estimates are used, and he was interested in comments by the public that pertain to the limits. He observed that there is a big jump from the Blue Book to FGR-13 revisions ... and another to the actual limits that need to be addressed.

Dr. Genevieve Matanoski observed that the Japanese, are a genetically “tight” ethnic group, as compared to the U.S. population

Dr. Dale Preston shared Dr. Ethel Gilbert’s concern as to how the risk estimates are used. For instance, he shares concerns as to how the transfer is handled from the Japanese to the U.S. population that needs consideration specifically for the U.S. population.

Dr. Roessler was concerned with charge question 1e (See Attachment E-8), namely the approach for separating out nonfatal skin cancers and risks from prenatal exposures from the overall risk estimates from natal exposures (pre-natal). She asked if all the epidemiology studies are included in the evaluation.

Dr. Kahn referred to the earlier 1994 Blue Book where there is a display of risk/Becquerel per isotope which, in his view, is extremely beneficial in comparing different results. He asked the ORIA staff if they could add an appendix to the current Blue Book, as it appears in the 1994 version to permit comparing the outcomes of the current draft and previous Blue Books. For instance, if there is a 20% difference with what ORIA is proposing now in terms of risk (re Becquerels and organ-specific doses)?

Some discussion occurred with the ORIA Staff regarding clarification of Dr. Ethel Gilbert’s comments on the distributions and the assumptions involved, as well as the confidence interval of transport, and other similar assumptions.

Dr. Borak was interested in clarification of the finalization of the dose and dose-rate effectiveness factor (DDREF), and which one is being used, as well as the justification for it in the models. Dr. Borak also advised that he was particularly interested in what it is from the ORIA staff presentations that we want as “take-home messages” at the end of the face-to-face meeting.

Dr. Kahn anticipated that the 3 Sub-Groups would strive to agree in the face-to-face meeting as to the principal writing assignments, responsibilities and deadlines to complete those duties. The augmented RAC Sub Groups would then go home and draft their respective portions of the draft document, and would discuss and edit it via public teleconference call(s) to achieve consensus language.

Dr Wm. Morgan questioned whether 15 minutes is enough time for public comments today, given that there are extremely vocal groups interested in this topic. Dr. Borak asked if the public is going to be at the face-to-face meeting. Dr. Kooyoomjian advised that the current March draft agenda provides opportunities for the public to comment on the first and third days of the meeting. There was some discussion regarding the adequacy of public comment time, and while the normal venue during public conference calls is 15 minutes, the participants agreed that it would be helpful to be sure to give adequate time to the public to raise their concerns and issues for both meetings.

Dr. Genevieve Matanoski asked if the ORIA program office representatives will be there during the entire course of the March face-to-face meeting. Dr. Kahn asked if the ORIA staff will be there all three days, and they answered in the affirmative.

The augmented RAC completed their discussions at approximately 12:30 pm.

**Public Comments:**

At 12:30 p.m., Dr. Kahn asked if there were any members of the public who wished to address the augmented RAC. Dr. Kooyoomjian polled those interested in speaking, and started alphabetically through the list of those persons who had expressed an interest in this subject. They were the following individuals (See Attachment G for the public correspondence to Dr. Kooyoomjian, as well as a summary list of individuals and organizations):

Ms. Beverly Anderson, MPH, RS, Massachusetts Department of Public Health (no comment at this time);

Ms. Diane D'Arrigo, Radioactive Waste Project Director, Nuclear Information Resource Service (NIRS – See Attachment H-1, and she would like to comment);

Ms Dawn Bain & Ms. Francine Robinson, Floridawatch Institute (They will listen in for now);

Mr. Lynn Howard Ehrle, Senior Biomedical Policy Analyst for The Organic Consumers Association (He provided written comments – See Attachment H, including H-2-1 through H-2-5, and would like to comment);

Drs A. Lulian Apostoaei and F. Owen Hoffman, President and Director of SENES Oak Ridge, Inc. (They will listen in for now);

Mr. Douglas F. Guarino, Associate Editor, Inside Washington Publishers (He will listen in only);

Mr. Daniel Hirsch, President, Committee to Bridge the Gap (He provided written comments – See Attachment H-3, and would like to comment);

Ms. Mary Lampert, Pilgrim Watch (She will listen in for now);

Ms. Lisa Ledwidge, Outreach Director, United States, or Dr. Arjun Mahkijani, President, Institute for Energy and Environmental Research (IEER) (Not on the line);

Dr. John H. Samuelian, AMEC Earth & Environmental (He will listen in for now); and

Ms. Janice Valverde, Reporter, Environment Report (She will listen in for now).

**POSTSCRIPT:** Ms. Kay Cumbow, Interested Citizen, Boon City, Michigan later spoke at the closing of public comments. She had joined the discussion much later on and was not entirely

familiar with the proceeding, but asked after the public comment had closed to have a chance to briefly raise her concerns (See the note and discussion in the text below).

**Ms. Diane D'Arrigo:** At 12:36 p.m., Ms. Diane D'Arrigo with the Nuclear Information Resource Service (NIRS) provided her comments. She indicated that the NIRS is examining use of protection standards in facilities, and their major concerns are the licensed radioactive materials that may be released from control. Also, there is an overall concern for the weakening (i.e., increasing exposure) from allowable concentrations in air and water. Specifically, there is a concern that this whole project (radiogenic cancer risk assessment) could be used to increase the overall risks to the public. Ms. D'Arrigo noted that the overall Federal responsibility for protection of the public. She made reference to the EPA with the NRC and DOE to hire the National Academy of Sciences to produce the BEIR VII report. It is her view that there is an imbalance in most committees. She noted that the Federal Advisory Committee Act (FACA) requires notice of committees, and that this, in her view was not publically noticed. At the very least, she believes that the public missed the opportunity to have input on the process. Her major concern is how weakened radiation standards would be used in the world, and she does not have a clear understanding how all this is used. She observed that radiation is a bit more harmful than was previously known. She completed her comments at 12:40 p.m.

Dr. Kahn asked EPA/ORIA to be prepared to address the questions of relaxed and weakened standards raised by Ms. D'Arrigo.

**Mr. Lynn Howard Ehrle:** At 12:41 p.m., Mr. Lynn Howard Ehrle was invited to speak. He respectfully deferred to Mr. Daniel Hirsch to comment first, and then reserved time to speak after he heard Mr. Hirsch's comments. This request was accepted by Dr. Kahn.

**Mr. Daniel Hirsch:** At 12:42 p.m., Mr. Daniel Hirsch, President of The Committee to Bridge the Gap introduced himself. He had served as the former Director of Nuclear Policy and Co-Chair of a Field Laboratory at a DOE Nuclear Facility. Over the years he has found (observed) an age effect that a number of studies have shown. He is commenting in his role as President of the Committee to Bridge the Gap (a 40 year organization). He indicated that he had earlier sent a letter outlining his concerns (See Attachment H-3). He has an overall concern for relaxing the radiation standards. He offered that there has been widespread concern during the recent Bush Administration to politicize science. He cited examples of perchlorates, asbestos in drinking water, global warming and the radiation component at EPA. He cited the Protective Action Guidelines (PAGs) for all radiation to relax drinking water standards between 2 to 7 orders of magnitude, and to grossly exceed the recommended action levels, even exceeding the emergency levels. He observed that the new EPA Administrator yanked those PAGs shortly before it would have been published as a final rule in the Federal Register.

Mr. Hirsch also brought up his concern for Yucca Mountain as a repository for long-term storage of nuclear waste, and the issues with the 10,000 year standard. He cited the recommendations of the National Academy of Sciences, which said that it should be extended beyond 10,000 years. He cited that EPA/ORIA has been criticized as being outside of the

historical risk range, by at least 2 to 4 orders of magnitude higher, and he believes that the current augmented RAC is “packed.” He criticized the fact that terms for SAB members and consultants have been extended from 2 years to 3 years, so in his view, the new administrator’s hands are tied.

Mr. Hirsch believes that the current augmented RAC, in large measure, is skewed to people who have close ties to the radiation laboratories and facilities. He believes that it is a politicized effort. He believes that the purpose of the augmented RAC should be to directly incorporate the findings of the BEIR VII report. He believes that the ORIA staff who were expecting relaxed standards were upset with the result from the NAS BEIR VII committee, and that the NAS findings were not what they expected.

If science was being used properly in this process, he believes that the EPA should simply accept the BEIR VII findings. More likely, if EPA were to simply take the (BEIR VII) findings, then the numbers would err on the side of safety and err on the side of conservatism. Instead, ORIA is claiming that there is less risk than BEIR VII suggested. He believes that, had they (EPA/ORIA) simply followed BEIR VII, this would have been a far better outcome.

Mr. Hirsch believes that the names and endorsement of SAB/RAC can give a patina of respectability, but your reputations will be damaged. He turned to Dr. Dale Preston and cited his research at the RERF as outstanding and as very respectable, and that his service on this activity (the radiogenic cancer risk assessments) would be a dis-service to him and his reputation. He also turned to Dr. Ethel Gilbert, and noted that if a member of the BEIR VII Committee signs off on this (the radiogenic cancer risk assessments), it would be terrible. He also cited Dr. Gilbert’s excellent contributions to the 15 Nations Study.

Mr. Hirsch was sure that the EPA Administrator will not sign off on this review. He then cited Table 3-14 in the draft Blue Book where for almost every comparison of ERR, EPA is asking for the augmented RAC to sign off on a lower risk number. He cited the ORIA uncertainty analysis, where the mean and median values, in almost every case, are higher and where they ignore their own central estimates. ...that’s what you are being asked to sign off on, he asserted. He was confident that the EPA Administrator will reverse this! He implored the augmented RAC members to consider these issues very carefully. Mr. Hirsch completed his remarks at 12:59 pm.

Dr. Kahn thanked Mr. Hirsch for his comments and asked EPA/ORIA to be prepared at the March 23-25, 2009 meeting to explain those instances where their recommendations are different from BEIR VII.

**Mr. Lynn Howard Ehrle:** At 1:00 p.m., Dr. Kahn asked Mr. Lynn Howard Ehrle if he wished to make any comments. Mr. Ehrle noted that he had earlier provided written comments to the SAB’s augmented RAC (See Attachment H-2, which includes H-2-1 through H-2-5). He indicated that he is a retired consumer economics teacher, and that his interest in consumer activism was peaked in the 1970’s by the Consumer Alliance of Michigan. He noted that he had presented briefs in complex utility cases. In the interest of full disclosure, he indicated that he is

a member of the National Writers Union Local, which is a part of the UAW Local 1981. He is offering his comments today as a Senior Biomedical Policy Analyst representing The Organic Consumers Association which has 42 member countries and an International Oversight Board. He is serving in this capacity on a Pro-Bono basis throughout. He is also a member of the AAAS, the American Public Health Association, the Radiation Protection Association, and Chair of the International Association Advisory Board. He respects Mr. Hirsch's scientific acumen throughout his career. Mr. Ehrle remarked that he has no specific training in the radiation field, but that he believes that Mr. Hirsch has struck the right note, and he believes that this activity being undertaken (the radiogenic cancer risk assessments) is a violation of FACA. He feels that this will not be an effective peer review. He believes that membership of the augmented RAC, or any other person, in organizations, such as the ICRP, NCRP, IAEA, the Chernobyl Forum, BEIR VII, UNSCEAR, and the Radiation Protection Forum create inherent biases. Mr. Ehrle cited his membership in the American College of Radiology and the Radiation Research Society, and felt that these were organizations did not have the same inherent biases as the other organizations he cited. He thought that Mr. Hirsch could be a member of the augmented RAC, and that in 2003 he had submitted names and that they were ignored. He believed that the SAB Staff could have called him directly and spent 2 minutes on the telephone to suggest members to the RAC, but they did not do this.

He cited the Appendix of BEIR VII for attacks on Dr. John W. Gofman, M.D., Ph.D., Professor Emeritus of Molecular and Cell Biology at the University of California, Berkeley, CA, and of the Biomedical Research Division at Lawrence Livermore Laboratory. He called for deferral of Nuclear Power Plants. He cited that work on the Manhattan Power Project that was cut loose by the scientific committee.

Mr. Ehrle criticized a number of published Health Physics Society policy statements, such as in the revision of the 2004 National Council of Radiation Protection and Measurements (NCRP) Report 126. He believes that there is substantial risk below 5 REM, however the "deminimus statements" in NCRP Report 126 are countered by BEIR VII, where the NAS BEIR VII Committee stated that there is no safe dose. He observed that  $\frac{3}{4}$  of the 80,000 cohorts have exposures below 100 mSV. He cited BEIR VII, UNSCEAR 2000, and the European Committee on Radiation Risk (ECRR) Web Site for their material on Chernobyl 20 years. He dismissed the UNSCEAR claims that many of the risks are "psychosomatic," and claimed that this shows a built-in bias on the statements regarding "diminimus effects."

Mr. Ehrle noted the ECRR international conference where their results have been duly ignored. He also believes in the importance and relevance of the German studies that cite that anyone located within 5 km of radiation (nuclear) reactors has increased risks, and that it is especially true for children and other susceptible populations. Mr. Ehrle noted that BEIR VII speaks of the linear quadratic model, etc. and they do not look at the super-phasic model. We have people around the country that cite hormesis (that is, protective) effects where a little radiation is beneficial and he is very skeptical that they know what they are talking about.

Mr. Ehrle believes that the new EPA Administrator will take all these issues into account. Now you (the augmented RAC) are being asked to sign off on this, and he hopes that ORIA will

have revised membership. He completed his comments at 1:15 p.m.

Dr. Kahn asked EPA/ORIA staff if there are any recent reports on observed effects below 0.1 Sievert or 0.1 Gray.

At 1:17 p.m., Dr. Kahn asked if the public has any other items they wish to raise, and to please step forward on this conference call at this time. Nobody stepped forward to offer any additional comments, and Dr. Kahn closed the comment period.

At 1:17 p.m., Dr. Kahn proceeded to thank all the public commenters, the augmented RAC participants, as well as the ORIA Staff and the rest of the public. He asked the augmented RAC to please provide any requests for items to be highlighted in the ORIA presentation of March 23, 2009 to Dr. Jack Kooyoomjian by Friday, March 6<sup>th</sup>.

Dr. Jack Kooyoomjian will forward any request for presentation materials to EPA/ORIA by close-of-business on March 6<sup>th</sup>.

**Ms. Kay Cumbow:** At 1:20 p.m., as we were thanking the augmented RAC and all the participants, Ms. Kay Cumbow, who identified herself as an interested citizen from Boon City, Michigan, spoke up and asked if she could make public comments and share her concerns. She had joined the call late and wished to speak. She advised that in her considered opinion, she believed that the radiation standards which are based on a healthy 25 year old adult male fails to recognize children, immune compromised individuals, and other sensitive populations. She believes that CAT scans should be defined by NIH as “toxic.” She has serious concerns with issues such as the occurrence of childhood leukemias around nuclear power plants. She asked for some of the meeting materials. Dr. Kooyoomjian, as DFO for the augmented RAC asked for her e-mail address and sent her the requested information (See Attachment G and correspondence to Ms. Cumbow dated February 27th). The remarks ended at 1:26 pm.

**Summary & Action Items from the February 27, 2009 Public Conference Call, 11 a.m. - 2 p.m. EST:** This brief summary captures those items of interest to the augmented RAC in preparation for focused presentations by the ORIA staff and discussions at the March face-to-face meeting as follows:

- 1) The augmented RAC members who wish to, may e-mail preliminary comments for desired discussion and presentation by EPA/ORIA staff to Dr. K. Jack Kooyoomjian by Close-of-Business, Friday, March 6, 2009. These will be forwarded by Jack to Dr. Mary Clark of ORIA in preparation of their presentation materials to be presented on March 23, 2009;
- 2) Be prepared for the beginning of a “Round-the-Table” comment session possibly on the afternoon of the first day. There may be other opportunities for additional “Round-the-Table” comments in plenary sessions of the entire augmented RAC;
- 3) While you are encouraged to comment on any item in the Charge questions, please be



## List of Attachments

The following meeting materials are available on the SAB website, <http://www.epa.gov/sab>, at the [February 27, 2009 Meeting](#) page.

<u>Attachment</u>	<u>Description</u>
A	Roster: Radiation Advisory Committee (RAC) Augmented for the Review of EPA's Radiogenic Cancer Risk Assessment, dated February 5, 2009
B	<i>Federal Register</i> Notice: Tuesday, February 3, 2009, Vol. 74, No. 21, pages 5934-5935
C	Meeting Agenda for February 27, 2009
D	Draft Meeting Agenda for March 23, 24, & 25, 2009, dated February 4, 2009 (for planning discussions on Feb 27, 2009)
E-8	The Charge Request Memorandum dated January 26, 2009 from Elizabeth A. Cotsworth, Director, Office of Radiation and Indoor Air, to Vanessa Vu, Director, Science Advisory Board, and entitled " <i>Advisory Review of the Draft Document: EPA Radiogenic Cancer Risk Models and Projections for the U.S. Population;</i> "
E-9	The Draft Blue Book entitled " <i>EPA Radiogenic Cancer Risk Models and Projections for the U.S. Population,</i> " Draft U.S. Environmental Protection Agency, Office of Radiation and Indoor Air, December 2008.

Additional attachments are available in hardcopy from the SAB Staff Office.