OAK RIDGE RESERVATION
HEALTH EFFECTS SUBCOMMITTEE

CENTERS FOR DISEASE CONTROL AND PREVENTION
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

Detailed Proceedings of the June 8, 2004 Subcommittee meeting

Call to Order/ Opening Remarks

The Oak Ridge Reservation Health Effects Subcommittee (ORRHES) convened on June 8, 2004 at the DOE Information Center at 475 Oak Ridge Turnpike, Oak Ridge, Tennessee. Chairperson Kowetha Davidson called the meeting to order at 12:20 PM, welcoming all attendees with special notice given to the EPA and ORIA members from Washington, D.C. who were present. No other opening remarks.

Introduction of Subcommittee Members

Kowetha Davidson asked all attendees to introduce themselves. The attendees present during the meeting were:

Kowetha Davidson, Chairperson, ORRHES
Charles Yard, TDEC (standing in for C. Nwangwa)
Brenda Vowell, ORRHES member
Pete Malmquist, ORRHES member
LC Manley, ORRHES member
Bob Craig, ORRHES member
David Johnson, ORRHES member
George Gartseff, ORRHES member
Marilyn Horton, DFO, ATSDR
Charles Washington, ORRHES member
Barbara Sonnenburg, ORRHES member
Tony Malinauskas, ORRHES member
Karen Galloway, ORRHES member
Susan Kaplan, ORRHES member
James Lewis, ORRHES member
Jon Richards, EPA Region IV
Al Brooks, member of public
Tom Sinks, CDC/ATSDR
Jan Connery, ERG (contractor to ATSDR)
Sandy Issacs, ATSDR
Jerry Pereira, ATSDR
Trent LaCoultry, ATSDR
Loretta Bush, ATSDR
Jennifer Sargentsen, ATSDR
Jack Hanley, ATSDR
Bill Taylor, ATSDR
Lynne Roberson, member of public
Paul Charp, ATSDR

Timothy Joseph, Department of Energy (DOE), Oak Ridge Office
Erika Bailey, Auxier & Associates
Terry Lewis, member of public
Thomas Lewis, member of public
Lowell Ralston, EPA ORIA
Jeff Crane, EPA Region IV
Winston Smith, EPA Region IV
Bonnie Gitlin, EPA ORIA
Don Box, ORRHES member
Peggy Adkins, ORRHES member
Herman Cember, ORRHES member

Agenda Review, Correspondence, and Announcements

Agenda Review

Kowetha Davidson reviewed highlights and changes to the agenda for the meeting.

- ATSDR/EPA presentation and discussion by Tom Sinks.
- PA/SI information presentation by Jeff Crane.
- EPA ORIA presentation by Bonnie Gitlin.
- EPA ORIA question and answer session with ORRHES members and members of the public.
- James Lewis stressed the importance of allowing plenty of time for EPA ORIA presentations and discussions and asked for flexibility in the agenda. Kowetha Davidson noted that Paul Charp and Tom Sinks had to leave early and their presentations could not be moved any later but would consider the additional time needed.
- The project management update presentation by Jerry Pereira was moved down the agenda, to take place just before unfinished business.
- The remainder of the agenda would be followed as written regarding work group reports, discussions and recommendations.
- Public comment times were fixed and would not be changed.

Correspondence

No correspondence to report since the April 13, 2004 ORRHES meeting.

Announcements

No additional announcements.

Motion: Approval of April 13, 2004 ORRHES Meeting Minutes

Charles Washington made the motion to approve the minutes of the April 13, 2004 ORRHES meeting. George Gartseff seconded the motion. Before voting, Susan Kaplan requested a correction be made to the second bullet on page 24. The original text stated "ATSDR's mandate to use existing data", with the correction to read "ATSDR's mandate to generate new data." No additional corrections were requested.

The minutes of the April 13, 2004 ORRHES meeting were approved by voice vote with none opposed.

Status of Action items

Marilyn Horton graciously thanked all attendees of the ATSDR/EPA meeting held the night before. She then directed the group's attention to the Action Items handout regarding the two motions made during the April 13, 2004 ORRHES meeting.

The first motion, "ORRHES recommends that members of ATSDR/EPA Region IV and ORIA hold a public forum on the evening of June 7 to discuss the outstanding EPA issues. It was also recommended that a court reporter be present to take verbatim minutes of the public meeting." Ms. Horton confirmed this did take place the evening before and that discussion would be continued during the meeting today.

The second motion, "ORRHES recommends that the ATSDR have a community strategy in place prior to the release of the Health Statistics Review results. Also, that the Cancer Incidence Review strategy and data be reviewed by the Ad Hoc committee, the PHAWG and ORRHES prior to its release to the public." Ms. Horton noted that ATSDR is having internal discussions with D. Williamson, DHS and DHEP and are preparing this and will be working with Ad Hoc, PHAWG, and ORRHES prior to its release to the public. This is scheduled to be presented at the next meeting in August.

There were no questions regarding the status of the action items.

Presentations and Discussion

Presentation by Tom Sinks:

Dr. Sinks condensed the presentation he made the night before and did not use overheads.

Dr. Sinks began by thanking ORRHES for allowing them (CDC/ATSDR) to be present. He indicated they have finished the public health assessment on uranium releases from Y-12 and summarized their conclusions: the data was adequate for them to make the determination that there were no exposures large enough to the community to have resulted in any health effects.

Dr. Sinks praised all the critical comments they had received and stressed that even if they do not agree with the comments, they want to be challenged. This is part of their process and is how they continue to improve their process. He encouraged ORRHES, EPA and members of the public to continue to send them.

Dr. Sinks pointed out that they take EPA's comments seriously but stated they feel that even if some of them are addressed it would not change their ultimate conclusion.

Dr. Sinks ensured everyone that just because they have finished the PHA does not mean that they will not remain open-minded. He stated they will consider all new information, especially new data (not modeling old data) that would provide more accurate information about the exposures.

Dr. Sinks concluded by mentioning the eight outstanding PHAs ATSDR is working on. He noted it is very important for them to keep moving toward completing these assessments so they will be able to inform the community if there are other priorities for their health.

Susan Kaplan asked Dr. Sinks to qualify how he can stand up and say there were not any health effects (referring to his presentation the evening before) and suggested that he should say there were not a significant number of health effects.

Dr. Sinks responded by reiterating what he thought he said the night before:
"We have evaluated the data on exposure and the information tells us that we do not believe the exposures are significant enough to have caused health effects, that does not mean the people in the community have not experienced health effects, it does not mean that we know for absolute certain that no health effects have occurred from a variety of different exposures, but in terms of looking at the uranium releases and the information we have, we do not believe there was enough uranium release into the environment that would have caused health effects from the data we have. That is different from saying there were no health effects. We are really talking about exposure and what we think the

levels were and what we predict would be the expected health effects on the basis of that."

Presentation by Jeff Crane (EPA Region IV):

Attendees were given a handout containing the information Mr. Crane would be presenting. Dr. Sinks accelerated his presentation to allow more time for the following ORIA presentation and discussion. Consult this handout for more detailed information.

The central point he wanted to convey is that in the cleanup process for the Department of Energy (DOE) in Oak Ridge, there will be some follow on activities that will coordinate with the ATSDR public health assessments, which is a currently planned commitment that DOE has under the agreement that the EPA has entered into with them.

Mr. Crane's role as Federal Facility Agreement Project Manager is to coordinate with his team at EPA Region 4 and oversee that cleanup. He mentioned the presence of Jon Richards and Winston Smith, also EPA Region IV representatives.

EPA Region IV gets technical support from the oversight support contract, ORIA, the Athens lab and the Montgomery mixed waste lab, which is a branch of ORIA.

Mr. Crane noted CERCLA is the cleanup process also referred to as Superfund and what is key to recognize is that for federal facilities, DOE is responsible, as the lead agency, for implementing the cleanup. The EPA's role is to enter into agreement to oversee that cleanup, to be assured that the cleanup is effective and timely. That agreement is referred to as a Federal Facility Agreement and the State of Tennessee is also a party to that agreement.

He explained the National Contingency Plan (NCP) as essentially the rules and regulations as to how the cleanup is done. The key element is at the start of the investigation, there is a preliminary assessment or site investigation process designed to go out and collect available information and samples (as appropriate) to be able to write off areas as no potential threat. The next step in the process provides more detail with quantitative assessment activities under the remedial investigation baseline risk assessment, to ultimately select a remedy and implement it. When the remedies are selected, it is required that a protectiveness determination is made that the remedy will protect human health and the ecological receptors or the environment. It specifically spells out in the NCP that the protectiveness determination must assess and characterize the current and potential threats to human health. The focus for the CERCLA cleanup program is current and potential threats. Mr. Crane noted it has been recognized that ATSDR is performing their health assessments as they implement their analyses. Some data will be shared with them and results of ATSDR evaluations will be shared with the CERCLA cleanup program. Specifically the regulations and vision available; health assessments may be used to support response actions and/or identify the need for additional studies. Recognizing the interrelationship of the two, the FFA established a milestone for this preliminary assessment site investigation to occur after ATSDR

completes their public health assessments. That will include both the results of the ATSDR PHAs as well as numerous other ongoing area wide monitoring studies and the ongoing investigations under the cleanup program.

Mr. Crane stressed the PA/SI will be a follow on activity after the PHAs are implemented. He mentioned the Scarboro community has been evaluated under numerous studies including this first PHA. The results of their studies are available on the EPA website (http://www.epa.gov/region4/waste/fedfac/scarborofinal.pdf). He summarized their findings by saying the EPA did not find any elevated levels of contamination above background or the preliminary remediation goals for screening whether or not contamination is present at a level of concern. However, the data gaps in that study recognized that Scarboro may not be the most representative area of downwind deposition of the Y-12 uranium releases. Mr. Crane stressed the complexity of trying to determine when contamination has been deposited and at what levels. They recognize there may be other areas that would be suitable to collect additional site specific information under the preliminary assessment site investigation. Currently the available information onsite in Y-12 and from the monitoring studies did not suggest there are elevated levels of concern, but they intend to validate that.

The schedule for this activity is to be completed in 2006. It is a FFA enforceable milestone, which does not mean they have a new tone as to how the EPA is working with DOE to achieve cleanup, this concept just means that DOE is obligated under the FFA to seek funding to implement that study. As with all CERCLA response actions and investigations, there is a community relations process. DOE has a community relations plan and as a part of that there has been a formal federal agency advisory committee, also referred to FACA. The site specific advisory board briefs them regularly on decisions, investigations and the results of cleanup activities. As EPA plans investigations or implements cleanup, they provide public availability sessions as appropriate and as requested.

Mr. Crane concluded by stating the EPA understands there is approximately eight total PHAs that will be implemented over the course of 2004-2005 which would fit the timing of the PA/SI that is scheduled under the FFA.

Barbara Sonnenburg asked Mr. Crane if the background level in Oak Ridge is any higher than normal across the country.
Mr. Crane's response was that there have been numerous background studies in the effort to collect background data. The key is to identify areas that are not impacted by any Oak Ridge releases, so with respect to naturally occurring levels of background, he did not know specifically how that varies with Colorado or other geological areas, but the effort to compare levels to background was to compare to areas that are not impacted.

Ms. Sonnenburg followed up by asking if background levels coming into Oak Ridge are already elevated due to coal burning at the Kingston power plant and other nearby power plants. Mr. Crane's response was there is always some potential for anthropogenic

contamination or constituents from other sources and try to account for that when looking for a suitable area for a reference location, which is one not impacted by past activity.

Herman Cember objected to the wording used in the PA/SI Schedule slide (the last slide on page 2) of the EPA Region IV handout. He disagreed with the statement "Confirm expected conditions of no current or future health threat." He commented that by using this wording gives the impression of a preconceived idea and suggested they might selectively use those models or those data that support this preconceived notion. He suggested the wording - to examine the data to determine whether or not there are current or future health threats. Mr. Crane responded by saying Dr. Cember was correct and the EPA's focus is to examine whether or not the releases have occurred and if the contamination is accumulated. The next step is to evaluate the effect. Dr. Cember reiterated the wording should be changed.

Presentation by Bonnie Gitlin (EPA ORIA):

Attendees were given a handout containing the information Ms. Gitlin would be presenting. She began by apologizing for not attending the meeting the evening before due to airplane trouble, but she was glad to be present for this meeting. She explained her title is the Acting Director for the Radiation Protection Division in the Office of Radiation and Indoor Air at EPA's offices in Washington, D.C. They are the headquarters office with responsibility for radiation policy. The structure of EPA consists of a headquarter office with the policy offices and then each of the regional offices independently have the authority to implement most of the activities under those authorities. So ORIA is not a separate entity, but the regions have independent authorities to implement programs. ORIA typically functions in an advisory role to our regional offices on the best way to implement the various statutes in which the EPA operates under.

She mentioned she would also quickly go through her slides to provide additional time for discussion. Consult this handout for more detailed information.

Ms. Gitlin addressed the question of "who is ORIA and how they fit into the picture for Oak Ridge." She said since EPA was created, their office's mission has been to protect people and the environment from harmful and avoidable exposure to radiation. She explained they have six sub-organizations:

1. Federal regulations - activities related to waste disposal. Predominately the activities around the waste isolation pilot plant and Yucca mountain
2. Radiation information - assists their other organizations in preparing public information materials on radiation.
3. Waste management - deals primarily with low activity materials and other naturally occurring contamination.
4. Radiation site cleanup - although they do not actually do cleanup, they provide advice to the regional site cleanup managers on different technologies and tools they might use as they approach cleanups under the different authorities, typically Superfund.

5. Science and risk assessment - evaluates risk assessment and issues policy and guidance on radiation protection for the entire agency.
6. Radiological Emergency Preparedness, Prevention & Response - has the technical capability to respond to events in which the EPA is the lead.

ORIA partners with other offices throughout EPA and with their regional offices on technical issues and on guidance and policy. They coordinate with federal, state and local governments who have radiation protection responsibilities. ORIA is involved in international activities related to standard setting and guidance development.

Ms. Gitlin expressed one area of confusion has seemed to be the difference between Superfund and ATSDR. ORIA adds more complication to that because they have authorities, in addition to the Superfund responsibilities that Region IV is implementing, to have an overall responsibility for radiation protection, which typically comes in under the Clean Air Act, the Atomic Energy Act and the Clean Water Act. ORIA provides the technical basis to address radiation protection issues under those statutes. ORIA develops radiation limits, guidance and policies in all of these areas: drinking water, air emissions, nuclear waste disposal, etc.

Ms. Gitlin commented the important products of their office have to do with federal guidance. The authority for setting federal guidance for radiation protection was transferred from the Atomic Energy Commission to the EPA when it was created. There are basically two sets of responsibilities with federal guidance:

1. Recommendations – general principles and policies, these are signed by the president and are few are far between
2. Technical Reports – summaries of the current science and are used to develop regulations and risk assessments

ORIA also has responsibility for environmental radiological surveillance both for environmental measurements and mobile laboratories that assist with cleanups as well as emergency response.

ORIA contributes to national and international reports (NCRP, BEIR, etc.) to stay in touch with all that is going on with radiation protection and to apply those principles under their own statutes to develop guidance and policies for the EPA and the rest of the federal government.

Ms. Gitlin explained ORIA received a fax of the first few pages of ATSDR's initial draft of the Y-12 PHA on January 21, 2003. They called Region IV and confirmed they were planning to review it, and ORIA agreed they would look at it from a technical standpoint and is the reason for their involvement. Ms. Gitlin clarified their comments to the initial draft were late, but when the public comment version did come out they submitted their official comments before the deadline. These comments still apply because they have not changed nor has anything been added to them.

The basis for their comments came from reviewing all the work that had led up to that point. Basically ORIA agreed with some of the recommendations that had been made by others in the past. ORIA reiterated the specific recommendations and said that from their opinion, as EPA, they agree. They agreed with several of the Task 6 team and ORHASP recommendations and she directed all attendees to review this section of the handout. They agreed with ORHASP recommendations to include soil sampling in and around the Oak Ridge Reservation to try to identify all of the areas affected. Mr. Crane's presentation explained how that would proceed (PA/SI). ORHASP also recommended atmospheric dispersion with tracer gases and that supported ORIA's idea of looking beyond the Scarboro area to find out where the uranium from Y-12 had gone. They also intend to address uncertainty and sensitivity analyses, the need to characterize the fate of past uranium releases and to continue looking for additional site specific historical information that could validate the findings up to this point. ORIA's specific comments were related specifically to past exposures. They agree completely that the current and future issues are not issues. The exposures currently in Scarboro are not a problem. With respect to past exposures, ORIA was concerned that:

1. Scarboro was the only community being assessed
2. The Level II screening analysis did not provide enough information as they would want to see to be able to make a determination about past exposure
3. Screening level analysis was not particularly conservative
4. Quantitative uncertainty analysis was not performed
5. ATSDR's health evaluation criteria exceed the limits of national and international radiation protection advisory organizations and are not consistent with radiation protection guidelines and risk estimation methods
6. Concurrent exposures/ risks to multiple ORR contaminants are not presented
7. The fate and transport of majority of uranium airborne releases are unknown

ORIA's recommendations are:

1. Look at all city of Oak Ridge communities
2. A dose reconstruction be considered
3. Multiple exposure scenarios be evaluated with age, gender and location specific values included.
4. Quantitative uncertainty analyses is important for transparency
5. Lifetime cancer risk estimates and Hazard Indexes for non-cancer effects should be presented
6. Concurrent exposures/risks to multiple ORR contaminants should be presented
7. Comprehensive fate and transport should be addressed

Ms. Gitlin expressed she believes all of those things can be addressed as everyone moves forward with the site. They continue to work with Region IV to identify the things from this point to address the additional information needs that ORIA thinks may be appropriate when looking at all of Oak Ridge.

Ms. Gitlin indicated it was time for questions. She introduced Lowell Ralston from her staff as one of the principle reviewers/commentors and will assist her in answering questions.

Herman Cember asked how to obtain copies of the EPA's reports. Ms. Gitlin said she would be happy to provide copies to those who needed them. Dr. Cember asked if ORRHES members could be put on a regular mailing list for future guidance reports. Jon Richards indicated these reports are available on the EPA website, but Dr. Cember indicated the trouble with downloading and printing them out.

Dr. Cember had an additional comment that he does not think that soil sampling is enough to know the actual concentration of mercury, uranium, etc. He also wants to know how tightly bound it is, how transferable it is to plants, how fast it leaks into the groundwater, if it becomes airborne and breathed in how fast will it be absorbed into the body and he indicated he does not see this answered in the health assessments. All he sees is the total gross number, but admits if 100% of the gross number were transferred and absorbed and not be harmful that is fine, but it should be addressed. He requested they should mention how tightly bound or mobile all toxicants are (chemical and radiological) in the site evaluations. Ms. Gitlin thanked Dr. Cember for those comments.

LC Manley asked if there was a time schedule for the additional sampling. Jon Richards indicated the milestone completion is scheduled for September 2006 so it would take place sometime prior to that date.

Mr. Manley also asked why they were challenging the FAMU data. Lowell Ralston answered they were not challenging the FAMU data, they were looking to add more information to it. He noted the FAMU/DOE study only looked at the activity in the first two inches of soil in several sections of Scarboro. Other groups such as ORHASP had looked at taking samples at greater depths (e.g. one meter core samples), and by sectioning that sample you can determine where the radioactivity is at depth and if is mobile. It provides an activity concentration and confirms what chemical and physical species are there and what is transferable to plants depending on the depth and when it fell from the sky. It provides a chronology or dating system for that.

Mr. Manley stressed the EPA claimed the FAMU data was not done correctly. Mr. Ralston responded by saying it was just that they did not go deep enough and also some of the measurement techniques (alpha spectrometry and neutron activation analysis) were not complete. The alpha spectrometry analyses that FAMU/DOE study did and the confirmatory sampling by the EPA was not sufficient to be able to look at the isotopic abundances to tell whether or not it was natural or if it had been enriched and had come from Y-12. Also the FAMU study did use neutron activation which is more sensitive in looking at the ratio of uranium-235 and uranium-238, but it does not tell you of about levels of uranium-234, the third isotope.

Mr. Ralston continued by saying EPA took 8 additional samples, 6 of which were soil. Four of those samples were drilled from 0-6 inches and the other two were 0-12 inches in depth, but it still did not answer the question of contamination at depth and also mixed up the activity within that volume. They also did alpha spectrometry, and repeated it is not sensitive enough to be able to discriminate between the isotopes. So all they could

conclude was that the absolute quantity of uranium in the soil was within the range of normal background, but they were unable to say if there was any enriched uranium.

LC Manley suggested they go back to their initial report and read it again.

Herman Cember questioned if it is enriched uranium, as a rough rule of thumb, wouldn't the U-234 activity be approximately equal to the U-235 activity? Lowell Ralston answered that when enriching uranium, you enrich the U-235, but also enrich the U-234 to a greater extent. The higher the level of enrichment, the higher the U-234 activity becomes and it becomes dominant when you are almost at 93% enrichment. You can reconstruct what it might be from the neutron analysis from just U-235 and U-238, but it is just a first approximation it is not an exact number.

Charles Washington stated that if it came from Y-12, there are certain things certain people know, that it should have been. If it came out of Y-12 it came out in vapor phase, condensed and then went into the soil. Certain people know the abundance of the isotope that they were working with and they could, perhaps, add some light if these things are not classified, on what they would expect in that community. After condensing and then decaying over time you should still find it. So I think the question should be asked, what depth do you think you should look for it and if it got into the water systems, how far downstream or upstream should you look for it? You are not really looking for that U-238 there, in the building that you are talking about in which it escaped from, you are not really going to find that much. Lowell Ralston commented that Mr. Washington had some very good points, but he would add that since 1986, there has been an air-sampler in Scarboro, and you can look at the data for the air concentrations and see……
Mr. Washington claimed this does not count because that is the time that production was reduced significantly. Mr. Ralston continued by saying you can measure levels of uranium from Y-12 that are enriched, and you can see it in the air samples starting in 1986, the point being that at this point in time from 1986-1995, releases from Y-12 are observable. You would guess that historical releases would be higher. There is data to suggest from both the Florida AMU study and EPA study, there may be enrichment of uranium in the soil at Scarboro, but it is only within 10% or so of the samples and because the techniques were not sensitive enough to be able to make the discriminations well, but the overall concentrations of uranium in soil are within range of background although on the high end.

Mr. Washington followed up by asking what the normal background is for this area as compared to other areas? Jon Richards responded by saying the sampling they have from Scarboro and the Oak Ridge Reservation as a whole, it is toward the upper end of the U.S. averages for uranium, which are well known, and even for the localized TN areas from the geology. Mr. Washington asked how it compared to Colorado. Mr. Richards answered Colorado would be toward the high end of U.S. natural background because of the fact there is more uranium in their rock than our, but what we are seeing is still within that range of not only the U.S. average but also the TN local area.

Herman Cember commented that when he was a student on the health physics fellowship at ORNL in 1949, they learned that on the average, one square mile of soil one foot thick, contains 3 tons of uranium and 9 tons of thorium, and he could calculate how many parts per million or mg/kilo if anyone wished, but those are the amounts for this area.

Peggy Adkins asked if she understood correctly that ORIA was not going to do these things, EPA Region IV was going to do these things and ORIA be collaborating with them and this would not happen until 2006 when we are through with everything? Bonnie Gitlin confirmed ORIA would be collaborating with EPA Region IV and Jon Richards confirmed the deadline for the PA/SI to be completed is September 2006.

Ms. Adkins continued by saying that it seemed in all of these we look for a needle in a haystack, instead of taking a more direct approach. Once again, she would like to promote a more direct approach which would be to map out burial sites, not just the official sites but the secret burial sites that old-timers can describe where things really were buried and may not be on any official map. Identify where canisters were shot in creeks and so fourth, have someone map out the air flow of this valley/ridge area and combine these maps with maps showing the pockets of deaths and illnesses, and actually test sick people for uranium and radioactivity to see if suspicions are correct. Then move from there as to where to test soil and water. Ms. Adkins expressed she feels everyone is going backwards in this. She said we take a guess and we test and that may or may not have to do with the reality of people who believe they are sick because of radiation or the elements dispensed from the plants.

James Lewis asked if Lowell Ralston had a prepared presentation that would give an overview rather than hitting at all of these questions and questioned would that be more beneficial. He also noted that it was unfortunate because a number of the technical people, who were present for the meeting the night before, were absent today. Bonnie Gitlin responded they would be willing to provide written answers to any questions they receive and they would try to help accomplish the agenda for the meeting today. Ms. Gitlin said Mr. Ralston's presentation would provide an additional level of detail to the presentation she had already given, such as additional background material and summaries of the reports they examined as they developed their review. She said Mr. Ralston had a great deal of material and asked if they could narrow it down to certain key areas to be addressed.

Mr. Ralston said the presentation consists of what documents existed, what information exists concerning uranium releases from Y-12, and that has to do with the Oak Ridge health studies, the sampling and analyses performed by DOE, FAMU, the Prichard report which concluded there was enriched uranium contamination above background at Scarboro, and also the follow up EPA study and ATSDR's technical reviewers comments concerning recommendations for activities that happened before the PHA was evoked. It is a very lengthy process; it would take a long time to get through. I do not think it would look to the specific technical questions that were asked by the subcommittee, which is what he thinks is what they want him to do. He said he would make those slides available to everyone and they could read them and later discuss them, but Mr. Ralston

did not think it was necessary to go through them at this point. Basically it just summarizes the evidence before their ORIA report and why they made the recommendations they did based on the recommendations that others had made.

Susan Kaplan asked Mr. Ralston if he could make a presentation just on the questions that were submitted. My question was on the 5000 mrem limit and I want to hear your comments on that. We did not get them last night. They (EPA Region IV) deferred to you (ORIA). Also talk about risk calculations on uncertainty; should we recommend that be done, we have recommended that be done at various points but it has not happened. Bonnie Gitlin said they could address any questions that have not been answered.

Kowetha Davidson asked if anyone else had questions related to this matter.

Bob Craig commented that he does not think uranium a meter down is as likely to be a public health effect as in the first top two inches. I think that what we are looking at is qualitative screening level, looking at the data as best we can, as I think ATSDR did, as we approved the data, we saw the peer reviews, we went through it, and they very carefully looked at if the public could have been affected. I think we came to our answer on that. I also agree that Scarboro is probably not in the direct path, we know quite a bit on this ridge and valley and the prevailing winds go straight down Union Valley. Scarboro is the closest inhabited by far, and if not Scarboro, what community are you talking about? There is nothing in Union Valley; there is a huge landfill, Roger's quarry, then Melton Lake and then Jake Butcher's former house. We are talking about health effects, not ecological effects, which means we have to have a receptor and they have to be impacted. I think the answers to your questions probably need to be answered, you need to go through the PA/SI, submit your research grants as we all do, but it is not the question that we were set out to answer.

Lowell Ralston commented that Ms. Gitlin provided summary of their comments and recommendations. The PHA as was the Task 6 screening evaluation it was based on, only provided information on Scarboro. There are no soil samples taken outside of Scarboro and no estimation of health impacts to anyone else in the community. The Oak Ridge health agreement studies did dose reconstruction for mercury releases from Y-12 to the air and East Fork Poplar Creek, as well as PCBs. Radioiodine was released from X-10. Those dose reconstructions did a very careful reconstruction of where the material went. For the mercury and PCBs, besides Scarboro they considered East Fork Poplar Creek farm family and the contaminations in Woodland; so one of our comments and has been the comments of others, was to expand that screening analyses to include other communities besides Scarboro, in an attempt to account for all uranium released from Y-12 into the environment and where it goes. Now it is true that the prevailing wind up and down valley, moves in the direction Bob Craig said in the direction of Wolfe Valley. It is also true there are calms in that data, in the extent of 25% and the winds aloft about the size of Pine Ridge in the direction toward Scarboro and also beyond it. There are also releases from K-25 gaseous diffusion reactor that went toward Oak Ridge that were considered in the Task 6 report but just in passing. We have environmental data dating back to 1959 that actually shows that the region in between the gaseous diffusion plant

and Oak Ridge city, which shows some of the higher concentrations of uranium in air. This could all be coming from the gaseous diffusion plant or coming from Y-12, but the fact is the people of Oak Ridge may have been exposed from uranium from both plants at the same time and that is factored into a public health assessment.

Bob Craig mentioned the effluents from K-25 would be studied in a future PHA.

Tony Malinauskas challenged the issue regarding the absence of quantitative uncertainty analyses. Dr. Malinauskas stated his position is that the overall result, that it is safe to live in the Scarboro area, would not change had an uncertainty analysis been done. His reason for that is the number of measurements that had been made of all of the affected parameters are sparse. There are very few replicates made of the samples and to assign an uncertainty on any of the parameters is merely guesswork. He feels guesses are being added to other assumptions and guesses. Dr. Malinauskas thinks the EPA would agree that the assumptions that have been made are largely conservative. He does not think that an uncertainty analysis is a significant efficiency relative to the health effects study. He admits uncertainty analyses can be very useful in allocating a limited amount of money for additional samples to determine what is important. As far as this study is concerned, based on the current data, an uncertainty analysis would not have added anything to the substance.

Lowell Ralston responded by saying we do not really know what the level of exposure was in Scarboro other than the screening analysis that was performed initially by Task 6 and adopted by ATSDR, who did not change any of the parameters that went into it, they just simply changed it to dose and scaled it up to 70 years. So nothing is really changed, nothing has been gained. The people who did that analysis, the Task 6 group, did it as a screening analysis to make a decision if additional information was needed about releases, as well as perhaps, potential exposure. The final value they calculated as a screening index for that assessment, the same on that ATSDR for their PHA, was 8E-5 which is borderline with their decision criteria, the risk criteria of 10^{-4}. The people who actually made the estimates of the releases from Y-12 to the air and water, based a typical adult, recommended a dose reconstruction be performed to provide more detailed analysis. to fill in the missing information, particularly in the release records, to provide some measure of the air terms associated with each one of those releases which can be very high. The Task 6 group went back and looked at the official records from DOE for air releases of uranium and came up with a value that was seven times higher based on unmonitored releases from that facility over the 1944-1995 period. Based on that they concluded there was also gaps in their information that they could not fill and that is a very large part of the uncertainty analysis, as well as what came down East Fork Poplar Creek and who was exposed. So again the analysis focused on the one community of Scarboro, there is a lot of uncertainty in the data that went into the calculations, which was for a typical screen, it was designed only to make a decision on whether further evaluations were important or not. It was not meant to be a health risk assessment. For those reasons and the recommendations of others, we believe that uncertainty would provide a better estimate of what the exposures and health risks might be in Scarboro only because we only have that data set, and the range of those values within a 95%

confidence boundary, as was done for the dose reconstruction of mercury and PCBs. We think it is a helpful thing.

Dr. Malinauskas responded that he would agree if Mr. Ralston was talking about additional sampling but using the currently available data and putting and error bound on it is not going to change the data. Mr. Ralston asked him to clarify what data he was referring to. Dr. Malinauskas answered all of the data that are used in the health assessment. Dr. Malinauskas continued by saying that in every case you take a parameter and are going to guess at what the uncertainty is associated with that parameter, cause you do not have a lot of data on which to do a statistical analysis. Mr. Ralston commented that he thinks on parameters such as inhalation rates, we do know what the ranges of those values are. For this particular screening analysis, for inhalation exposures for example, it was assumed that a person spends 9.6 hours of their time a day at the site indoors. The concentration indoors is one-third of the outdoor concentration. For a typical exposure of an individual who actually spends more time at the site, 16.5 hours and 2 hours outdoors results in an increase in their inhalation intake and dose by a factor of 3.5, which is one of our comments we made in our document. This is an example of how the differences and assumptions on exposure scenarios can change the results that you get. Dr. Malinauskas said he stood corrected on the inhalation rates but it is the concentrations that are being inhaled and is my concern. Mr. Ralston said what he is pointing out is they are highly uncertain and that was also said by the people who actually reconstructed them.

Charles Washington commented that we keep drawing out the word uranium but the form of uranium is important from the Y-12 plant, it is not just uranium. He stated he could not say what it was, but knows someone present knows what form the uranium was in if there were emissions from the Y-12 plant.

George Gartseff commented “let’s not discourage them (EPA).” He thinks it is very good news that additional sampling is going to be done in an area that was criticized for not having been investigated. Further, there is hard evidence that this process is at work, even though long and frustrating at times. ORRHES has now seen that we had the CERCLA effort with a FFA in place at the Reservation. In a parallel effort ATSDR has done their PHA and now are going back and formally modifying the legal agreement to do further sampling to help close these gaps. Since this is now a FFA action, is DOE going to be the lead agency, to what extent? Also, how will ATSDR and EPA be involved in defining the scope and methodology that will be used? Jon Richards answered DOE is the lead agency and they will be responsible for preparing the sampling analysis strategy that would be conducted. EPS and the State would have an oversight role and we would encourage community participation and planning of that effort. Mr. Richards stressed that he does not want this group to be misguided and misinterpret that the objectives of that assessment are necessarily different than the end results of evaluating these PHA assessments: that data may be important to reveal new information that ATSDR may want to look at. Our (EPA) objective is to find out if there is existing contamination that should not be there and take response actions to go out and clean it up.

We have investigated Scarboro, others have investigated Scarboro, and we have not seen contamination that would require cleanup.

Kowetha Davidson asked Jack Hanley if he would like to respond to the discussion. Mr. Hanley said he would like to clarify something Lowell Ralston had mentioned. Mr. Hanley stated the Task 6 authors made some suggestions at the end after looking at the uncertainties, and they say, at the end of the document, that for a comprehensive dose reconstruction we would suggest these recommendations. Also, our technical reviewers came out with suggestions if further non-conservative assessment was needed, then these are things you may consider, but our technical reviewers said the Task 6 was appropriate to make public health decisions. They did make recommendations and they were critical because we paid them to be, to find the limitations of the Task 6 so that ATSDR can use the data and the document within those limitations. We presented this material to the subcommittee and the work group and discussed many of these issues at the Subcommittee and PHAWG meetings, but the key is the Task 6 made suggestions if someone was going to follow up and do further non-conservative dose reconstruction.

Lowell Ralston responded yes it was true that they made these recommendations and they also concluded that "since the level 2 assessment (that is the screening analysis formed by Task 6, which is what ATSDR used for the PHA) is just below the criteria with the most conservative assumptions removed regarding the source term and exposure parameters, potential exposures to uranium releases could have been of significance from a health standpoint and should be considered for dose reconstruction." This came directly from the Task 6 report. On the basis of this conclusion they made their recommendations. Also, the steering panel after seeing the results from Task 6, stated "the results of the refined uranium screening analyses found cancer screening indices slightly below the panel's decision guide for carcinogens. The phase 2 uranium screening results are uncertain for a number of reasons: 1) appropriate air and soil monitoring data for the years of highest releases are absent, 2) there are large uncertainties associated with the atmospheric dispersion and transport mechanisms of airborne uranium, 3) information concerning the amounts of uranium released during the past years is very incomplete, because of these uncertainties the panel made several recommendations." Which these are the ones Bonnie Gitlin showed in her presentation.

Herman Cember responded to earlier comments from Peggy Adkins by saying Hanford has uranium and transuranic registries, where they have autopsy data and careful analyses on residents, workers, and so on. Dr. Cember presumes that the things people were exposed to there is the same, to a first approximation, as what the people here were exposed to. He suggests it might be informative to look at the analyses and to have it all published and again it is available from the uranium and transuranic registries with Washington State University (if he recalls correctly).

Herman Cember then addressed Lowell Ralston saying you did mention the K-25 gaseous diffusion plant and the gas diffused is uranium hexafluoride, and I do not know in what form the uranium is emitted but when the uranium gets outs with moisture it is hydrolyzed and Dr. Cember thinks you get about 4 moles of hydrogen fluoride for every

mole of hydrogen hexafluoride. Dr. Cember stated the HF, mole for mole, is very much more toxic than is uranium although the effects are different and short lasting, but he wanted to know if we there data on that and whether it might have affected people who asthma or COPD. Also, did we monitor for fluorides? Mr. Ralston answered he does not know.

Al Brooks made comments about 1984, the year of George Orwell's rather famous book and the year in which the first samples were taken on this project and the greater residential Oak Ridge areas. We have been at it 20 years, and without repeating all the arguments, he would just like to know when it is all going to end. Every time we raise these questions, the neighborhoods they are raised about take a beating. Poor Scarboro has taken a beating over and over and this will extend to any other neighborhoods. Mr. Brooks then went on to comment on some of the sampling situations. Some people say no samples were taken around the Oak Ridge Reservation and that is not true. Several miles east and west of the Oak Ridge Reservation were a part of the background survey. These samples did not show any excess uranium. However, you make the argument that the stuff that came over the hill, did not affect only Scarboro, it went further. If you will look at the map for uranium from Y-12 to contaminate all the residential areas of Oak Ridge, it would have had to travel some distance, but no one ever mentions the fact the air occasionally flowed to the south but it did. If uranium was coming from Y-12 it would have contaminated those areas but those are some of the areas sampled in the background survey and they do not show levels of elevated uranium. Mr. Brooks also mentioned the fly-over data saying this is an example of negative data but no one likes to site negative data. When you are truing to prove something did not happen, negative data is what you have got. The fly-over data shows vast areas of the Oak Ridge Reservation and the Oak Ridge residential area to be at background levels. Then you say it is not sensitive enough. Down at the far end of East Fork Ridge, there is a natural outcropping of Chattanooga shale, which a uranium bearing strata. Mr. Brooks believes it shows up as a three contour spot, but it does show uranium. Furthermore down along the Clinch River, four cesium spots show up and these have been surveyed in a walkover by TDEC and were found to be at half or less of any action level. He stresses the fly-overs are picking up any significant deposit. Every one of those fly-overs, when they get a new one contour interval, they do a ground walkover to establish if it is accurate. So you have several surveys taken over the years, which show in general, the Oak Ridge residential areas and vast areas of the Reservation are indeed not contaminated and yet no one ever wants to refer to these. Mr. Brooks asks why do we not look at the data we have? He urges to be very careful to have some reasonable objective in mind to accomplish some reasonable purpose that is necessary to public health before you subject this whole community to the inspection process and the negative comments the news media will make while doing this.

Herman Cember said he supports the comments from Al Brooks. Dr. Cember also mentioned he was in Oak Ridge in 1949-1950 and he knows for a fact there was a monitoring station at what used to be ORINS, the Oak Ridge Institute of Nuclear Studies. He did not recall exact numbers but knew the levels were always well below the limits for residential areas. They did regularly sample the area around Jackson Square.

Lowell Ralston said he could not agree with them more, that we should look at the historical environmental data. There have been monitoring stations all around the Oak Ridge Reservation dating back to 1959. He remarked EPA has in its possession, public health service records dating back to 1959 and EPA records dating back to 1971. These were contractor reports submitted, on the concentrations measured in air, soil and other media in and around the Oak Ridge Reservation. If fact the EPA has gone through some of these records, they would be helpful in recreating what the air concentrations might have been. Mr. Ralston mentioned he has slides with this information but essentially we found, with respect to soil sampling for 1971, data which show the concentrations in soil they are measuring near some of these air monitoring stations show contamination levels higher in areas other than Scarboro. These areas include the East Fork Popular Creek farm area. Mr. Ralston circulated a slide with this information.

Mr. Brooks remarked that he does not find it surprising that certain spots in Oak Ridge show high uranium. Chattanooga shale existed here; it covered the whole area and was eroded away. At the Kentucky border, the shale goes up to 64 parts per million. Mr. Brooks also mentioned he was told by a very reputable person that in middle and west Tennessee there is 350 million metric tons of uranium in the shales.

Lowell Ralston remarked it is EPA's belief that the fly-over gamma spectrometry surveys are not sensitive enough to pick up depleted or enriched uranium. We are talking U-238, U-234 and U-235 without any of the decay products present. Uranium can be measured with fly-overs but it does not cue in on the uranium isotopes. It cues in on radium-226 and the following isotopes that have higher gamma abundance and are in secular equilibrium with their parents, so there is really no measurement of uranium, it is inferred from their decay products. Mr. Ralston explained when we say the fly-overs are not sensitive enough to pick up depleted or enriched uranium, that is, minus their decay products. We believe that to be a very true statement.

Al Brooks responded the fly-overs pick up uranium at K-25 and also at Y-12. Incidentally every one makes the assumption that Y-12 produced U-235 and that is wrong. They made penetrating shells, casings for nuclear weapons and they were made out of depleted U-238. Y-12 has processed more U-238 than U-235. Every time you say Y-12 put out U-235, you have to know when you were talking about it, which buildings you were talking about and which manner it was emitted. It is not safe to assume that Y-12 was generating nothing but U-235 over its history. Mr. Ralston agreed that Y-12 handled depleted uranium as well as enriched uranium for many different reasons at many different times, but as with anything it is a matter of quantity.

Kowetha Davidson referred to when Mr. Ralston was talking about uncertainty analysis and their screening analysis, and mentioned they were borderline at 10^{-4}. Dr. Davidson asked Mr. Ralston if he thinks this is an action level for public health? Dr. Davidson clarified she was not talking about cleanup, which is what EPA does, but should this be the decision level that ATSDR uses for cleanup if they should set their policy at 10^{-4}. Are you saying ATSDR should adopt this same value used by EPA, stating there is a public health problem at 10^{-4}? Mr. Ralston responded the EPA is not telling ATSDR what they

should or should not use. They are telling us they used their evaluation criteria of 100 mrem/year for non-cancer radiogenic effects and the 5000 mrem in 70 years. We are saying the EPA finds acceptable risks within the range of 10^{-4} - 10^{-6}, when setting their regulations for cleanup or other things, but generally it is an acceptable level of risk. For this specific application, which is a health risk assessment of Scarboro or all of the Oak Ridge communities, what we would recommend would be a dose reconstruction of a similar nature that was performed for radioiodide, mercury and the PCBs, which presented a central estimate of cancer risk with 95% uncertainty bounds, and to compare those risk levels among themselves and let people decide whether it was a significant risk.

Kowetha Davidson explained 10^{-4} is an EPA level for health risk assessment, but what we are doing is a public health assessment which is a little different. You use that for your analysis as though you are saying because you did not use 10^{-4} then there may be a problem here. Mr. Ralston remarked he must not have clarified himself. He replied when I mentioned Task 6 and it was slightly below the screening criteria, 10^{-4} caner risk was chosen by the oversight panel for the Oak Ridge health studies as their point of decision making as to whether or not a contaminant or release pathway deserved further evaluation. Mr. Ralston continued, when saying they did a level 2 screen, which is for a typically exposed adult, the value they calculated, which is the value ATSDR used for their public health evaluation, they just changed it to dose and multiplied by 70/52 years, was just below their risk criteria of 10^{-4}. The value was 8E-5 and because it was so close they did not know whether or not they should make a decision to put uranium off to the side and deal with something else or recommend it for further evaluation. They used that risk level themselves, we did not provide it to them, it just happens to be the same level we use for making decisions. Mr. Ralston clarified he was not saying that ATSDR should use 10^{-4}.

James Lewis mentioned Dr. Sinks indicated that the health assessment will stand if there is no new data found and if there is any new modeling, nothing would change in the health assessment. Mr. Lewis' question is to EPA; is there any new data or something you have that relates to data that may not have been considered or was a part of ATSDR's evaluation? Dr. Sinks clarified they would be open to any data, be it remodeling of existing data or new data. Dr. Sinks said what he keeps hearing and actually saw in one of Bonnie Gitlin's slides, is that every one has been calling for new data that would improve these models, and he said ATSDR concurs. He also thinks EPA concurs. Dr. Sinks continued by saying he is an epidemiologist, not a health physicist or a modeler per say, but he likes to see data that helps us anchor the models and validate them and thinks that would be useful in this situation. Lowell Ralston responded he agrees with that and by new information, ATSDR had all the information available to the Task 6 report team, plus the additional information from the FAMU sampling effort and the Prichard report, plus EPA's confirmatory sampling analysis. Mr. Ralston commented what he just showed, by way of some of the environmental data that exists, is something that Task 6 and others pointed to as a way of confirming the models they used in their analysis looking at that historical data set. What we (EPA) are saying is that we have access to some of that data. We believe that DOE, or AEC before them, might have these

records for the environmental data that would help to inform us if the screening that was done was adequate with respect to measured concentrations in air, water and soil to confirm or not, the estimates that were made about what those concentrations might be in some of those areas. Also, to look at those areas, perhaps, for additional soil sampling to look for that missing uranium.

Herman Cember commented on the values of 10^{-4} and 0.8E-5. He explained the 10^{-4} value was derived by the International Commission on Radiological Protection (ICRP) many years ago. ICRP wanted to see where they should start looking at safety standards and they found that generally speaking people accepted a risk of eminent loss of life or a limb, at around one chance in 10,000. This was done by looking at real things such as skiing accidents, automobile accidents, boating accidents, etc. The committee could have decided any value but they decided lets have an average risk of eminent loss of life or limb at 10^{-4}. This is how that came about and in the case of radiation, it is not that we just observe these deaths but these are calculated numbers. They thought a calculated number like this would be a good safety factor for setting prospective safety standards, not for looking back and counting dead bodies. The 10^{-4} is an arbitrary number that has a reasonable basis in fact, but it was determined by a committee who could have determined anything else. Dr. Cember said to think that 0.8E-5 and 10^{-4} is different is ludicrous. Lowell Ralston responded he agreed and Dr. Cember is right about the basis although he has heard other stories. Mr. Ralston said basically there is nothing magical about 10^{-4}, even EPA does not make decisions at exactly 1E-4, they look at about 10^{-4} and will even consider risks up to 3E-4 because there is uncertainty in all of these analyses. He clarified what he said before was the oversight panel for the Oak Ridge health studies shows 1E-4 as their decision point as whether or not to look at something in our evaluation. Yes it is true that you cannot distinguish between 8E-5 (or 0.8E-4) and 1E-4. Mr. Ralston explained they were at a point of saying well we do not know if this is significant or not, it is just barely at but not tripping over our 1E-4 and it was just a decision point. Dr. Cember is right, EPA does not hold fast to 1E-4, there is nothing magical about that.

Susan Kaplan stated she would like to ORIA to comment on the 5000 mrem screening limit and apologized if they have done this already. She asked ORIA to talk about it in terms of the impact on Oak Ridge. Ms. Kaplan mentioned she has heard comments that people are fearful of reopening rods and apologized if she misunderstands that. She also asked is there any impact from a national standpoint and has the 5000 mrem screening limit been used in other cities or is this the first time. Lowell Ralston commented there is actually three issues. The answer to Ms. Kaplan's last question is that we have never seen these limits before, and I say these limits because there is the 5000 mrem over a lifetime limit that they set for radiation cancer effects and the 100 mrem per year for radiogenic non-cancer effect level. The cancer policy they have, they do not look at cancer risks for radionuclides, which are carcinogens and are treated differently than the way they have policies for chemical carcinogens in the way they evaluate health risks/cancer risks. Mr. Ralston continued, reading from his notes, "the 100 mrem per year for radiation induced non-cancer effects is not applicable for chronic low dose exposures that are experienced from releases to Y-12, essentially it is looking for acute

radiation effects that do not occur until several orders of magnitude higher than 100 mrem in a year." What we said was that we just do not see its applicability here and it should not be used for this screening purpose under those circumstances. The 500 mrem over a 70 year lifetime, as they define it, is an AdHoc value that was made up by ATSDR, and it represents their judgment about observable or statistically significant cancer risks based on epidemiologic studies. The studies are well known to have a detection problem with very small populations of individuals and that is why you need very large populations to be able to see these cancer risks from radiation. Mr. Ralston explained that if you were to translate their 5000 mrem lifetime dose it corresponds to roughly 4E-3 lifetime cancer risk, or 4 chances in 1000, which is about 10 times higher than our 3E-4 interpretation of EPA's upper bound and about 40 times higher than the decision criteria used by the steering panel of 10^{-4}. If you compare it to 10^{-6}, which is the absolute lower limit of what we have for acceptable risk, it is over 4000 times higher. Mr. Ralston added the separation between observable cancers from radiation exposure and where EPA tends to make decisions on acceptable cancer risk is an order of magnitude of 10, which means their observable level is has no margin of safety. You have to have clinically diagnosable cancers before any action would take place and that does not seem to make sense to EPA, when the level that we look at is acceptable as only a factor of 10 lower. Mr. Ralston remarked, this is a question, this is the first time we have seen these values and the first time we have seen them applied under these circumstances. He stated they are not the values we would choose and we find this somewhat troubling.

Kowetha Davidson asked Paul Charp to respond to this with ATSDR's perspective. Mr. Charp needed a moment to prepare so she allowed other questions.

George Gartseff replied that he was starting to get confused. He asked everyone to please put risk in laymen's language. He asked are we talking about absolute risk, like 4 out of 10,000 people will get cancer; are we talking about incremental or excess risks over normal expected cancer cases. Mr. Gartseff asked for Mr. Ralston to please clarify that and continue to keep this is mind during the conversation. Mr. Ralston responded when we talk about cancer risks, we are talking about excess cancers above all other cancers and all other causes of death. This is the incremental increase due to your exposure, in and above, all of the other background exposure that is there.

George Gartseff asked is this the number of cases that you expect to see or the chance that you might see one additional case. Mr. Ralston answered in a population of one thousand people, we would expect that four of the cancers that occur in that population would be due to that exposure.

Herman Cember explained that most of the cancer risk numbers that are available come from the lifetime studies of survivors of the Japanese bombings. He believes the total number of excess cancers in all the survivors, to date is around 500 (a little less). Although there is a positive correlation and a good dose response effect for total number of cancers (and even for several of the individual cancers such as breast cancer, etc.) there is not a statistically significant relationship between the cancer incidence and the

dose. RERF does the best they can with the data they have and come out with a risk factor, but I think for many of the cancers, there is not a statistically significant relationship between cancer incidence and dose and therefore we really cannot get a reliable number for that excess chance of getting cancer. The number of cancers on which all of this is based is around 500, so there is a lot of uncertainty in all of this. Lowell Ralston said Dr. Cember is correct, that is about the number of cases. Mr. Ralston added there 100,000+ people in the lifespan cohort study. It is the largest group of individuals we have to look at the epidemiological effects, which require very large populations to see these effects. Mr. Ralston explained he disagreed though. He said we do see statistical cancers at these levels in the lung, bone, etc. He said at ATSDR's level of 5000 mrem in a lifetime effective dose, which translates to a lung dose of about 42 rem. We do see statistical cancers to the lung at 42 rem from the A-bomb survivors. Mr. Ralston mentioned he had a sheet showing what the statistical relationships are between the cancers.

Kowetha Davidson announced it was now time for public comments.

Public Comment

Al Brooks asked if the committee was through with the extension of last night's activities. Kowetha Davidson answered no, it would be continuing. Mr. Brooks added that he wanted to make a few additional comments before it was finished.

No additional comments.

Additional Presentation and Discussion

Presentation by Paul Charp:

Mr. Charp began by saying there was a lot of concerned raised among members of the subcommittee, as well as the work group and other folks in the city of Oak Ridge and surrounding areas, about ATSDR's use of the 5000 mrem over 70 years. The director of the National Center of Environmental Health and the administrator of ATSDR said that we should establish a panel to review this issue. Four people were selected by Dr. Falk to be on the panel: Dr. David Kleinbaum, Dr. Thomas Mason, Dr. Charles Miller, Dr. Robert Spengler. Mr. Charp and some other people, within the division of health assessment and consultation, requested input from two additional people: 1) Dr. Charles Land, who had been critical of ATSDR's approach to the 5000 mrem over 70 years, 2)

Dr. John Boice, who most people say is the world's preeminent radiation epidemiologist. These six people were given four issues to evaluate and present their findings.

Review of Issues and Findings:

The first issue is "ATSDR does not appear to use the Linear Non-Threshold (LNT) Hypothesis in evaluating public health "risks" for radiation." Mr. Charp explained the panel said this is not true, ATSDR does use LNT and also noted that LNT is the best approach currently available for regulatory purposes because it is highly protective of public health. Mr. Charp commented that ATSDR could not change their findings, only make some discussion, but wanted to add something to the findings. Mr. Charp referred to a supplement of the Health Physics Journal dated June 2004 and explained these are the abstracts of the upcoming Health Physics Society meeting. DOE has a low dose radiation studies program and a lot of the work is being done at Washington State University. Mr. Charp refers to the article submitted by A. L. Brooks, who is very heavily involved in the low dose studies for DOE. The first two sentences of the abstract: "Extensive research has demonstrated that there are different shapes of radiation induced dose response relationship dependent on the tissue, organ, species and the characteristic of the radiation exposure. However, regulations use simplifying assumptions so that the dose response relationships are assumed to be linear." Mr. Charp skips to "Recent research has demonstrated that a low dose of ionizing radiation under 0.1 Gray (which is 10 rads) activates a unique set of genes in a cell." Mr. A. L. Brooks also states "However, there are situations under high LET radiation, such as alpha radiation, that a cell doesn't have to be hit by the radiation in order to have some effect, the bystander effect. A lot of the bystander effects studies are not consistent with the many animal and human studies on internally deposited alpha emitting radioactive materials. This is why the extension of the studies of cellular and molecular mechanisms to tissues and organisms is required before being used to calculate risk or to impact radiation protection."

Mr. Charp stated ATSDR uses linear threshold in their evaluation. Any dose calculations that are performed using the dose coefficients that are published in EPA's Federal Guidance Report 13, which are actually based on the International Commission of Radiation Protection (ICRP) reports that came out after ICRP 60, all incorporate LNT and the dose coefficients.

The second issue of "ATSDR has two screening values, a "minimal risk level" (MRL) of 100 millirem (mrem, a measurement of radiation dose), and a radiogenic cancer comparison value (CV) of 5000 mrem. Why are these different?" Mr. Charp explained the panel responded that the use of both of these are appropriate as used by ATSDR, each measurement defines a different "dose" (amount of exposure) above background and each refers to different kinds of health effects.

The third issue of "ATSDR refers to effective (whole-body) doses and single-organ (partial-body) doses separately. For some, this practice appears to ignore evidence that relatively high doses to single organ, even at levels below ATSDR's whole-body limit of

5000 mrem, produces an increased cancer risk." Mr. Charp explained that the panel found that the ATSDR approach considers the evidence of both whole body and individual doses, in fact you cannot do a whole body dose until you have the organ dose. The panel suggested ATSDR needs a better explanation to the public to clarify the differences between whole body doses and organ doses.

The forth issue of "In discussing the hazard radiation dose ATSDR's method of distinguishing dose levels from risk levels many not adequately report potential health impacts." Mr. Charp explained the panel found it acceptable because in calculating the doses ATSDR incorporated risk and LNT explicitly and implicitly. The panel did suggest further explanation of what the dose is.

Next, Mr. Charp read comments from John Boice, perhaps the world's preeminent radiation epidemiologist. "The general consensus is that LNT is scientifically reasonable for the purposes of radiation protection. While epidemiology is not capable of detecting risk in the low dose domain, say under 10,000 – 20,000 mrem, there are cellular experiments and theoretical reasonings to support a linear response. On the other hand, there are factors of repair, adaptive responses and cellular apoptosis which is essentially programmed cell death. (Mr. Charp explained a cell knows when to die when a certain gene is activated and tells the cell to self destruct.) The actual risk may in fact be negligible at lower doses, but you can never prove or disprove it. In fact when exposures are extremely low, the LNT hypothesis predicts no excess cancer cases occurring even among large groups of exposed persons. The ICRP states that the increment in dose to the exposed group may be much less than one even in a large dose and in some cases it can be zero (ICRP 60, 1991 pp.17). Because cancer risks have not been detected at low doses, such as experience in large populations exposed to levels of high natural background, does not mean the LNT hypothesis is incorrect, it just means the predicted number of cases may be less than one." Mr. Charp specified that Mr. Boice did not mention that the NCRP Report 121 on collective dose says that if the number of cancers that you detect is less than one, then you have to consider that to be zero. Mr. Charp also referred to an email from Jerry Puskin (ORIA) sent to Ron Kathran (retired director of the transuranium registry). Mr. Puskin said in his evaluation of Scarboro, his calculations would indicate there would be 0.4 health effects. Mr. Kathran's response was, then NCRP says that is considered zero.

Mr. Charp noted that Mr. Boice was not very familiar with on why there is minimum risk level and a cancer comparison value. Mr. Boice responded "It seems to me that 100 mrem per year for non-cancer effects following radiation is the dose substantially below the dose where non-cancerous effects in the most sensitive subgroups have been observed." Mr. Charp adds which is mental retardation in atomic bomb survivors. Continuing with Mr. Boice's comments "The comparison value, the screening value, is proposed on cancer effects where there is convincing evidence that some increased cancers at moderate doses (10,000 – 20,000 mrem). If the comparison value of 5000 mrem committed effective dose is the total estimator for the lifetime, then it is similar to the 7 rems (which is 70 years x 100 per mrem for the MRL). If this is true it seems a bit odd that this dose for the comparison value would be similar to the total dose for the

MRL. In other words the MRL based on non-cancer effects seems unusually low, not that the comparison value is especially high." Mr. Charp said (depending on how you interpret it) he is saying our 5000 is too low. Mr. Charp said the bottom line is that our comparison value was reviewed by a series of internal panel members and also by two recognized experts in radiation epidemiology. They all gave us the thumbs up and said it is fine for what you are doing. What seems to be missing in a lot of these discussions is that this was used for screening and not used to base our health effects on. Mr. Charp noted that in the 4-5 discussions that he has had with the subcommittee and the public health assessment work group, ATSDR indicated to them that when they come to a radionuclide in which we are concerned about the particular dose to an organ, such as iodine, ATSDR is going to throw the whole body dose information aside and look at the equivalent dose (not the effective dose equivalent). Which means ATSDR not going to worry about the whole body, we are going to look at the organ doses. Mr. Charp stated with regard to the 42 rem to the lungs, he would rather receive the 42 rem to the lungs than the 300 – 400 rems one may get from the inhalation of background levels of radon and asked everyone to take that into consideration.

Mr. Charp explained that Dr. Land made a mistake in his text given to ATSDR. Mr. Land said "LNT does not imply linearity from 1 Gray or 100 rads down to zero. As you get lower you have a dose rate and a dose rate effective factor that tries to adjust to linearity because there appears to be some type of quasi threshold. However, that threshold is not always there."

Mr. Charp referred to another document in the same supplement of the Health Physics Journal dated June 2004 written by Brenner of Columbia University. The title of the article is *Cancer Risks at Low Radiation Doses, What Do We Really Know?* The article poses the question "What is the lowest dose of X or gamma rays for which there is good evidence of increased cancer risks in humans? The epidemiologic data suggests that it is about 1000 – 5000 mrem for an acute exposure and about 5000 – 10,000 mrem for a protracted exposure." Mr. Charp explains we are at the lower end of where he thinks the epidemiologic data show observable cancers and Mr. Brenner also notes there are a lot of problems with low dose issues.

Next Mr. Charp referred to the World Health Organization, International Agency for Research on Cancer (IARC) and their 2000 report, volume 75, to support ATSDR's contentions. This report deals with ionizing radiation, gamma radiation, neutrons, etc. Mr. Charp said ATSDR realizes that uranium is a mixed emitter and if you consider the entire decay scheme it emits alphas, betas, and gammas as well as some spontaneous fission (which can release some neutrons). Mr. Charp explains in this particular report, the risks for cancers are frequently increased in exposed populations. Tissues that are apparently less susceptible, or in which cancers are induced only at relatively high doses, include the brain, bone, uterus, skin, and rectum. Some cancers have not been linked convincingly to exposure to radiation. These include chronic, lymphocytic, leukemia, Hodgkin's disease, multiple myeloma, non-Hodgkin's lymphoma (reference is Boice), and cancers of the cervix, testes, prostate, pancreas, and the male breast. In the summary, Brenner said carcinogenic effects of ionizing radiation have been studied extensively.

Evidence for causal associations come primarily from epi-studies of atomic bomb survivors and patients exposed to radiation for medical reasons. Epi-studies of exposed populations exposed to lower levels of radiation were considered but were determined to as not informative for their evaluation. The level of cancer risks after exposure to X rays or gamma rays is modified by a number of factors in addition to radiation dose including the age at which exposure occurs, the length of time over which the radiation is received, and the sex of the exposed person. The level of cancer risk also varies with time since exposure.

Charles Washington asked Mr. Charp to explain what all he just said?

Mr. Charp summarized all this means is that ATSDR believes our 5000 mrem is defensible based on a peer review, based on reviews fro other epidemiologists, and is supported in the literature. ATSDR's 5000 mrem is a good screen in what we are looking for as it is related to Y-12. Mr. Charp also wanted to remind everyone that yes ATSDR used a screening level of 5000 mrem, but we found the dose for Scarboro was less than 1 mrem. In the past it was somewhere around 155 mrem.

Kowetha Davidson mentioned it was time for a break and asked the panel if they wanted to continue this discussion after the break.

Susan Kaplan made a motion to continue this discussion after the break. David Johnson seconded it. Only Herman Cember opposed because he wanted to make a comment and was allowed to do so.

Herman Cember explained the excess risk factors that we are talking about, that were reported in the article that Paul Charp just read, are at doses of 1 sievert (which is 100 rads which is 100,000 millirads) and those are for acute doses. For protracted doses we have a dose reduction factor and the exact number they said should be some where from 2 – 10. To be conservative they choose 2 for that and the reason is that we know there are genetic repair mechanisms. If we give a huge dose of 100,000 mrem at one time, it overwhelms the body's repair mechanisms. But if you do it very slowly, that is why we have to doubt dose reduction factor, then those damages or those injuries to the DNA get repaired. Dr. Cember emphasized that we are extrapolating down from a dose of 100,000 mrem to something like 7000 mrem over 70 years or whatever the lifetime is. He said there is a real big difference between there and on that basis he would support the 5000 mrem screening value.

Kowetha Davidson noted that when you are dealing with radiation or chemicals, the body does have a way of dealing with these exogenous agents that tend to have that affect on us. Dr. Davidson mentioned free radicals and said this does not mean it is going to cause an effect because your body has a way of dealing with that. It is only when you overwhelm the body's ability to deal with a noxious agent, whether chemical or radiation, that you have an effect. If you are at a level in which the body can deal with whether metabolize it or compensate for it, then you will not get an adverse effect from that.

Dr. Cember reiterated that when something goes wrong the body will repair it. It is only when the repair mechanism fails that the toxic effect is evidenced. This is true with everything. He mentioned that is the 1500s that Paracelsus said that only the size of the dose determines the poison. Dr. Cember said the same is true with radiation as well as everything else, including water by the way.

Susan Kaplan asked if there is a public transcript of the panel deliberations that we were given the summary of and also the panel's credentials, not just who they work for. Ms. Kaplan also wanted to know if the use of the 5000 mrem limit used in Oak Ridge will set a precedent that impacts national policy and/or cleanup. You keep saying that it has never been used before and what is the impact. What is going to happen long term if we do this? Kowetha Davidson responded by saying we are not setting standards for cleanup, that is EPA. We are working with ATSDR and they do their own cleanup standards. Mr. Kaplan asked can it have an indirect impact. If we allow it to be established and endorse it in Oak Ridge, what are the impacts? Mr. Kaplan said she would like to hear Dr. Ralston's comment on that after the break.

Break

Kowetha Davidson announced a 15 minute break at 2:45.

Continuation of Discussion

Kowetha Davidson noted that the ORIA members had to pack up and be ready to leave by 4:00. Therefore, this leaves a finite amount of time in which we can continue this discussion.

Herman Cember wanted respond to Ms. Kaplan's question on the 5000 mrem limit and put that value in context for which everyone has a gut feeling. He noted that 5000 of anything sounds like a lot. He explained the 5000 mrem is over 70 years is well within the range of the variability of natural occurring background. So if a person were to move to Denver Colorado, they would get much more than 5000 units additional radiation doses. In support of that number, we have never observed any harmful effects from radiation of any kind whatsoever, due to variations in high background and low background. This has been studied in other parts of the world as well as the United States and we have never found any harmful radiation effects within the range of background. Dr. Cember said in his opinion, 5000 mrem seems quite reasonable and is a conservative number to use.

Lowell Ralston said he would restate where the EPA stands on this issue. The EPA is not contending that 5000 mrem effective dose is not a level in which you see observable cancers. We agree for low LET chronic radiation you can see cancer risks at that level and it is effective and the organ doses are going to be much higher based on their weighting factor. For example the example I gave before on the lung of 42 rem, it just happens to be a level that you can see statistically significant increases in cancer risks using epidemiological techniques. We believe you can extrapolate cancer risks below the levels that you see them. It takes a long time to form a cancer over a 30 – 50 year period. There are a lot of things going on during that time that leads to the cancer risk estimates that we have. Mr. Ralston explains uranium is an alpha particle emitter. The lowest dose of an alpha particle emitter is one alpha particle track through a cell and it does scale linearly based on the in-vitro studies that we are seeing in the laboratory at this particular time from the DOE low dose studies. We are also seeing an enhanced effect called an inversed dose rate effect. A dose rate from an alpha particle emitted is just a particle. We are not convinced that LNT, the linear extrapolation is the final answer in all of this stuff. We are saying that the NCRP, who has looked at this issue, also the National Academy of Sciences, the Bier VII committee that we are sponsoring is going to look at this issue again. The difference between high LET radiation, the alpha particle emitters like uranium, and the low LET which are different. We do not use a dose rate and dose rate effectiveness factor for high LET, there is no dose rate other than the emission. It is a national debate. But what we are saying in this particular circumstance is this would not be the value we would choose to evaluate health effects because it is at the observable level; there is no margin of safety. Mr. Ralston reiterated that he is not saying that ATSDR should use 10^{-4} either or about 3E-4 which is only a factor of 10 lower. We are saying that application is inconsistent with the way they deal with chemical carcinogens, which do look at risks below the observable levels; they look at non-cancer health effects below thresholds in fact their level could be looked at as a threshold for being able to observe or not observe cancer effects. We do not regulate based on thresholds, we believe that there are effects below that and others do too. So there is a national debate on the question of linear no threshold (LNT) extrapolation of lists below detectable levels. Mr. Ralston noted that the group could spend days discussing this because there are a lot of experts. He noted Dr. Charp did a nice presentation on a lot of the information we are familiar with and in fact agree with. The paper from Brenner is one that Jerry Puskin of our staff also wrote as well too, which said that about 5 is about right for chronic low LET, but this is alpha. Mr. Ralston summarized the bottom line is we are not saying whether ATSDR should or should not use 10^{-4}, we are just saying that we would not use 5000 mrem over a lifetime. It is just not protective enough from the standpoint of where we would start to say health effects occur.

Susan Kaplan asked Mr. Ralston to define LET. Mr. Ralston defined LET as linear energy transfer, it is that alpha particles are much bigger and doubly charged particles that are shot out of the nucleus of atoms as they decay. It creates a very dense cone of ionization within the cell or biological material through which it passes and causes complex damages. Getting back to repair, it is so important for LET because that alpha particle damage can damage much better with a single alpha pass than low LET beta

particles or low LET gamma. It is just the difference in terms of interpreting the health effects based on the quality of radiation.

Kowetha Davidson responded that when looking at this as linear it is still conservative because even when you consider damage to DNA causing more damage, the body still has a way of dealing with that because it can get rid of the cell. So the linear model totally ignores the ability of the body to repair. Dr. Davidson mentioned she uses the linear model but she recognizes the conservativeness of this model and there is nothing better; it cannot be proven or dis-proven because we do not have the statistical power to do it. What we are saying when we use it is that there is no level in which there is not a risk of an effect. She suggested Mr. Ralston is saying that there is no level in which the body is not able to repair damage that is caused to it. Dr. Davidson said we also have to recognize that sometimes the damage is so severe that the cell dies; when the damage is less severe the body has the ability to repair the damage to the cell. Also some cells just naturally die. Dr. Davidson repeated the linear non threshold model that we use has a built in conservativeness within that model. Mr. Ralston suggested that a lot of time could spent discussing this topic. Mr. Ralston said not having the statistical power to prove something is a problem with epidemiological studies and counting dead people, looking at cell studies where you look at it in an artificial environment (a Petri dish) and trying to scale it up to a whole animal. There are things that we do not know; we have evidence that it could be worse than we think it is or even the risks are lower and right now we do not know. We have so many experts weighing in on this issue from both sides. We look at the NCRP as one of those expert committees that looked at the question of LNT as a suitable model for radiation risk assessment and they said it is better than other things that we have seen but we are still keeping the dialog open. The Bier VII committee will look at all of the data that is being collected from the DOE low dose radiation programs that Dr. Charp was mentioning and is just part of the whole debate. Mr. Ralston reiterated that 5000 mrem over 70 years could be a level in which you start seeing clinically diagnosed cancers and that is high relative to what we would think would be a margin of safety in trying to make any decisions on health effects. This is where we are at on that debate and Mr. Ralston said he did not think it would be resolved in this discussion.

Kowetha Davidson asked Mr. Ralston if he wanted to put up some of his slides before leaving. Mr. Ralston answered he would leave copies of his slides but he did not need to present the information because they only contain the background information that lead to the decisions they made and it would take too long.

Bob Craig conveyed his frustration about discussing the 5000 mrem level for a year and a half. Dr. Craig said he recognizes the EPA does have an issue with it but he does not think it belongs in this forum. He mentioned there being no levels near 5000 mrem in the area and asked the EPA to “please take your debate to a higher level and leave us alone.”

Susan Kaplan asked again by endorsing this level what is the impact on the national debate. Paul Charp stated the 5000 mrem over 70 years is only an ATSDR value. He reminded everyone that ATSDR is not a regulatory agency and cannot tell people they

have to use this. Mr. Charp explained this is a value used at Oak Ridge and at every other radiation site we have looked at across the country. The issue at Oak Ridge was about putting the 5000 in writing. It has been used at Oak Ridge, Livermore, Hanford, Osen (sp?) Avenue radiation sites, some Navaho uranium mines, some Indian reservations where we have had some other uranium issues. It has been used all across the country only this is the first time it has been asked to be detailed to the public on why we used it. It will not affect national policy and national regulations; it is only an ATSDR value for our purposes to determine if we approach a trigger level to do any additional health related aspects as mandated under the CERCLA law for us.

Tony Malinauskas stressed it was important to get back to the fundamental issue that there is no disagreement that based on the data that are currently available, it is perfectly safe to live in the Scarboro community relative to exposure to uranium.

James Lewis wanted to echo what Dr. Malinauskas just said but he also wanted to address what Dr. Craig said. Mr. Lewis reminded the committee they voted to bring EPA to Oak Ridge to give this presentation. He noted the fact that EPA was not brought to Oak Ridge in a timely manner to give the type of presentation that they have given is not our fault. Mr. Lewis said that he thinks if the committee (as chairs, work groups, etc.) learns how to use those positions and push issues hard enough early in the process to get these types of issues addressed prior to endorsing a document, will not have these kind of problems. Mr. Lewis suggested that ATSDR needs to look internally as to why this did not happen earlier and what prevented it from happening. Mr. Lewis said he thinks we should applaud the EPA for coming and giving this presentation. He noted it may not change anything that the committee has done about the impression that we are suppressing information from other people. Mr. Lewis said, we as lay people may not understand but do have the right to hear what is out there and what is being said; we appreciate the comments and it gives us a better confidence in what we are doing. Mr. Lewis thinks that needs to be taken into consideration when we are dealing with this if we want the community to buy what we put out we have to develop that level of trust.

Al Brooks, speaking from the Oak Ridge Environmental Justice Committee standpoint, wanted to speak briefly on the same issue as he did the evening before. Mr. Brooks referred to the EPA Region IV PA/SI schedule slide, which read “currently scheduled after completion of the PHAs,” and then quoted the ORIA presentation, “detailed sampling is recommended in all of the most closely situated neighborhoods and also in a few residential areas at greater distances. Any decision about additional dose reconstruction studies should be deferred until the results of the recommended soil sampling programs have been obtained and carefully interpreted.” Mr. Brooks explained that this means the PHAs will be finished before the available information on any additional dose reconstruction studies are done. He noted this has the potential for going on and on and what he would like to do to stream line the process and bring it to closure is to make the same recommendation made last night for the benefit of the ORIA people who were not here. Mr. Brooks explained that basically it is a recommendation in which each agency will define its roles and responsibilities; a statement which would include the fact that they agree to publicly critique a site as a site but not interject agency

differences and procedures. Those agency differences and procedures would be help at meetings which are not related to a particular site and the agencies will clarify which branch will speak for that agency. Mr. Brooks noted that he thinks there are almost two different recommendations here. The fact that this can be done is demonstrated by the publication *A Citizen's Guide to Risk Assessments and Public Health, Assessments at Public Sites* from ATSDR and Region IV. ATSDR and Region IV agreed upon statements of their purposes, goals, objectives, and indicated the differences and explained why differences might arise in the numbers they use and apparent differences in minor things along the way which might lead to questions. Mr. Brooks suggested that if this had been properly laid out beforehand, if these differences had been discussed and acknowledged by both agencies, much of this could have been eliminated. Mr. Brooks, now speaking for self, mentioned he worked at Y-12 and talked about many things with other people who worked at Y-12. He said that every time there was a disposal problem it was looked into. Characteristic of this was the burning of uranium chips. He noted they were covered in oil so a big plume came off and everybody asked where the uranium was going. What they did was go out and sample the ground under that plume with sticky paper samples and they found that after 100 – 200 yards all the uranium had dropped out and there was no problem. Mr. Brooks reiterated what happens to negative data is that it may be retained out there but there is no way to find it. You can talk to the people who did it and they will say yes we established the uranium did not go anywhere. Mr. Brooks said one assumption that has been made here today that needs to be looked at very closely is that the uranium may have all came down on Y-12 property or very close to Y-12 property.

Kowetha Davidson said she wanted to reiterate the comment that she made last night about the handling of the Y-12 uranium document because she did not think the comments by the agencies have been handled in the best way for this community, and that it has had a negative impact on this community. Dr. Davidson said we have eight additional health assessments that we have to do and the last thing we need is to have this type of problem with the comments. Dr. Davidson recognizes that initially there was a lot of confusion among the committee because of the comments received by region IV and then to find out there were comments received by ATSDR from EPA headquarters and the word that was coming to us was that these were different comments and it did create confusion within the community. The other thing that we have to realize is that there are always going to be comments regardless of what is written, and if you answered all of the comments nothing would ever be published because every statement leads to another question. This is good science and if we are going to move forward, at some point we have to bring closure and acceptance of the response to the comments and this goes for the subcommittee as well as between the agencies. If we cannot accept these differences and move forward, we will have eight incomplete s at the end of this process and EPA will not have any formal recommendations in which to use for their soil sampling. Dr. Davidson said it was her understanding that EPA is going to wait until the PHAs are complete before initiating their soil sampling to be completed in September of 2006. She also mentioned at the rate the committee is going and if it is going to take a year for each PHA, they will not be completed by 2010, and this is why at some point we have to accept the responses to the comments and move on. If not the community

response will be well another federal agency came to town and they did not do what they said they were going to do.

Susan Kaplan said she would like to reiterate again that it took a year to get the EPA issue dealt with. There was a recommendation from PHAWG to ask them to come to a meeting. Ms. Kaplan asked has this really been so painful to have this kind of discussion. We have had other federal agencies to come talk to us. You (addressing Dr. Davidson) brought someone in on the clinic that we have been told that was not even "within our scope." The EPA is a major federal agency and you tried to squelch what they tried to say. Ms. Kaplan stressed we want to hear it and said "maybe we are stupid lay people but we want you to answer our questions."

Kowetha Davidson commented that we have a liaison on our subcommittee as well who can pass these things on in addition to our recommendations. Dr. Davidson thought Jon Richards could initiate the action to bring anyone from EPA to our subcommittee and I would recommend that he do so anytime these issues come up.

Susan Kaplan also asked could we have detailed written responses to the questions that we submitted. Jon Richards said they agree to provide written responses to the subcommittee's questions.

Peggy Adkins said thinking like a taxpayer and if she writing this for a newspaper article, she would summarize it as: we have to get through our eight assessments so we can get to the real work of having EPA dig in with all these extra soil and water samples and extra information. What we are doing just does not make sense when you look at it from that point of view. If we have to get through all of ours before we can incorporate their new information gathering process, then aren't we just wasting a lot of money and a lot of time with our little report since all they are is a temporary thing until we can really dig in. Dr. Davidson said she agreed with Peggy and it would be best if we already had the data.

Marilyn Horton noted that ORRHES does not make recommendations to EPA. ORRHES make recommendations to CDC and ATSDR.

Motion

Peggy Adkins said she would like to make a motion that whom ever is in a decision making process about testing, screening, and sampling, rethink things so it can be done immediately to incorporate the needed information into the reports that we are creating so these will not be just one more piece of paper that says there is no problem in Oak Ridge, which is what the community expects this group to come up with. Barbara Sonnenburg seconded the motion, but with some confusion as to what was said, Kowetha Davidson asked Ms. Adkins to repeat the motion.

Jeff Crane wanted to make a clarification regarding the motion. He said he attempted to make it clear in his presentation but referred to Ms. Adkins indicating this is an EPA study. Mr. Crane stressed this is not an EPA study, there is a DOE commitment to look at any unanswered questions that may come out of the site wide off-site assessments that are being done by ATSDR. The approach to this was after those activities are completed, if there are any unanswered questions that could be addressed with additional analysis or assessment accumulation of other information as to whether there might be areas where data gaps could be filled; not for purposes of completing the PHAs but for validating whether or not contamination may be present off site. Mr. Crane said if it is concluded there is contamination off site and that data is found via those assessments, this may open the door for ATSDR to consider any follow up action there. The strategy is to have ATSDR conduct its global analysis of information and see if there are any unanswered questions. This Y-12 uranium release is focused on Scarboro and we do not believe there is any reason to be concerned with Scarboro or other areas, but there are some limited data gaps. This opportunity to look at the data and collect more samples we might be able to put that to rest, that indeed there are no areas of elevated contamination other than Scarboro. This is the primary focus and it is not an extensive remedial investigation, it is a preliminary assessment.

Peggy Adkins said Lowell Ralston mentioned several things the group in1999 suggested, that we needed better sampling and other things. Ms. Adkins said having this information now instead of later would make her feel more confident about the committee's reports, trying to clarify what she is asking for in her motion. Jeff Crane said the EPA will assemble all the unanswered questions up to this point and make sure that any follow on activities can appropriately address those but stressed again our focus will not be trying to evaluate and redo the dose reconstruction or PHAs. It is to evaluate whether there is any existing contamination that requires analysis and further response.

Kowetha Davidson summarized Ms. Adkins' motion as EPA's screening be done immediately so the findings can be incorporated into the PHA. Ms. Adkins said that summary was sufficient but Barbara Sonnenburg asked is it EPA's screening. Dr. Davidson clarified EPA will be doing the sampling.

James Lewis, in trying to clarify, said that the subcommittee make the recommendation to ATSDR for ATSDR to recommend to EPA to accelerate their efforts in that area.

Jeff Crane said lets make sure this is a recommendation that considers follow on action from DOE. You can recognize that under that follow on action under the FFA, there are three parties involved: EPA and TDEC oversee DOE's actions, so please make sure it is clarified.

With very much confusion, discussion and rewording, Kowetha Davidson summarized Peggy Adkins' motion: That ATSDR ask the proper agencies to accelerate their environmental sampling so their findings can be incorporated into the PHA.

Jerry Pereira commented that he thinks what the committee is trying to do is fine but EPA is here and they are not the ones going to do the sampling. DOE is ultimately going to be the responsible party to do that sampling with EPA and TDEC oversight and review. Mr. Pereira said lets ask them if it is likely, possible, realistic to believe that ATSDR would go to you first and say is it likely that DOE will accelerate doing this. If no then why not and if yes then we have our answer today.

Jon Richards responded part of the answer is do we wait for all PHAs to be completed. This first one has been completed and there is a limited data gap and maybe we do not need to wait until all PHAs are completed. Maybe there is some timely effort that can be undertaken in a limited scope that will be consistent with DOE's existing resources; that is the fair question to ask. To go out and say that we are going to conduct an extensive analysis to support all PHAs is a different scope.

Jerry Pereira said what he does not want to happen is have ATSDR, EPA, and DOE mired in this question for the next six months and that is why I brought it up. Is it something from your experience that as EPA feels the need to advise DOE and TDEC to do these things, is it realistic that they can be done? If the answer is yes then let us just contact DOE and makeup what needs to be done.

Kowetha Davidson said the subcommittee needs to vote on the recommendation.

Tony Malinauskas said in order to identify data gaps you have got to do a PHA. Once you have identified data gaps, that is the time to go to the respective agencies and ask them for additional information and then redo the PHA. You cannot just go and say we have data gaps fill them you have to know what the data gaps are; you need a PHA.

Bob Craig responded that is one of the goals of a PHA, to identify data gaps. Our findings are that we do not believe that the public has been endangered or is endangered but there are some data gaps that we would like to go back and look at and that is what they are going to do. We are done with this one so lets have them go do it but it is not going to go into this PHA, it is final.

Al Brooks - thinks if the committee looks at the motion closely there will be another problem. You use the wording "so the findings can be incorporated into the PHAs", which means you are going to hold up the PHAs until the sampling results are in.

Bob Craig said that was his point. One of the results of a PHA is to identify data gaps and have the gaps filled. Dr. Craig said that is where we are; we have finished a PHA now lets fill that gap.

Don Box said the recommendation is a bit unrealistic. We know there are some voids in the PHA. There may be some portion that we could narrow down to greatly enhance the PHA, rather than asking for a more in depth analysis on everything again. The EPA may know of a prime candidate that we could do to give the PHA more emphasis and more

accurate analysis. We might not have to wait for a completed PHA to do something like this; is this possible?

Jeff Crane noted the central issue out of the Y-12 releases is where did the uranium get deposited and is it present at levels of any concern that would require cleanup. The available information suggests that where we have those data it is not a problem. There is some uncertainty of the modeling of the dispersion and the analysis of where it might be. We believe going forward with that investigation might provide some additional data that could support some of the ongoing PHA activities for other air dispersion type pathways. That is one area that some consideration of acceleration could be appropriate for multiple purposes. Mr. Crane thinks some of the PHAs are already going to be in the context of the ongoing cleanup effort, for instance off-site groundwater. Mr. Crane believes a good question to ask is how do the array of PHAs correlate with the ongoing CERCLA cleanup activities, some of which are specifically scheduled under the FFA, such as groundwater activities for certain areas. There may be an opportunity to collect some limited data to answer the questions that might support ongoing PHAs

The members of EPA Region IV and ORIA left at 4:00. Kowetha Davidson graciously thanked the staff from ORIA for coming and speaking with the committee and also invited them to come again. Dr. Davidson also thanked Jeff Crane for attending the meeting the evening before as well as today.

Peggy Adkins said there is the perception that this is just a procedure to rehash more of the same old information and come up with the same old answers that we have always had, that there could not possibly be any problems related to Oak Ridge. The public perceives that no matter how many meetings or studies we have, we are going to come up with the same thing because we use the same information over and over. Ms. Adkins commented that it was shocking to hear him comment about 1999 and the panel, who put a lot of effort into their work, suggested there were three or more things that needed to be done and we have not done them. We are just doing one more study rehashing the same old thing over and over. Peggy Adkins explained this is why she made the motion she made.

Bob Craig said we went through a serious screening process and did identify the nine contaminants of concern. He said his frustration is there may be something bad out there among those nine. We are looking at these very carefully, ATSDR is doing their job. They are going through available data and looking for data gaps. The two that we have done thus far, we can walk away and say Scarboro is not affected; we do not see an impact on human health from uranium. We have looked at this one and need to get to fluorine and iodine, etc. and find if there is something out there that we do not know about. If we take ten years to get to it then we have failed in our public responsibility.

Kowetha Davidson indicated it was time to vote on Peggy Adkins' motion. The motion is: For ATSDR to ask the proper agencies to accelerate their environmental sampling so their findings can be incorporated into the PHA. The vote was done by raising placards.

There were nine votes in favor, five opposed; therefore the motion did not pass because it was less than 2/3 of the vote.

Continuation of Discussion

Bob Craig noted the point was well made and mentioned Tim Joseph from DOE and the EPA has heard us. Kowetha Davidson agreed that it could still be done and also mentioned the liaison from TDEC has heard us.

Susan Kaplan pointed out this is another vote that fails under the 2/3 rule, and the Oak Ridge subcommittee is the only subcommittee that has been forced to live under this rule. A simple majority is sufficient for all others. Ms. Kaplan said she asked for clarification of this once.

Marilyn Horton said not all subcommittees have bylaws and she has posed this question to committee management. They are researching to find out who and how many committees use the 2/3 rule. Ms. Horton reminded everyone that ORRHES approved the bylaws with the 2/3 vote.

Tom Sinks clarified the purpose of the 2/3 vote was that it encourages the committee work harder to come to a consensus rather than just going with a simple majority. Kowetha Davidson stressed that all key players were present during the motion and she believes the subcommittee has been heard.

Charles Yard of TDEC wanted to clarify the state's position on sampling. Mr. Yard said if the federal agencies involved decide to do the sampling, the state is going to assist in any way possible.

George Gartseff reminded everyone that there is a much bigger picture that we are just a small part of. We got the FFA which is the EPA legal bylaw requirement for DOE to clean up the site. All the funding for that is done by priorities of need and these funding levels have been going on for years, they are adjusted annually and they are difficult to change. I am not opposed to getting new funding but I saw a significant milestone that they have actually added the additional sampling as an FFA milestone. That is a legal commitment. The fact that we want the data sooner is not going to change that in my opinion. The main point is that DOE is under EPA order to clean up the Reservation and that is what the FFA is all about. This has been going on for years and it will continue for years and these assessments are useful information that go along with it. We have seen evidence that it is now going to be modifying the FFA efforts and Mr. Gartseff is confident that as data gaps are found they will be filled. We just heard Jeff Crane say this is not a high priority warranting additional funding or changes in priorities for existing funding. Mr. Gartseff said the committee needs to decide whether it is pursuing an

academic issue verses the very practical cleanup issue for some very real problems that are out there.

Barbara Sonnenburg asked if the big issue is cleanup (and she agrees the committee is not watching at all) why is the committee spending all of this federal money just to produce documents to say there is no threat to the people. So many people in Oak Ridge and even people on this committee know that is going to be the results. Ms. Sonnenburg expressed her frustration with all the trauma, expense an time when the subcommittee could not even pass the last vote.

Bob Craig said he believed it was the difference between knowing and thinking. He mentioned never seeing evidence of contamination off-site but still not knowing.

Herman Cember, referring to the question Ms. Sonnenburg raised, mentioned the cleanup of the Joliet Arsenal (not a radioactive site) in Illinois. All the measurements were made and the people were told there was no hazard to the population but there were elevated levels of TNT. Dr. Cember asked those involved if there was no risk or hazard why were we doing this and the answer was that congress explicitly mandated it to get it back to pristine values in that case.

Marilyn Horton reminded everyone that Paul Charp had to leave and would not be giving his presentation because the committee chose to continue the discussion with EPA. Kowetha Davidson said the committee would hear from Mr. Charp at another meeting before doing Iodine; although he will not be available for the upcoming August meeting.

Work Group Reports/Discussion/Recommendations

At 4:10 Kowetha Davidson announced the start of Work Group Reports / Discussion / Recommendations.

Bob Craig – Public Health Assessment

Dr. Craig apologized that he did not put what has been done since the last ORRHES meeting in his report but he mentioned he has it and would get it to Marilyn Horton to distribute to everyone. He said there has only been one meeting in May since the last meeting and it was an informal discussion of the progress of the cancer incidence review which was lead by Pete Malmquist and others. This was all we did and had no formal resolutions.

Pete Malmquist – Ad Hoc (Cancer Incidence Review)

Pete Malmquist confirmed the cancer incidence report should be ready shortly. It is through most of the review process in Atlanta. We will schedule a meeting toward the end of this month with the Ad Hoc group to go over this report and to see how the presentation will be done by the public relations staff. Hopefully we will have the report by the next subcommittee meeting. However, everyone knows the Ad Hoc group and PHAWG was going to look at it prior to bringing it here to make suggestions and make sure the material is correct.

James Lewis asked Pete for the definition of correct, didn't we write a recommendation that was submitted to ATSDR for how we wanted this done? Mr. Lewis said the last meeting he was in the discussion had to do with whether or not they were going to be able to do this in accordance to our recommendation. I raise that point to as it relates utilizing the census track data to help with the plumes. Are they going to be able to do this in accordance with the recommendation as outlined. Mr. Lewis asked Dr. Malmquist if they have notified him or said anything related to that or what is the problem in that area. Dr. Malmquist said it is his understanding that we will not have it by the census tracks: 1) the state has not provided this and when talking to Brenda at the beginning of the meeting, we may have a problem with "hippa" rules as to whether or not the state can release that data by small census tracks or if it has to be larger numbers. Dr. Malmquist indicated he does not know this for sure but his feeling is that they would not receive the information by the 49 census tracks.

James Lewis said he would like to make the point that our indication was combining those tracks to match the plumes. Mr. Lewis thought that ATSDR stepped up and indicated we were subject to have that type of problem and we thought that the state would work with ATSDR to collectively put that together in those areas so we would not be worried about the "hippa" rules. Mr. Lewis reiterated his question as it relates to the recommendation, has ATSDR told us what the problem is; is it written down, what is the problem with the state and how are they going to meet our recommendation. Mr. Lewis said if they are not going to meet our recommendation, they should have told us in advance. Mr. Lewis said he would like to see this in writing so we know where we are going, what we are up against and not wait until the last minute. Dr. Malmquist responded I cannot answer those questions truthfully until after we get it back. Dr. Davidson asked if the subcommittee had voted on that recommendation (census track). Dr. Malmquist answered that he could not remember exactly what the committee asked for in the recommendation. Ms. Horton stated the recommendation was ORRHES recommends that ATSDR have a community strategy in place and it is presented to Ad Hoc and PHAWG before the ORRHES. Mr. Lewis said that was not the correct recommendation. Mr. Lewis said this goes back 6 – 12 months to the work group when we spun this off. Whatever we put in that recommendation needs to pulled, looked at and validated as that is what they are trying to do. Ms. Horton said she would find the correct recommendation Mr. Lewis is referring to.

Barbara Sonnenburg asked Dr. Malmquist when he was asked to get the cancer data from the state; was it a year and a half ago? Dr. Malmquist said he was not sure but indicated Dr. Craig asked him to be chairman at a PHAWG meeting and unknowingly accepted. Dr. Craig said the data has now left the state and is in review at ATSDR.

Kowetha Davidson indicated ORRHES will expect a report on the cancer incidence review at our August meeting unless there are other unforeseen problems.

James Lewis – Communications and Outreach

Communications and Outreach had two COG meetings in which Loretta Bush was involved. We think Ms. Bush did a good job in coming in and giving us a general overview of some of the communication strategies. Both of the meetings centered around what type of communication strategies we are going to use and the content of the communications. Mr. Lewis said he thought that we have had some problems with press releases again and other documents and whether or not they adequately define for the public what the issues are. He also said the timing of getting input has been a problem and he mentioned last nights meeting as an example of that. Mr. Lewis said there has to be something done to accelerate and look at these types of things. This is two cases, when we dealt with DHEP and George Washington University, where the product presented was impossible for the people to understand. There has to be a reason for the lack of information that is contained in these types of releases and something has to be done in that area if you expect participation. Mr. Lewis posed the question, if we cannot communicate what we are going to do in a meeting how are we going to communicate to science? This area has to be looked into to assist getting information out in an orderly manner. In addition, Mr. Lewis stated even when looking at the agenda for last nights meeting, very few people could determine what it was we were going to talk about and something needs to be done in that area if we expect to draw people to these meetings.

Jerry Pereira said it seemed like there were roughly 60 people present at the meeting the night before. It was unfortunate that ORIA was not here. As far as what the press release says, we got input on that and there was a change based on COG recommendations and we made that change back. Mr. Pereira noted we must be doing something right because nearly every chair was full but also said he is not saying we cannot do better. Mr. Lewis said he would like to provide more details in that area. Mr. Lewis said the press did a pretty good job of figuring out what was going on and the article in the newspaper did a lot to bring people out. Mr. Lewis mentioned the efforts of others in the community such as Al Brooks and others that put out numerous communications but what you see is dependent upon the target audiences. Mr. Lewis said that he did not think we could take credit for the product that we put out. When we were given our 15 minutes to put input into that document, I took that document to the pool room which is on one side of your office (addressing Pereira) and to the Investment Club and passed it out and asked those people to come back to me and explain if they could understand what we were talking about. Now in that meeting (Susan and them) put a couple of words in the document to tweak it and sent it to you. Mr. Lewis said he realizes everyone is going through some

difficulties but when we have a meeting like we had last night, it is to our advantage to explain it to the public and lay it out in more detail so we can get the public out. Mr. Lewis said that overall it has turned out pretty well but in the future we would like to see more descriptive efforts put into announcements.

Jennifer Sargentsen responded she works in the communications office at ATSDR and actually writes the press releases. Ms. Sargentsen explained that just because you write a press release does not mean that the press is going to pick it up. The Oak Ridger is very good about that and she said she has established a good relationship with Paul Parson. Typically before we send out a press release or immediately after, Ms. Sargentsen contacts the press to see if they are interested in trying to set up any interviews. Ms. Sargentsen noted that she would have liked to have sent the press release out earlier, the problem was ATSDR had not established with EPA what the agenda was going to be. Therefore we had to wait until the agenda was established and it went out later than we wanted to. Ms. Sargentsen said she had no problems with sharing the press releases in the future with ORRHES and would welcome comments, but she reminded everyone there is a very limited time to do that. Ms. Sargentsen said if anyone had any questions they could always call her at 404-498-0070.

Barbara Sonnenburg – Agenda

Ms. Sonnenburg said there was no report.

James Lewis – Health Education Needs Assessment

Mr. Lewis said he had no comments.

Karen Galloway – Guidelines and Procedures

Ms. Galloway stated at the last ORRHES meeting, Susan Kaplan read a letter into the record about the EPA controversy and also passed around a timeline that detailed what had happened and when with this issue. One bullet of the letter ended up to be the charge to the Guidelines and Procedures Workgroup, because it was actually a communication issue. James Lewis declined to chair it because he was close to the issues. It was passed to guidelines and procedures. Reading the charge: "The EPA controversy over the Y-12 uranium releases illustrates systematic problems that exist within ATSDR and how it interacts with the subcommittee, attempts to control it, and how it responds to subcommittee recommendations. Unfortunately it appears the organization's public participation process has broken down. Something that threatens to undermine the public's trust in all the organization's efforts in Oak Ridge and not just for the Y-12 uranium releases. A work group should be established to analyze this subject." Ms. Galloway said this work group was not established it was just passed to Guidelines and Procedures. She expressed how much she appreciated all the work group member's work

and said there has been a lot of work done on this. Basically our charge was to analyze the EPA controversy as an example of the systemic problems that have existed in other issues before the ORRHES. Ms. Galloway pointed out that Susan Kaplan worked very hard and developed a case study (which was not included in the handouts.) It is entitled *The EPA Controversy, A Case Study Illustrating Systemic Problems within the Oak Ridge Health Effects Subcommittee and the Agency for Toxic Substances and Disease Registry*. From this the group developed three key recommendations. Ms. Galloway instructed everyone to refer to the Draft Recommendations and overheads handouts from the Guidelines and Procedures Work Group. Ms. Galloway explained the group developed the recommendations and worked on the rationale for the three recommendations. Ms. Galloway continued by reading the Rationale section of the Draft recommendations handout. She then asked James Lewis to explain the work group's first slide mentioning that he had done this very well in another group.

James Lewis began by saying we have had so many conflicts and discussions in the various meetings that we figured out there is a conflict in the way we deal with things involved. We identified the three components in a public health assessment: 1) Exposure Evaluation, 2) Community Concerns, and 3) Health Outcome Data. What we found was that in reference to the debates we have had about whether NOG and COG can be combined. We felt like all of that could be combined under community concerns. We felt like the exposure evaluations, which when we have been in the PHAWG groups, have been delayed. There have been challenges made and people are always frustrated that we are talking about health outcome data, issues that people have with illnesses and sicknesses, when the primary focus there has been on exposure evaluation. Mr. Lewis, referring to the first slide, said ATSDR approaches the slides from left to right: 1) Exposure Evaluation, 2) Community Concerns, and 3) Health Outcome Data. However the at large public approaches the topics from right to left: 1) Health Outcome Data, 2) Community Concerns, and 3) Exposure Evaluation. Because of this we feel like there is a built in conflict when we come to the meetings. So we asked how can we separate these two so they can quit blaming individuals for spending time talking about issues that are not related to what they are discussing. We looked at how you are set up and how you are operating. We went to your guidance manuals and looked at organizational charts and said why don't we align ourselves in accordance with the way that you do business.

Ms. Galloway summarized Recommendation 1 as realigning the work groups. Basically it is a recommendation that ORRHES work groups should be realigned to reflect the basic components of any PHA that is given in ATSDR's guidance manual. If we were to do that, we would have these three basic groups: 1) Environmental Data, 2) Community Health Concerns, and 3) Health Outcome Data. In addition we would probably have another group called subcommittee business to take care of agendas and guidelines and procedures. Ms. Galloway explained the Health Outcome Data Work Group is envisioned to be able to inventory and evaluate existing health outcome data, identify gaps, provide advice and input as to what they think should be done to fill the gaps, and this type of data should supplement and strengthen each remaining PHA. The lack of

health outcome data (or consideration of this data) has been a source of contention up to this point.

Bob Craig asked Ms. Galloway to clarify what is meant by health outcome data. Ms. Galloway answered that she understands they can only consider health outcome data in registries and there are very few and we are way short of that type of data. Bob Craig asked doesn't this fly in the face of the process that we have gone through to identify contaminants of concern. Then when you do identify a potentially impacted population, then you go look at the health outcome data. Dr. Craig asked how many cancer registries there are and received an answer of one. He stated there are a lot of outcomes that we want to look into at the end of the PHA process. He stressed there are a lot of things we want to find out about and not just cancer. James Lewis said if you go back and look at the flow diagram that was put up for the PHA and ask what information is going to be collected in the area of health outcome data. No one has formally come to this group and reviewed what is out there as it relates to the state, what is available, and what can and cannot be used. What we hear is off the record, that there is a cancer registry and that there may be a birth defects registry. We want to know who pulls all of the information together and tells us what is available, these people have reviewed it and how it is subject to be used. A number of the challenges and the questions that we get in these meetings are associated with things such as illnesses or sicknesses. We feel like the focus needs to be taken away from the technical evaluation and the focus placed on health outcome data. If people have questions about that or the registries or additional epidemiological studies, we need to have a category set aside so when the public comes in they know what work group they need to focus on, collect that information, and then process it through the system. We can put some emphasis on what it is they do in that area of evaluating health outcome data. James Lewis said it is very similar to what I think we did with cancer and asked what else is out there?

Herman Cember said the other thing that is out there is the causes of death on death certificates. He explained that has to be related to the person's age, sex, how they lived, and other demographic information and it would be difficult to get. Assuming the cause of death averages out over time and other things, we can see whether the causes of death are more or less than expected from another community of similar demographic constitution. Dr. Cember said the ordinary population would understand this better.

Sandy Issacs introduced herself as chief of the Federal Facilities Assessment Branch. She said if we go back to Superfund when it laid out what should be in a health assessment, it says we should consider five elements:

1) the nature and extent of contamination – we had a lot of discussion about data that is out there and certainly with the data that is out there and certainly with the federal facilities assessment agreement, we depend on DOE's lead with the state and EPA's oversight to provide us information as to where the contaminants are.
2) susceptible populations – (where are the people) these are in our PHA, work groups gather information from people with the knowledge of Oak Ridge: contaminants, practices of facilities, etc.

3) the completed pathway – here are the contaminants and here are the people. If there is contamination but the people are not exposed then as far as a health assessment we have completed our evaluation from a public health perspective.
4) Based on CERCLA if there is a completed pathway based on the levels of exposure, what are the plausible health outcomes associated with that level of exposure - Ms. Issacs noted this step is a very important difference between EPA and ATSDR. We look at the epi and the tox data, the studies to say if you are exposed to contaminant X at this level, what do we know about that.
5) Are there existing morbidity and mortality data available - That is how we use the health outcome data. Unfortunately often it is very limited. Tennessee is struggling to make sure they bring up even their cancer data registry to a quality that we would like.

Ms. Issacs said it is not ATSDR's mandate to bring all those registries up to snuff. We are site focused. In talking with Dr. Sinks, we might can facilitate getting concerns to the right local, state or federal agency. There is a cancer group in CDC with a budget of six million dollars and a lot of that goes to the state to help them work on their cancer registries. When ATSDR does not have a completed exposure pathway we do not look at health outcomes. Mr. Issacs reminded everyone ATSDR is a very small agency. The CDC branch that looks at cancer gets ten times as much money as our whole agency does, therefore it is not our mandate. This is hoe the health outcome data fits into the health assessment.

James Lewis said we heard that same argument when it came to looking at the cancer data. The group got together and asked is that data in the registries. We asked you to go forward and do that. Referring to ATSDR's guidance manual, Mr. Lewis mentions the community concerns and at the top it says completed exposure pathway. Mr. Lewis said if we start a program with this type of concept in place and the community rallies behind you and the concerns are great enough in a particular area; we are not asking you to go search and try to make health outcome data. We would like you to tell us what is available out there and what have you reviewed. If people have issues and questions in that area they can focus them to a particular work group where maybe you have provided the answer so they can come but do not disrupt the process that we have when we are trying to do exposure evaluations. Mr. Lewis said it is our belief that if you establish a focal point for dealing with things like that, regardless of whatever your process is, they come to that group and we share with them the information that is there and that is how it is going to be handled. Taking it out from the umbrella of PHAWG which we have heard numerous complaints about staying focused on the agenda. When someone comes in and disrupts the agenda, everyone gets upset and angry. All we have said is lets create a group that could funnel the information that you are providing us to direct people to the appropriate work group. We think this is simplistic and would cut out some of the roadblocks.

Bob Craig responded to Mr. Lewis by saying he has been at most of the PHAWG meetings and he does not recall the scene Mr. Lewis is describing. Dr. Craig noted the discussions were wide open. We had an agenda that is true and never followed it. The discussion went where the discussion went. James Lewis stressed he thinks some people have felt intimidated with the technical expertise in a room. People have a comfort zone when they bring up an issue and the style in which it is dealt is important. If they can find a place that they can carry those issues, where someone can document them and collect information in an organized manner, then it can be presented back to the subcommittee for processing and handling. If you have a focal point they can come to that group with the correct focus and I think that is what they want to have less fights going on.

Pete Malmquist mentioned he has a problem with some of the definitions of health outcome data. Dr. Malmquist's concern is that some of the data should not be handled by this group at all. This is a problem for the Tennessee Department of Health (TDH) not us, unless it is directly related to one of the contaminants. We should not worry about how many of cases of something there is in the city of Oak Ridge. That is a concern of TDH if there is an increase. We are worrying about whether or not a contaminant is causing a public health problem in this area, and then we work on it. Anything else (such as obesity) is not a concern of this subcommittee; we cannot handle every disease that comes along.

Karen Galloway said that Dr. Malmquist is right and she apologized for the wording in her first slides if it caused confusion. She noted the second page refers to the ORR and those contaminants are the only ones of concern.

Herman Cember asked if the public knows which health affects are associated with this. He stressed the general public does not know which effects are associated with radiation and which are not. He gave an example of how people think all leukemia is associated with radiation when in fact chronic lymphoma is not.

Ms. Galloway agreed with Dr. Cember and said the public does not know who we are, what we do, or what is associated with the contaminants. She also stated we have not done a good job in communicating and involving the public. There is more than one issue. The purpose of this is to bring about an easier way for us to complete the remaining jobs and also involve the public if that is possible, but also to take out the level of frustration with the work groups and ORRHES.

Bob Craig responded that he agrees 100% when we have a completed pathway. If we can see that we have excess fluorine over thirty years and we are able to show that there is a population downwind, then we better go look and see if there is asthma in that group, but until we have a completed pathway that will not be done. Dr. Craig referred to Ms. Issacs comments and the lack of money to handle uncompleted pathways.

Peggy Adkins said she interpreted the first slide as showing the three major categories of contact that people might have with this group. She said Mr. Lewis is right when he said

the public works from right to left and we work from the left to right. She expressed this was a wonderful explanation. Ms. Adkins also referred to Dr. Malmquist mentioning that the obesity problem is not a concern, but there are a lot of people who wonder if the obesity problem is related to thyroid problems that are related to iodine or other contaminants and it could be related. There needs to be a place where people can connect with this group and maybe we have not done any research on it but could tell them if there has been anything that we have found and if not we can put it on the list to consider as we do our work.

Jerry Pereira said to keep in mind the first two recommendations in the handout are really internal ORRHES decision making processes. Any work group that is formed is formed by ORRHES and there has to be a charge for that work group, basically what you have been doing, reporting back and so on. Mr. Pereira said he thinks the first consideration in the first recommendation of forming a new work group is to give a specific charge and expectations for that work group. Regarding the second recommendation Mr. Pereira said the bylaws were established internally by this body and can be changed by this body. He asked if these recommendations were meant for ATSDR decision making or for this body to be made. The committee told Mr. Pereira that they were not meant for ATSDR decision making.

Public Comment

At 5:00 the public comment period was announced but there was no public present.

No comments.

Continuation of Work Group Reports/Discussion/Recommendations

Charles Washington said he thinks this speaks more to process. He recalled three people who came to the committee in the past, talking about iodine, and said we did not know what to do with these people. These three people said they could get many more people with thyroid problems and we did not know what to do. So whenever you have the meeting we will invite them back, however we did not get their names because we did not know what to do. Mr. Lewis was right that chart gives us a road map as what to do when they come to us. If we find out they have been affected by the known contaminants then we can move on from there.

George Gartseff said he has a couple concerns about the health outcome work group as a stand alone. One of the larger concerns is that we may be creating a bias. It is almost if

we are presuming that the outcome is related to the site whereas there is no proof of that and we are trying to establish whether there is a link or exposure pathway. Another concern is that we are opening the door to anyone and everyone coming in with every concern they have looking for compensation. Are they worker exposures, public exposures, or environmental exposures and there is no way to screen that out. If you think the 18 month discussion on the 5000 millirems was fun, wait until we get to all of this. Mr. Gartseff noted we do have our community concerns database and we are able to collect this stuff now. We have collected health concerns and that is how we have the Ad Hoc group established on the cancer data. We are not ignoring it now.

James Lewis said he thinks the problem still exists today. Mr. Lewis does not think anything is being done differently other than identifying a place where people can come with issues. If we understand what it is and people come there, we can tell them that this is not what we are dealing with and it helps the entire group. Mr. Lewis said if we invite people to a meeting and it is something unrelated they do not come back. If you bring people to a meeting and say we have heard that before and here is the response but we do not do that, then it helps the public understand where we are. We (PHAWG) are not trying to create anything new, we are just taking advantage of what we have learned and are trying to help people understand. Quit bringing them to a group that is not designed to address the issue and give them a place to go.

Kowetha Davidson commented that ORRHES has established the work groups, but ORRHES established the work groups to work with ATSDR with the PHAs. She stressed this is what we do. We work with ATSDR, we do not work against them. Dr. Davidson asked if the reorganization of the work groups had been discussed with Jack Hanley (the site lead) because we still have to work with them. Karen Galloway answered to her knowledge it has not been discussed with Mr. Hanley. Ms. Galloway noted they brought this directly from the guidance manual from ATSDR. Dr. Davidson said a guidance manual is guidance and is not regulation and everyone will use guidance differently.

James Lewis said we never got the concerns from the nine counties (referring to the concerns Mr. Gartseff mentioned.) That is a failure to capture those issues and concerns. Mr. Lewis also referred to a meeting in which Herman Cember was present and Ms. Galloway was shocked that we are not looking at birth defects registers. There is something wrong here when you have been on a committee for some time and do not know these things. There is something wrong with the organizational structure. The information coming out of this work group is would either supplement PHAWG or go to ATSDR just like any other concern.

Herman Cember said it is his belief and the belief of his circle of friends in this business that the number one concern of the public is birth defects in the context of radiation. The number two concern is cancer. Dr. Cember indicated this is an opinion not a scientific study.

Karen Galloway noted they were discussing the concerns database at the time. She said Dr. Cember had asked a question about birth defects and there are no concerns in the Oak Ridge concerns database regarding birth defects. She thinks that summarizes the quality of the concerns database. Efforts to communicate with the public through focus groups and through the needs assessment failed and so we are left with concerns that have been brought up in our meetings almost exclusively.

Susan Kaplan asked where is the concerns database. She mentioned she has never seen any analysis or printouts. What do we have; is it just on a computer and no one has ever dumped it. Dr. Davidson said Mr. Hanley had discussed it with the uranium PHA and the different categories of concerns and this information came from the concerns database. It was in the Y-12 report and that information is being used.

Barbara Sonnenburg asked Bill Taylor if he would object if committee titles were switched and could ATSDR still work with DOE? Mr. Lewis asked if Mr. Taylor would also speak about the concerns database.

Bill Taylor told Susan she may have missed Jack Hanley's presentation on the concerns database at an ORRHES meeting. He discussed what it contains and how we use it. Mr. Taylor offered to pull up that information for Ms. Kaplan. Mr. Taylor then said he could work with the work groups however the committee arranges them.

Kowetha Davidson clarified to Ms. Sonnenburg that her concern was Jack Hanley, the site lead for the PHAs. James Lewis said that he has had discussions with Mr. Hanley many times. Mr. Hanley told him that as a general rule, we do not do anything in this area unless we have a completed pathway. They prefer not to get involved with this other side. If concerns are so great in a particular area, it may cause ATSDR to look to see what is there, but it has to be something that comes from the group. Mr. Lewis said in his opinion, if we have questions with birth defects registries and you are saying that you are not going to do it unless you see a pathway, all we can do is pull the information together and present it to you. If you decide not to do it then that is fine, we just want to collectively pull it together. Mr. Lewis said that Mr. Hanley indicated that we should not be doing the cancer registry. The site lead is very aware of this issue and Mr. Lewis said there has been a reluctance to say this is not the way we do business. Mr. Lewis said we are just an advisory panel and stressed we are just trying to pull this information together for others to decide.

Break

Kowetha Davidson announced a 15 minute break at 5:15.

Continuation of Work Group Reports/Discussion/Recommendations

Barbara Sonnenburg requested the committee wrap up the ongoing discussion. She proposed making a motion and bringing it to a vote.

However, Kowetha Davidson said before doing so she had to make a comment. Dr. Davidson directed the groups attention to the Draft Recommendations handout from the Guidelines and Procedures Work Group. Dr. Davidson said her concern deals with the text of "the work group's concern of an appearance of an improper relationship and undue influence existing between the Agency and the ORRHES chair." Dr. Davidson said where she works, an improper relationship refers that the person has been unethical and she takes issue with this. Dr. Davidson said she has expressed to this subcommittee before that she does not see ATSDR as her adversary; she sees them as someone whom she works with and that will not change. She said if that is seen as an improper relationship then there is nothing she can do about it. Dr. Davison said it was uncalled for to put a statement like this out there and not question her about it first. She stressed she is not unduly influenced by anyone. Dr. Davidson is concerned about how this ended up in a formal document for ORRHES.

Karen Galloway responded this was a statement that the work group felt needed to be said. Ms. Galloway added she thought this was something that certain individuals had discussed with Dr. Davidson privately. Ms. Galloway said the work group felt it needed to be said but said personally she would be willing to strike it from the text. Dr. Davidson clarified that this issue has not been discussed with her by anyone privately.

Dr. Cember added he has seen no evidence in support of this statement.

Dr. Craig remarked the statement was not only un-business like, it was also unprofessional to say that kind of thing in public. Especially regarding someone who has worked so hard and there is no evidence of that.

Barbara Sonnenburg requested that item be removed from the text. Mr. Lewis said that if the committee wanted to do that he does not have a problem with that. He clarified that the perception of an improper relationship was not only addressed to Dr. Davidson but also the way things have been organized and managed. Mr. Lewis said this is not an attack on your integrity. One of the examples is why we wanted a public meeting to discuss the EPA issues. He suggested Dr. Davidson needs to learn to champion the minority's side and not lean so much to the support of the Agency's position. Mr. Lewis said when we try to address issues internally, such as the way we communicate, we have even argued about the minutes. Mr. Lewis stated he does not think the committee needs the detailed minutes and thinks they are being used to slam people. He said if you read the minutes in their entirety they are an honest representation of what is going on. We are asking everyone to look at themselves and determine how we look in the public's eye.

Mr. Lewis noted that if we took the time to look back at some of the cases, it sometimes appears you (referring to Dr. Davidson) are more aligned with the agency's philosophies, policies, skirting issues, etc. and this is the ideas conveyed in those groups. He said Dr. Davidson may have a different understanding of that but the intent is not to. Mr. Lewis said this can be dropped but the point has been made that we need to look at how we are doing. Mr. Lewis commented that some people used to think he was too close to Jack Hanley and that was an improper relationship. Also some groups appear to be too close to certain issues and it does not appear that we are being independent. Mr. Lewis thinks we need to get back to addressing that and look at how we are interacting in order to being about some cohesiveness in this group.

Susan Kaplan noted that a piece of private correspondence was distributed to the group and went to Bill Taylor and then evidently went to Atlanta with the understanding it was within the Agency. It then ended up with a member of the public and everyone wondered how he got it and why did he distribute it to ORRHES. Ms. Kaplan implied this could also be seen as an improper relationship and cautioned everyone to be careful about whom they are passing information to. She said maybe it is the assumption that anything that goes into the office is free reign to everyone. If it is I am warning people be careful with the information you share with the office and other folks because members of the public get it.

Mr. Lewis asked to share an example. He said the last time we tried to put a recommendation out that started with me and then Dr. Cember modified about getting EPA here and whether or not you (referring to Dr. Davidson) were going to go before the press as outlined. Mr. Lewis said we have been chastised so many times by going around the system. ATSDR did not deliver on that recommendation as written. They did not come back and tell us anything in advance of that. Mr. Lewis said when we see ATSDR not following a recommendation, not writing things down or not explaining to us the logic and the reason, he expects to see Dr. Davidson step up and say that was not in accordance with the recommendation. We would appreciate when we put out a recommendation that you tell them they did not meet the requirements of that recommendation. Dr. Davidson responded to Mr. Lewis and said that her not telling ATSDR that they did not meet requirements of a recommendation does not address the issue of an improper relationship. Dr. Davidson added that comment should be explicitly stricken from the record because she does not like anyone questioning her integrity or ethics without coming to her personally.

The work group agreed to remove this comment from their Draft Recommendations handout while leaving the rest of the text unchanged.

Karen Galloway wanted to continue by addressing the community health concerns group and what we envision it might entail, for the record. Presently a person with an ORR related health concern has two places to take those concerns: PHAWG and ORRHES. The focus of both groups is exposure evaluation and this may leave individuals frustrated. Their concerns may not be given the attention they deserve and Ms. Galloway noted that everyone has seen examples of that. This new group should be dedicated to providing

that necessary attention to those health concerns associated with the ORR. It would also allow the member of the exposure evaluation work group to stay focused on their task.

Dr. Cember remarked Ms. Galloway only mentioned two places in which they could take their health concerns, but Dr. Cember thought most people would take their concerns to their physicians.

Dr. Craig said if they have other questions they could take them to the State Public Health Office.

Ms. Galloway reminded them they are concerns related to the ORR.

George Gartseff commented he has no problem with reorganization to make things more efficient. He added he must confess he is not intimate with the guidance manual. He referred to Figure 2.1 Ms. Galloway used in the slide presentation and handout, and asked does it really reflect the process of the risk assessment that we should be organizing against and suggested that may be a better model than the image of the three circles. Mr. Gartseff explained restructuring against these different functions will not necessarily give us the outcome we want. We did have a health needs assessment work group, yet that is sited at the number one failure of this subcommittee.

Ms. Galloway responded that is absolutely correct and it is still impacting us. It complicates our problems now since we has still not given the public a voice.

Peggy Adkins addressed Dr. Cember and said he has not had the opportunity to be doctored in this area. A lot of people in the community are especially challenged to get medical help because of the stigma involved with a past doctor who was belittled and lost his practice for finding a correlation with the metals in Oak Ridge and certain kinds of cancer. Ms. Adkins explained there is a stigma here and all the doctors are not open so the public does not necessarily trust all of the doctors in this community and they do not know who to trust. Ms. Adkins mentioned she personally had two doctors drop her when her labs came back showing high levels of metal contamination because they will not be connected to anything negative in Oak Ridge. This special problem that you may not have been aware of make this third group, this third box (referring to Figure 2.1) very important and relevant because people need a place to turn, compare notes, and find out where they can get medical help. Dr. Cember clarified that he did not mean to delete those, just to add a physician or nurse practitioner to it.

Sandy Adkins stated she thinks part of the frustration ATSDR is facing is we have some groups set up that have very focused purposes like the health assessment guidance manual. So we can be transparent and discuss issues, we have to have a forum where we can have very technical discussions. She said since the three circle in that slide were pulled out of our health assessment guidance manual, she hoped she explained how one leads to the next. Ms. Issacs stated she did not see all three of those, relevant to the health assessment process, where ATSDR would interact with all three. She said truthfully their health assessment has to start on the left-hand side and she sees the health

assessment work group as the one on the left side. What she sees the other two doing is trying to struggle with a need that exists here on giving out information about what we know regarding the links between disease and contaminants. This can be done as health education independent of ATSDR's health assessment process but it can eventually feed into it. Ms. Issacs gave the example, if someone comes into this group and says I am a diabetic, what do we know about the links between being a diabetic and environmental exposures, it is an education issue. You look at what is published and decide if there is a link or not and give that information to that person. She noted she does not think ATSDR is really taking the health assessment process and dividing it into three, they just focus on the left hand side and that is what the law says. ATSDR is seeking a way to try to give information about what is know about some diseases. She noted when trying to use registries, there are concerns that other people in different areas will have nothing to do with a site perspective.

James Lewis said Ms. Issacs said health education rather that health outcome data, and this is really what our group was saying. Mr. Lewis said he personally did not mind going down to two groups because health education is really dealing with concerns. In this phase we are doing two things, we are focused on doing the exposure evaluation or the PHA and trying to handle concerns and issues. The majority of the concerns and issues have to be addressed via a health education program. So where is the health education group and people to assist us with that; they never completed their task. Mr. Lewis told Ms. Issacs that in his opinion, they need to address these issues, educate people to tell them what we know and suggest what can be done by the committee so we can move on with our lives. Ms. Issacs responded that we are all frustrated because people come in and we would like to give them answers. The EPA is depending on us for this process so that we do not delay their 2006 goal. She said she believes there are educational needs here but does not see how ATSDR can do that.

Bob Craig responding to Ms. Issacs frustrations, said he tends to think when the committee is going down the list, there is a role for health education that would state here are the potential outcomes and what we do know about this contaminant of concern. This way we are ahead of the game if we do get a completed pathway and then people can come in and talk to that group. Dr. Craig said he thinks Bill Taylor is an expert when it comes to the health effects of uranium, fluorine, iodine and mercury, etc.

David Johnson said he is hearing health education and health outreach referring to people coming in. He asked why can we not go to the people. If you want to help and educate people you go to them, such as symposiums which do not really cost much because you have health care providers that will collaborate with you to do just that. Mr. Johnson referred to Dr. Cember mentioning people's doctors, but reminded everyone that a lot of people do not have medical insurance because of circumstances beyond their control. He noted they may go to the emergency room and hospitals are looking for an alternative to minimize that. This would be an excellent time to address the needs of the public. Empowering individuals will allow the committee to get more for their money without a lot of stress, but would also be self gratifying as well.

Herman Cember noted that church groups, Kiwanis and Lions clubs are always looking for speakers and in those meetings are talking to the representative populations. Dr. Cember said the committee should promote that type of outreach instead of waiting for people to seek out other sources.

Motion

Barbara Sonnenburg made the motion to adopt Recommendation #1 (from the Draft Recommendations hand-out) that "ORRHES work groups should be reorganized as follows: 1) Exposure Evaluation Work Group, 2) Community Concern and Communications Work Group, 3) Health Outcome Data Work Group, and 4) Subcommittee Business Work Group."

Charles Washington seconded the motion.

Herman Cember clarified that this was a recommendation to ORRHES and therefore it requires only a simple majority to pass.

The motion passed with nine votes in favor, five opposed.

Kowetha Davidson said the next item would be to establish charges for these work groups. She summarized the committee now has four work groups but have no charges for them.

Mr. Lewis said the group can look back at the rationale in the handout and consider what Dr. Malmquist has done in one particular area and set that up as a "Ad Hoc" committee because it is basically the same type of thing. He noted the only difference is that issues other than cancer would come to that group which is a simplistic way of handling and managing all of that. Dr. Malmquist recommended the writing of the charges be passed back to the Guidelines and Procedures Work Group to be brought up at the next meeting because of the lack of time in this meeting. Several people verbally agreed with Dr. Malmquist but Tony Malinauskas asked if the motion meant that all work groups no longer exist. Dr. Davidson said yes, they no longer exist.

Susan Kaplan asked if the committee could make a motion that PHAWG continue under the exposure evaluation work group temporarily until the group comes back to the next meeting. Also that COG should go under community health concerns and communications work group temporarily. David Johnson summarized Ms. Kaplan's comments as meaning all work groups continue with business as usual until the next subcommittee meeting. Ms. Kaplan agreed and recommended that a motion be made to postpone the previous motion until the next meeting.

Pete Malmquist modified his motion to say the present work groups stay in existence until the next meeting and the Guidelines and Procedures Work Group will come back with the charges for the new work groups. James Lewis seconded this motion.

The modified motion passed with 14 in favor.

Continuation of Work Group Reports/Discussion/Recommendations

Karen Galloway specified the next step is to modify the bylaws to allow the subcommittee to select or remove work group chairs. This democratic process in which every ORRHES member has a vote will allow us to effectively manage and complete our remaining tasks and bring about a better consensus. We may also consider electing co-chairs for every work group so that it will not overwhelm any one person and so that the work group can continue if the chair has a problem.

Motion

Barbara Sonnenburg asked if that last statement was a motion and Ms. Galloway said she would make it a motion. Barbara Sonnenburg seconded it but asked to make an amendment if allowed. Ms. Sonnenburg added if this motion should pass it would not take effect until the next meeting. Dr. Davidson said she did not think Ms. Sonnenburg could make the amendment.

David Johnson suggested the subcommittee table this and send it back to the Guidelines and Procedures Work Group to clean up because of all the grey area at this point in time. Mr. Johnson said there needs to be some additional research with regard to the bylaws and constitutional procedures in terms of the co-chairs and what their responsibilities are, rather than just rushing to vote on something.

Barbara Sonnenburg said she is not saying whether the people should pass it or not, she thinks there should be a meeting before it takes place because it is a bylaw. Ms. Sonnenburg noted she is not sure about what the bylaws say about changes to the bylaws and would like that to be presented before they are voted on. She stressed it may require notification before a vote. Dr. Davidson said there is a notification and when changing the bylaws you have to write your specific wording for the bylaw that you are changing and bring that before the subcommittee. Dr. Davidson clarified that is not what this is. In addition to that if you are going to put in a change of electing chairs, you have to put in a procedure for how the entire process will be done even before voting on anything. If not

you are going to end up with a situation like we just did and end up with something but not know how it is going to proceed.

Barbara Sonnenburg said assuming that we have four new committees at our next subcommittee meeting. We are going to need four chairs and the corresponding co-chairs. Ms. Sonnenburg made a motion that we modify the bylaws to change the selection of the subcommittee chairs from Dr. Davidson to the entire group by nomination and vote. Ms. Sonnenburg added that she does not even want it voted on tonight. However, Dr. Davidson responded this is something that does not even require a vote because when the body that is responsible for making a modification to the constitution, that group should make the modification and bring it back to the subcommittee to vote on. She clarified you do not have to ask the subcommittee if you can make an amendment or a change to your constitution. That is a responsibility of the Guidelines and Procedures Work Group; therefore they should come back to the subcommittee with the exact wording of the modification to be voted on.

Pete Malmquist asked isn't the motion to table on the floor and it has been seconded. Dr. Malmquist said if he remembers correctly the motion to table is not debatable. Call the question.

Dr. Davidson apologized and recognized the motion to table the recommendation was moved and seconded. The recommendation was tabled with nine in favor, five opposed.

Continuation of Work Group Reports/Discussion/Recommendations

Karen Galloway continued with recommendation number three. "ATSDR should provide a technical facilitator to assist ORRHES at future subcommittee meetings and highly technical and/or sensitive discussions. ORRHES should have input in selecting potential candidates for that position."

James Lewis said there was a good example of that in the meeting last night. He explained last night we brought in a facilitator to handle what we thought was going to be a pretty contentious meeting. However we did not get to the meat of the technical issues, there was not a lot of need for a facilitator. When you have meetings with sensitive issues, we need to have the capability available to us to bring in these individuals that understand what is going on that can assist in explaining the issues to us. This depends on the meeting and how it is being handled. Mr. Lewis said he thinks the committee is making some improvements but we need someone that helps the lay public to clarify the issues and facilitates issues on their behalf.

Tony Malinauskas said the Chair really acts as the facilitator of our ORRHES meetings. Dr. Malinauskas said he sees no need for a Chair and a facilitator for meetings such as this. Bob Craig added DFO as well. Dr. Malinauskas said he takes an exception to the

statement that our meetings are getting more contentious; he thinks they are getting more collegial. He said the fact that you disagree with me does not mean I am being contentious.

Motion

James Lewis said sometimes we get bogged down on procedural issues and a facilitator can help us work through some of these things. When you have a good facilitator they get involved early in the game, they figure out what is going on and they know the issues and they move this kind of stuff forward. We need this to move us along so we are not sitting here arguing whether technical or just for meeting management.

James Lewis made the motion to have the ability to have a technical facilitator for key issues. Susan Kaplan seconded the motion.

Pete Malmquist commented that he thinks the problem with technical issues is that the speaker is either not prepared or is not a very good speaker and we get lost. He thinks if the speaker knows what they are talking about and can present it in an orderly fashion and in a language that this committee can understand then there is no problem. If the speaker cannot do that then ATSDR was poor in providing that speaker. Dr. Malmquist said a facilitator is just going to add to the confusion. When is the facilitator going to speak? Is the facilitator going to interrupt the speaker? Dr. Malmquist asked that the committee does not pass the motion.

Peggy Adkins asked Kowetha Davidson if this recommendation would lighten her load in any way. Dr. Davidson said no because she still has to stay focused.

Charles Washington said he is inclined to agree that in some cases the committee needs a facilitator because many times the person giving information and presenting the information on we are going to vote on has a biased view or has incomplete knowledge. Too often that view is presented to the entire board. On the other hand a facilitator will present an unbiased opinion, both pros and cons regarding whatever technical issue you are voting on. Mr. Washington said this is what we have not been getting in the past.

Don Box suggested the same thing is going to happen with this motion as the two previous ones. We are requesting a facilitator, but we need to define what we want a facilitator to do. He suggested the committee postpone this vote until the next meeting and the group should come back and delineate exactly what functions a facilitator would serve and when they would step in at our meetings. Mr. Box said he did not think we could vote on this until we know more about these issues.

Mr. Box made the motion to table this recommendation (#3) as well. Ms. Sonnenburg seconded the motion. The recommendation was tabled with nine in favor, five opposed.

Continuation of Discussion

James Lewis remarked that Bill Taylor has done an excellent job in helping our work groups facilitate a number of meetings that we have had. We have seen this talent that brings us together and believe that same type of talent and understanding of our problems needs to be brought to ORRHES. Mr. Lewis said this is what we have seen, there is a comfort zone there, and we are looking for more involvement in that particular area. We see that people are willing to go talk to him and share information. He is familiar with the issues and he may be able to summarize it and present it in a way where we do not waste all our time here. What we are getting at is when we do not use that kind of expertise, you are wasting your time and money and we are tired of that too. Mr. Lewis said he thinks most people around the table, from the technical and lay side, have enjoyed working with him and suggested the committee needs to use him when it has contentious issues and he might be able to help bring the committee together. This is what we would like management to look at and see how they can factor that in, whether it is a recommendation or not.

Project Management Status Update

Jerry Pereira said hopefully the nomination packets for approval of all the current members will be going Dr. Falk. Mr. Pereira said we are holding our breath for approval and he does not think the worry is with Dr. Falk approving it, but he does have some concerns with HHS and their overall track record of late, in terms of approving existing members. Mr. Pereira said our ace in the hole is our presentation in terms of our approximate sunset timeframe and that it would make no sense to try to bring on almost a whole group of new members. He said he did not know where it might go or how much success they would have, but ATSDR would keep the subcommittee posted.

Herman Cember asked when is the projected sunset. Mr. Pereira said sometime in 2006.

Mr. Pereira stated the PHAWG (or the new group) will really have their hands full between now and the August meeting. He noted K-25, the TOSCA Incinerator, groundwater, and probably iodine will be discussed in PHAWG. Not necessarily in one meeting, but between now and August those are the health assessments that are on the table. The health assessors that are respectively working on those would be or should be presenting some portions of that information to the PHAWG as we go along. Mr. Pereira

reiterated Dr. Charp would not be here in August but assumed he would make some sort of presentation to PHAWG on iodine.

Mr. Pereira said ATSDR is still working on a replacement for Melissa Phish (sp?) in Bill Taylor's office. He noted they should have the finances to do a backup on that and are meeting this week. Mr. Pereira said they did not have any people to look at yet, but it should happen soon.

Herman Cember asked Mr. Pereira if the groundwater involved radioactivity only or will it involve trichloroethylene or other contaminants. Bob Craig answered that it was all of the above. It is everything in the groundwater.

Unfinished Business/New Business/Issues/Concerns

No comments.

With that Kowetha Davidson declared the meeting adjourned at 6:22 p.m.