Minutes of the
United States Environmental Protection Agency (EPA)
Human Studies Review Board (HSRB)
May 24, 2011 Public Teleconference Meeting
Docket Number: EPA–HQ–ORD–2011–0418
HSRB Web Site: http://www.epa.gov/osa/hsrb

Committee Members: (See EPA HSRB Members list – Attachment A)

Date and Time:	Tuesday, May 24, 2011, 1:00 p.m. – 3:00 p.m. (See Federal Register Notice – Attachment B)	
Location:	Via teleconference	
Purpose:	The EPA Human Studies Review Board provides advice, information, and recommendations on issues related to the scientific and ethical aspects of human subjects research.	
Attendees:	Chair:	Sean Philpott, Ph.D., M.S. Bioethics
	Vice Chair:	Janice Chambers, Ph.D., D.A.B.T.
	Board Members:	George C.J. Fernandez, Ph.D. Vanessa Northington Gamble, M.D., Ph.D. Sidney Green, Jr., Ph.D., Fellow ATS Dallas E. Johnson, Ph.D. Michael D. Lebowitz, Ph.D., FCCP Jerry A. Menikoff, M.D. Rebecca Tyrrell Parkin, Ph.D., M.P.H. William J. Popendorf, Ph.D. Virginia Ashby Sharpe, Ph.D. Linda J. Young, Ph.D.
Meeting Summary:	Meeting discussions generally followed the issues and general timing as presented in the meeting Agenda (Attachment C), unless noted otherwise in these minutes.	

CONVENE MEETING AND IDENTIFICATION OF BOARD MEMBERS

Mr. Jim Downing (Designated Federal Officer [DFO], Human Studies Review Board [HSRB or Board], Office of the Science Advisor [OSA], U.S. Environmental Protection Agency [EPA or Agency]) opened the teleconference meeting and welcomed Board members on behalf of the EPA Science Advisor Dr. Paul Anastas and the Program in Human Research Ethics. He noted that the Agency appreciates the Board members' time in preparing for the meeting. He also welcomed EPA colleagues and members of the public. The purpose of this teleconference meeting was to review the decisions made by the Board at the April 13-14, 2011, HSRB meeting and to finalize the Board report from that meeting. In addition, the Board considered a draft letter from an HSRB workgroup on providing research participants with individualized study results

measuring the amount of antimicrobial cleaning products on participants' skin and the amount inhaled while mopping floors.

MEETING ADMINISTRATIVE PROCEDURES

As DFO, Mr. Downing serves as the liaison between the HSRB and EPA and ensures that Federal Advisory Committee Act (FACA) requirements are met with regard to the operations of the HSRB. As DFO, he also works with the appropriate officials to ensure that all applicable ethics regulations are satisfied. Each Board member has been briefed on the provisions of the federal conflict of interest laws and has filed a standard government financial disclosure form that has been reviewed to ensure that all ethics disclosure requirements have been met. Mr. Downing reminded participants that meeting times listed on the Agenda would be approximate, and that Board members should state their names before speaking. At the appropriate time, members of the public may provide public comments; these must be limited to 5 minutes.

Copies of the meeting materials are available on regulations.gov under the docket number EPA-HQ-ORD-2011-0418. According to FACA requirements, meeting minutes, including descriptions of the discussions and conclusions reached by the Board will be prepared. These minutes will be certified by the Chair within 90 days of the meeting and posted at www.regulations.gov and on the HSRB Web site.

MEETING PROCESS

Dr. Sean Philpott explained that the Board would discuss the draft final Board report, focusing on the charge questions presented to the Board at the April 2011 meeting and summarizing the Board's response. The report is intended to be a summary of the HSRB's consensus recommendations and not a detailed document. The Agency and study sponsors have access to detailed meeting minutes for additional information.

Dr. Philpott noted that comments were received from seven HSRB members and most of the changes have been incorporated into the draft final Board report, resulting in a document version with pagination that may differ from the pagination in the online draft final report. Dr. Philpott requested all Board members to refer to paragraph introductions within sections to facilitate information location during discussions.

For each charge question, Board members will have an opportunity to raise concerns they may have about Board conclusions and rationales. Dr. Philpott requested that the HSRB focus on substantive changes to the report that directly affect the Board's recommendations. Board members should submit typographical and grammatical corrections to Dr. Philpott and Mr. Downing via e-mail, and they will be incorporated into the final report.

PUBLIC COMMENTS

Dr. Philpott invited public comment on the draft April 2011 HSRB meeting report. No public comments were presented.

BOARD DISCUSSION AND DECISION ON FINAL REPORT

Assessment of Completed Agricultural Handler Exposure Task Force (AHETF) Research Studies AHE62, AHE63 and AHE64: Determination of Dermal and Inhalation Exposure to Workers During Airblast Applications of Liquid Sprays Using Open-Cab Equipment (MRID 48289611, 48289612, 48289613, 48289614, 48289615, 48289616 and 48326701)

Dr. Philpott first addressed the AHETF study to determine exposure to workers during airblast application of liquid sprays using open-cab equipment. Dr. Philpott noted that the science charge to the Board had asked whether the research reported in the completed AHETF study monograph report and associated field study reports was faithful to the design and objectives of the protocol, standard operating procedures (SOPs) and governing documents. The Board concluded that the research reported was conducted in a manner that was reasonably faithful to the design and objectives of the protocol and governing documents of the AHETF study. The Board also was asked to consider whether EPA had adequately characterized, from a scientific perspective, the limitations on these data that should be considered when using the data to estimate exposure of those who apply pesticides with open-cab airblast equipment. The HSRB concluded that the Agency has adequately, but not completely, considered the limitations that should be considered when using these data to estimate the dermal and inhalation exposure of those who apply conventional pesticides with open-cab airblast equipment. The Board members identified additional limitations and concerns, and suggested that the ability to generalize these data requires further consideration and analysis.

Dr. Linda Young suggested that the Board examine the changes from Dr. Dallas Johnson that have been incorporated into the draft Board report. Under detailed recommendations and rationale, in the paragraph that begins "The third limitation is the possible exceptional status of one monitoring unit involved in exposure monitoring for open-cab spraying of Oklahoma pecans…", Dr. Michael Lebowitz noted that a change had been suggested by Mr. Matthew Crowley (EPA, Office of Pesticide Programs [OPP]), and Dr. Johnson had agreed with the change. The suggested changes were to add "The Board concluded that…" to the sentence "Increasing nozzle pressure will cause a decrease in droplet size and an increase in spray drift", and to change "will" to "would likely." Dr. Philpott confirmed that this change had been made, but that no reference was provided. Dr. William Popendorf noted that there are references that could be provided based on research going back to the 1970s; since the statement seemed to be broadly general knowledge, he did not require a reference to be entered. Dr. Young expressed concern that the suggested change indicates that the science is not as strong as it is. Dr. Popendorf noted that the previous version of the sentence had read "The Board recognized that increasing nozzle pressure will cause a decrease in droplet size and an increase in spray drift." The Board members supported a change back to this language. Mr. Jeff Dawson (EPA, OPP) suggested that the line end with "an increase in the potential for spray drift" because other factors can contribute to spray drift. Dr. Lebowitz suggested modifying that suggested language to read as "… and will be one of the reasons for an increase in spray drift." Board members supported this change.

Dr. Philpott noted concerns about the next paragraph, which begins, "The fourth limitation is the need to rely on model accuracy for estimates to be interpretable." Dr. Philpott commented that Mr. Crowley had recommended changing the interpretation by including a more detailed description of slopes and intercept in the equation, and asked Dr. Young and Dr. Johnson if they agreed with this recommendation. Dr. Young concurred, noting this was a special case of proportionality in which the proportional constant is 1. Dr. Johnson suggested a change to the second to last sentence in the paragraph that reads "Because clusters are part of the study's design, a random cluster effect should be included in the model." Dr. Philpott explained that the sentence had been changed and now reads "Because clusters are part of the study's design, a random cluster effect was included in the model."

In the next paragraph, which begins, "In the Agency's Review (Crowley and Sarkar 2011)…", Dr. Philpott stated that Dr. Johnson had suggested that the text was unclear and cited as an example the sentence that reads "First, the expectation of ln(exposure/AaiH) must be linear." Dr. Johnson explained that this either had to be a linear function of the active ingredient handled (AaiH), or the AaiH must be a constant. Dr. Young agreed. Dr. Philpott suggested that the sentence be changed to read "the expectation of the ln(exposure/AaiH) must be constant." Dr. Johnson noted that this would imply that the log exposure was a linear function of AaiH. In terms of the sentence, "Second, for the approach to be valid, there cannot be a cluster effect," Dr. Johnson raised the concern that cluster effects are assumed to be random with a mean of zero so that the mean would not change with the cluster. Dr. Johnson commented that the variance between clusters is over and above the variance within clusters. Dr. Young added that, conditional on the cluster, the mean would not be the same. Because the conditional mean may change, there will be more variation than anticipated under the log normal distribution if only the "y"s were modeled. The sentence should read "Second, for the approach to be valid, the mean response for log normal exposure over AaiH should be the same for every cluster." The next sentence now reads "Otherwise the conditional mean of the distribution would change with the cluster so that a single log normal distribution would not describe the normalized exposures." Dr. Philpott asked if members had an alternate sentence to propose. Dr. Young suggested that this sentence read "Otherwise, a single log normal distribution would not describe the normalized exposures." Dr. Philpott noted that the HSRB members also were concerned about the graphs not being labeled, making it difficult to ensure that the data corresponded with the inhalation data for which significant cluster effects were present. Dr. Philpott recommended that the relevant sentence be changed to read as "the graphs as presented to the Board," instead of "the graphs." Dr. Philpott asked if any members had further comments on the statistical rationale provided to the Agency. There were no additional member concerns or comments about the recommendations or rationale for the science charge questions.

Dr. Philpott explained that the ethics charge question for this protocol asked whether the available information supported a determination that the studies were conducted in substantial compliance with 40 Code of Federal Regulations (CFR) Part 26, subparts K and L. The Board concluded that it concurred with the Agency's assessment that the study was conducted in substantial compliance with subparts K and L. Dr. Philpott noted that this study was conducted, for the most part, in a way that did not deviate significantly from the protocol, the SOPs, or the governing documents. There were no additional member comments about the recommendations or rationale for the ethics charge question.

Assessment of Completed Antimicrobial Exposure Assessment Task Force (AEATF II) Research Study AEA02: Measurement of Potential Dermal and Inhalation Exposure During Application of a Liquid Antimicrobial Pesticide Product Using Trigger Spray and Wipe or Ready-to-Use Wipes for Cleaning Indoor Surfaces

During the April 2011 HSRB meeting, the Board was asked to address two science charge questions regarding the completed AEATF II study. The first charge question asked whether the research reported in the completed AEATF II wipe study report was faithful to the design and objectives of the protocol and governing documents of the AEATF II study. The Board concluded that the research reported in the completed study report and associated supplemental documents was conducted in a manner that was reasonably faithful to the design and objectives of the protocol and governing documents of the AEATF II study. The second charge question asked whether the Agency had adequately characterized, from a scientific perspective, the limitations on these data that should be considered when using the data to estimate the exposure of those who clean indoor surfaces with antimicrobial pesticides using a trigger bottle and wipes or ready-to-use wipes. The Board concluded that the Agency had adequately, but not completely, considered the limitations on these data when using the data to estimate the dermal and inhalation exposures of antimicrobial handlers who are applying pesticides using a trigger spray and wipes or ready-to-use wipes. Dr. Philpott received comments from Board members on this section, all of which have been incorporated into the draft final Board report, including Dr. Johnson's question about whether "amount used" was meant rather than "amount."

The final sentence in the first paragraph under the detailed recommendations and rationale states that "The Agency's analysis of the data, especially their use of adjustments for the fortified samples (of which there were more than a few) was an improvement." Dr. Sidney Green suggested to Dr. Janice Chambers that the word "adjustment" was vague, especially to someone who had not seen EPA's science review, and commented that the wording could be more explicit. Dr. Chambers stated that the sentence referred to the use of the level of quantitation (LOQ) or half LOQ, which is part of the Agency's standard way of addressing non-detectable results. Dr. Lebowitz noted that EPA had recalculated some of the values based on what was found in the fortified samples and not just the half LOQ. The study accounted for samples with readings that were not expected, and so the actual estimate of exposure calculation used an adjustment based on what was done in the quality assurance/quality control (QA/QC). This is what the sentence was trying to explain using as few words as possible. Dr. Chambers noted that non-detectable results needed to be mentioned, and Dr. Lebowitz responded that it was a different issue. Mr. Tim Leighton (EPA, OPP) stated that the data were corrected for the field recovery samples. The Board agreed to changes that included the removal of the parenthetical clause and mention of QA/QC. Dr. Philpott noted that the sentence now reads "The Agency's analysis of the data, especially their use of adjustments in the QA/QC field recovery samples, was an improvement in estimating exposure based on actual monitoring."

Dr. George Fernandez noted that on page 16 of the draft final Board report, the first sentence of the paragraph that begins "The results of the non-parametric bootstrap…", seemed unclear. Dr. Young commented that the difference between the non-parametric and parametric

bootstrap is that in one, a distribution is assumed. Dr. Lebowitz stated that this sentence came directly from the EPA review report in which EPA stated acceptance of the parametric bootstrap results in terms of the confidence intervals (CIs); the CIs using the non-parametric bootstrap were smaller and tighter. He noted that using the tighter CIs with the non-parametric bootstrap method would be more appropriate, but that EPA chose to reject the tighter CIs. Dr. Philpott noted that Dr. Lebowitz had recommended that the Agency may want to use the non-parametric bootstrap results. Mr. Leighton stated that EPA had taken the comments and had run both a non-parametric and a parametric bootstrap. Dr. Philpott noted his concern that the matter was not discussed in detail at the April 2011 Board meeting, and asked Dr. Fernandez, Dr. Young and Dr. Johnson if they agreed with this conclusion, as it appears that the Agency already is acting on the recommendation. Dr. Young commented that the limitations of the study were discussed at the April 2011 Board meeting. She asked about the log normal distribution, and how much information the Board needs to repeat, because statistically, many of the ideas go from one study to the next. Dr. Philpott answered that he did not want the Agency or the sponsors to think that this is not a concern, and suggested the addition of the following sentence toward the end of the detailed discussion and rationale: "The same concerns about the use of a log normal distribution raised by the Board in its discussion of the AHETF open cab airblast study also apply here." Dr. Young asked whether it would be better to cite both log normal distribution and cluster effects. The Board agreed to amend the proposed sentence to add "single" to log normal distribution.

The ethics charge question asked whether available information regarding the AEATF II study supports a determination that the study was conducted in substantial compliance with 40 CFR Part 26, subparts K and L. The Board concurred with the Agency's assessment that the study was conducted in substantial compliance with the applicable requirements. The Board noted that there were some minor protocol deviations, including two unreported deviations, but concluded that they did not compromise either the informed consent process or put the study participants at additional risk. Dr. Vanessa Northington Gamble noted that on page 19 of the draft final Board report, Ms. Kelly Sherman (EPA, OPP) had suggested changing the term "patient" to "subject." Dr. Philpott explained that a change was made, substituting the word "participant" for "patient" throughout the report.

Assessment of Published Research Study by Gulson et al. (2010): Small Amounts of Zinc From Zinc Oxide Particles in Sunscreens Applied Outdoors Are Absorbed Through Human Skin

Dr. Philpott noted that the study status had been changed from "completed study" to "published study." He received a number of minor comments and corrections from both Board members and the Agency, and most of these comments and corrections had been incorporated into the draft final Board report. The HSRB was asked to address two scientific charge questions. The first charge question asked whether the Gulson et al. study was scientifically sound and provided reliable data. The second charge question asked that, if the answer to the first question was affirmative, whether the Gulson et al. study was relevant for qualitative use in support of an assessment of the absorption of zinc oxide through the skin. The Board concurred with the Agency's assessment that the Gulson et al. study provides some potentially useful data on the dermal absorption of zinc from zinc oxide nanoparticles in sunscreen applied to human skin despite the multiple limitations identified by the HSRB. The Board advised the Agency to

proceed with caution in using these data for risk assessment as they cannot be used as a stand-alone data set to assess dermal absorption of zinc oxide. Limitations and concerns included: not accounting for certain variables such as frequency and time of garment changes, activities affecting exposure and, in particular, potential contamination of urine samples with sunscreen from the participants' hands (supported by the fact that the applicator also exhibited evidence of dermal absorption of the zinc). There were a number of other methodological and statistical concerns raised that led the HSRB to question the statistical validity of the data and the researcher's conclusions. Thus, the Board recommended that the data be treated as exploratory in nature and that the Agency look for further studies to confirm the conclusion that zinc oxide formulated as nanoparticles can be absorbed through the skin in this manner.

On the top of page 22 of the draft Board report, the Agency raised some questions and included some comments in highlighted areas. Dr. Philpott observed that the OPP rightfully noted that the study investigators, not the Agency, speculated as to how contamination of the urine samples could have occurred and the Agency simply included that speculation in its report. Dr. Chambers noted that the paragraph that begins "Regarding gender-related differences in dosing…", also has a highlighted section at the end. In this paragraph, the Agency added information not discussed at the April 2011 Board meeting; Dr. Philpott and Dr. Chambers agreed that this additional language should not be included. The Board members agreed with the proposed deletion. Dr. Jessica Ryman (EPA, OPP) noted that the comment had been added because the start of the paragraph suggests that the authors provided insufficient information for readers to determine whether there was any interaction between an individual's body weight and a significant difference in the dose. The proposed sentence was added because the calculation of the change in the percentage of the ^{68}Zn isotope included a body mass index calculation in the study review; that body mass index calculation would take into account individual body weights and gender. Dr. Ryman did not recall discussion at the April HSRB meeting regarding insufficiency of data to reach conclusions about differences between the genders, but the study results discuss how both gender and body weight were considered in the calculations. Dr. Philpott expressed understanding of the Agency's position on this matter, and acknowledged that the EPA analysis did note that there was an accounting for differences in gender and body weight by adjusting for fat-free body mass. Dr. Popendorf added that the sentence right before the proposed addition states "…but not when comparing their total Zn content in whole blood using the subject's weight", and that this sentence says the same thing (without including gender). Dr. Philpott stated that this comment means that the Board did consider the impact of both weight and gender, and asked if a change to the sentence could be made that would accurately reflect the HSRB's conclusions without incorporating additional material that was not discussed at the April 2011 meeting. Dr. Popendorf suggested the following change: "…but not when comparing their total Zn (Δ^{68}Zn %) content in whole blood using the subject's weight and gender."

The Agency also recommended clarification of the sentence in the next paragraph that states "The researchers performed a log transformation to correct this high degree of skewedness, which may be caused by this single outlier," by adding "This transformation revealed that values from subject 7 were within the range of similarly transformed values from other subjects." Dr. Philpott asked if this was an accurate assessment of the Board's discussions and conclusion on the skewedness caused by the data on subject 7. Dr. Fernandez stated that it was not clear how

this calculation was being made and it was not discussed explicitly at the April 2011 Board meeting. Dr. Young suggested that the proposed addition should not be included, and Dr. Fernandez agreed. Dr. Lebowitz asked if the additions and changes in that paragraph made by the Agency have been removed, and Dr. Philpott answered that they had.

In its ethics charge, the Board was asked to consider whether there was adequate information to determine that the Gulson et al. study was conducted in substantial compliance with procedures at least as protective as those in EPA regulations at 40 CFR Part 26, subparts A through L. This is a challenging question because this is the first post-rule study from the published literature, this study was conducted in Australia and the HSRB is asked to consider the question of whether or not there is sufficient information to determine whether the study was conducted in substantial compliance with procedures at least as protective as the EPA regulation. The HSRB concluded that currently there is insufficient information to determine whether the Gulson et al. study was conducted in substantial compliance with procedures at least as protective as those in 40 CFR Part 26, subparts A through L. The Board recommended that the Agency seek additional information from Macquarie University where the study originated, including acquisition of a copy of the research protocol and an unsigned consent form to enable the Board to conclude whether the study was conducted in substantial compliance with procedures as least as protective as those in the EPA regulations. Dr. Philpott noted that the Board recognizes that the research was reviewed and approved by Macquarie University Human Research Ethics Committee, which is registered with the Australian National Health and Medical Research Council, and that the HSRB believes that the study likely was conducted in substantial compliance with very protective regulations, but the Board does not have enough information at this time to determine the answer to this question.

Regarding the paragraph on page 25 of the draft final Board report that begins "The HSRB determined that most of the information that the Board has about the ethical conduct of the Gulson et al. (2010) study is without supporting documentation and is thus inferential," Dr. Popendorf asked whether "inferential" referred to the information or the conclusions. Dr. Philpott asked Dr. Sharpe for wording to clarify "inferential." The affected portion of the sentence will be changed to read "…is without supporting documentation and thus any conclusions about the ethical conduct of the study would be inferential." There were no further Board member comments on the ethical charge.

Reconsideration of Two Concerns Previously Raised by the HSRB in Its June 2009 Review of a Pre-Rule Intentional Human Dosing Study Involving Chlorpyrifos (Kisicki et al. 1999)

Dr. Philpott received a number of clarifying comments and edits from Board members on the Kisicki et al. study and they have been incorporated into the final version of Appendix I of the draft final Board report. Dr. Chambers explained that the Board revisited two concerns from a study discussed in the June 2009 Board meeting: whether the urine may not have been hydrolyzed and therefore the urinary metabolite was inaccurate and whether, because of that fact, lower absorption made sense. The Dow Chemical Company presented some scientifically plausible information on both of those points. Therefore, the HSRB is revisiting the conclusions on those two points: that it was logical for the larger particles of chlorpyrifos to be absorbed more slowly, which could have explained the difference in absorption, and that quantitation of

the urinary trichloropyridinol (TCP) was accurate because the procedure was correct. Dr. Philpott added that the Board concluded that the two other concerns discussed at the June 2009 Board meeting, although not as substantial, remain unaddressed and there are still concerns about the reliability and utility of the blood and urine measurements of chlorpyrifos and TCP in the Kisicki et al. study if used for risk assessment purposes.

Dr. Popendorf noted that the following sentence is factually correct: "The quantitation of urinary TCP was accurate because the urine was subjected to acid hydrolysis and heat to liberate conjugated TCP." However, Dr. Popendorf further noted that, in the original June 2009 report, the Board reached a conclusion that the handling contributed to the differences in the two studies, and what is not mentioned is that the conclusion was changed. He would like to clarify that, with new information received, a different conclusion was reached. Dr. Chambers asked if Dr. Popendorf was proposing to add a sentence that the urinary TCP data do not contribute to the differences. If so, Dr. Chambers remarked that she was uncomfortable with the proposed change because the study was not reanalyzed in its entirety. Dr. Lebowitz agreed with Dr. Chambers. Dr. Philpott noted that the main concern was that the June 2009 meeting report, which is published and public, potentially contains some erroneous information. The goal of the proposed change is to correct that report, not reevaluate the Board's earlier conclusions or the study in its entirety. He agreed that the statement should not be added. Dr. Green also agreed.

Draft Letter from an HSRB Workgroup on Providing Research Participants with Individualized Study Results

The AEATF II mop study promised to provide individualized exposure data to the participants, upon request. The Board convened a workgroup to examine this issue and the broader question of reporting individualized exposure results to participants in intentional exposure studies. The workgroup continues to examine the broader issue, but because the AEATF II mop study has been completed, the workgroup has developed a draft letter for AEATF II mop study participants.

Dr. Sharpe presented to the Board a draft letter for the mop study participants (dated April 27, 2011) to be forwarded the AEATF II. The letter was developed to be sensitive to the reading level of the participants, be simple and clear, provide information about individual exposure results relative to others in the study and provide some context for the individual. Dr. Sharpe left several comments in the draft letter for discussion. One sentence in the draft letter states that everyone who participated in the study had different exposures, but all had exposures that EPA considers safe. She asked Dr. Rebecca Parkin to discuss whether it was appropriate to include the word "safe" or "acceptable" in this letter. Dr. Parkin commented that the word "safe" has been controversial in environmental protection and health issues because it means different things to different people. There has been a trend toward the word "acceptable" rather than "safe" because it does not imply total safety, but only that the various aspects of exposure have been considered and the exposure has been determined to be acceptable. Dr. Green agreed that "acceptable" is a better choice than "safe" because safety cannot be guaranteed. Other Board members agreed. Dr. Philpott will make the change in the draft letter.

Dr. Sharpe noted that the draft letter included a bar chart to provide a scale of lowest to highest exposure; this will be marked with a vertical line to show the individual participants where their skin and breathing exposure are on the continuum of lowest to highest exposure. Instructions were provided in the margins of the draft letter as to how to complete the bar chart to communicate with each individual. Dr. Chambers commented that if most participants were on one end of the scale and one person on another, then the bar chart might provide a skewed idea to the person requesting the information. Dr. Young agreed. Dr. Chambers added that an outlier at the highest or lowest point might give participants a false sense of alarm or security if the individual did not know where all the others are located. Dr. Sharpe asked if Dr. Chambers would agree that it is not advisable in a letter like this to note everyone's exposure. Dr. Chambers responded that participants would not know how the group is arranged if everyone's exposure were not included. Dr. Parkin noted that she had proposed that letters be pretested, because the Board could be wrong about their assumptions for the target audience. She noted that what was drafted was a proposal, or suggestion, for how the results could be presented, and the AEATF II mop study needs to test the letter before using it. Dr. Young agreed that field testing would be useful, but the Board should answer this issue otherwise there might need for a different bar graph on every letter depending on whether there are outliers. Dr. Popendorf suggested a straight line without the "dumbbells" at each end, and insertion of a triangle for the average or mean to provide more information. Dr. Young suggested that if the median were used instead of the mean, that would be acceptable. Dr. Sharpe added that the letter would need to explain the median if it were to be used. Dr. Philpott noted that the Board likes the simplified graphic approach, and suggested adding a point on the bar chart that identifies the median. Arrows could show dermal and breathing exposure on two different graphs.

A recommendation could be made to the AEATF II mop study that the letter be field tested among people similar to the study participants. Dr. Sharpe asked whether the Board should have a role in testing the draft letter to study participants or to review the letter the AEATF II mop study would produce as a result of the feedback from draft letter testing. Dr. Philpott responded that the Board could offer to do this, but the sponsors and the Agency are under no obligation to come back to the HSRB to do so.

Dr. Sharpe noted that, during Working Group discussions, Dr. José Manautou had commented that if the participants were being told to improve their mopping technique then the letter should provide some information on how to do so. This raised the question whether there is EPA guidance about mopping, such as a brochure that could be included with the letter, or instructions from the product manufacturers that could be included. Mr. Downing concurred with the comment and thought that the AEATF II mop study had some suggested techniques to lessen exposure that could be included. Dr. Chambers suggested that if the exposure of most participants was similar, the letter should just acknowledge that the participant's exposure was similar to most and the participants should not receive different letters. Dr. Philpott responded that if a person received a lower exposure than most, the Board does not want them to relax and to cease protecting themselves. He commented that there had to be different letters: one that recommends the participant maintain current techniques and another that suggests ways to improve. Dr. Sharpe suggested adding another sentence to the draft letter (below the specific information about the individual's exposure) that states, for example: "For your information, we are including material about mopping techniques to keep exposures as low as they can be."

However, such an approach would mean that all participants would get the same information in the letter, whether they were above or below the median. Alternatively, the letter could note whether the participant was above, below, or "near the middle" of most of the participants in terms of exposure. Dr. Popendorf added that there could be a sentence describing the middle mark. Dr. Sharpe commented that a sentence would be needed to explain the median. Dr. Philpott suggested that he and Dr. Sharpe craft this sentence.

Dr. Green noted that the sentence after "Your exposure was higher than most…" further stating that "This does not put you at any short-term risk…" is too definite. Dr. Green suggested revising "does not" to "may not", because it would be more accurate. Dr. Philpott agreed to make this change.

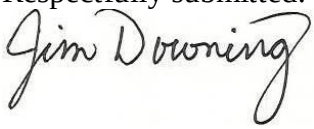
Dr. Philpott noted that two votes needed to be taken. The first vote was to approve the draft final Board report as amended during this teleconference meeting. All Board members present on this teleconference meeting approved the report except for Dr. Parkin who abstained as she was not present at the April meeting. The second vote was whether to send to the draft letter, including changes suggested in this teleconference meeting, to the AEATF II mop study with the strong recommendation that it be field tested before use. All Board members present on this teleconference meeting approved the draft letter, with the changes identified, and the pretesting recommendation. Dr. Philpott and Dr. Sharpe, along with Dr. Parkin, will make the changes.

SUMMARY AND NEXT STEPS

Mr. Downing noted that the next face-to-face HSRB meeting would be held on October 18-21, 2011.

Dr. Philpott thanked the Board members for their participation. The teleconference meeting was adjourned by the Chair at 3:09 p.m.

Respectfully submitted:



Jim Downing
Designated Federal Officer
Human Studies Review Board
United States Environmental Protection Agency

Certified to be true by:

Sean Philpott, Ph.D., M.S. Bioethics
Chair
Human Studies Review Board
United States Environmental Protection Agency

NOTE AND DISCLAIMER: The minutes of this public teleconference meeting reflect diverse ideas and suggestions offered by Board members during the course of deliberations within the meeting. Such ideas, suggestions and deliberations do not necessarily reflect definitive consensus advice from the Board members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final report prepared and transmitted to the EPA Science Advisor following the public meeting.

Attachments

Attachment A	HSRB Members
Attachment B	Federal Register Notice Announcing Meeting
Attachment C	Meeting Agenda

Attachment A

EPA HUMAN STUDIES REVIEW BOARD MEMBERS

Chair

*Sean Philpott, Ph.D., M.S. Bioethics — Term: 3/27/2006-10/31/2011
Director, Research Ethics
The Bioethics Program
Union Graduate College-Mt. Sinai School of Medicine
Schenectady, NY

Vice Chair

*Janice Chambers, Ph.D., D.A.B.T. — Term: 3/27/2006-10/31/2011
William L. Giles Distinguished Professor
Director, Center for Environmental Health Sciences
College of Veterinary Medicine
Mississippi State University
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Members

*George C.J. Fernandez, Ph.D. — Term: 5/1/2010-8/31/2013
Director, Center for Research Design and Analysis
University of Nevada – Reno
Reno, NV

*Vanessa Northington Gamble, M.D., Ph.D. — Term: 10/19/2009-10/31/2012
University Professor of Medical Humanities
Gelman Library
The George Washington University
Washington, DC

*Sidney Green, Jr., Ph.D., Fellow ATS — Term: 10/19/2009-10/31/2012
Department of Pharmacology
Howard University College of Medicine
Howard University
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*Dallas E. Johnson, Ph.D. — Term: 8/31/2007-8/31/2013
Professor Emeritus
Department of Statistics
Kansas State University
Manhattan, KS

*Michael D. Lebowitz, Ph.D., FCCP — Term: 3/27/2006-8/31/2012
Retired Professor of Public Health
(Epidemiology) & Medicine & Research Professor of Medicine
University of Arizona
Tucson, AZ

*^José E. Manautou, Ph.D. — Term: 5/1/2010-8/31/2013
Associate Professor of Toxicology
Department of Pharmaceutical Sciences
School of Pharmacy, University of Connecticut
Storrs, CT

Jerry A. Menikoff, M.D. — Term: 3/27/2006-8/31/2012
Director, Office for Human Research Protections
Department of Health and Human Services
Rockville, MD

*Rebecca T. Parkin, Ph.D., M.P.H — Term: 10/1/2007-8/31/2013
Professorial Lecturer (EOH)
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*William J. Popendorf, Ph.D. — Term: 10/19/2009-10/31/2012
Professor Emeritus
Department of Biology
Utah State University
Logan, UT

Virginia Ashby Sharpe, Ph.D. — Term: 5/1/2010-8/31/2013
National Center for Ethics in Health Care
Veterans Health Administration
Department of Veterans Affairs
Washington, DC

*Linda J. Young, Ph.D. — Term: 3/28/2008-8/31/2012
Department of Statistics
Institute of Food and Agricultural Sciences
University of Florida
Gainesville, FL

*Special Government Employee (SGE)
^Not in attendance at the May 24, 2011 teleconference

Attachment B

FEDERAL REGISTER NOTICE ANNOUNCING MEETING

[Federal Register Volume 76, Number 87 (Thursday, May 5, 2011)]
[Notices]
[Pages 25686-25688]
From the Federal Register Online via the Government Printing Office [www.gpo.gov]
[FR Doc No: 2011-11001]

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ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-ORD-2011-0418; FRL-9302-4]

Human Studies Review Board (HSRB); Notification of a Public Teleconference

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: The U. S. Environmental Protection Agency (EPA) Office of the Science Advisor (OSA) announces a public teleconference of the HSRB to discuss its draft report from the April 13-14, 2011 HSRB meeting, and consider a draft letter from an HSRB workgroup on providing research participants with individualized study results measuring the amount of antimicrobial cleaning products on participants' skin and the amount they breathe in while mopping floors.

DATES: The teleconference will be held on Tuesday, May 24, 2011 from approximately 1 p.m. to approximately 3 p.m. Eastern Time.

ADDRESSES: Submit your written comments, identified by Docket ID No. EPA-HQ-ORD-2011-0418, by one of the following methods:

Internet: http://www.regulations.gov: Follow the Web site instructions for submitting comments.

E-mail: ORD.Docket@epa.gov.

Mail: Environmental Protection Agency, EPA Docket Center (EPA/DC), ORD Docket, Mail Code 28221T, 1200 Pennsylvania Ave., NW, Washington, DC 20460.

Hand Delivery: The EPA/DC Public Reading Room is located in the EPA Headquarters Library, Room Number 3334 in the EPA West Building, located at 1301 Constitution Avenue, NW, Washington, DC 20460. The hours of operation are 8:30 a.m. to 4:30 p.m.
[[Page 25687]]
Eastern Time, Monday through Friday, excluding Federal holidays. Please call (202) 566-1744 or e-mail the ORD Docket at ord.docket@epa.gov for instructions. Updates to Public Reading Room access are available online at http://www.epa.gov/epahome/dockets.htm.

Instructions: Direct your comments to Docket ID No. EPA-HQ-ORD-2011-0418. EPA's policy is that all comments received will be included in the public docket without change and may be made available

online at http://www.regulations.gov, including any personal information provided, unless the comments includes information claimed to be Confidential Business Information (CBI) or other information the disclosure of which is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through http://www.regulations.gov or e-mail. The http://www.regulations.gov Web site is an “anonymous access” system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through http://www.regulations.gov, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comments and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

FOR FURTHER INFORMATION CONTACT: Any members of the public who wish to receive further information should contact Jim Downing at telephone number: (202) 564-2468; fax: (202) 564-2070; e-mail address: downing.jim@epa.gov, or Lu-Ann Kleibacker at telephone number: (202) 564-7189; fax: (202) 564-2070; e-mail address: kleibacker.lu-ann@epa.gov; mailing address: Environmental Protection Agency, Office of the Science Advisor, 8105R, 1200 Pennsylvania Ave., NW., Washington, DC 20460. General information concerning the EPA HSRB can be found on the EPA Web site at http://www.epa.gov/osa/hsrb.

SUPPLEMENTARY INFORMATION:

Location: The meeting will take place via telephone only.

Meeting access: For information on access or services for individuals with disabilities, please contact Lu-Ann Kleibacker at least ten business days prior to the meeting using the information under FOR FURTHER INFORMATION CONTACT, so that appropriate arrangements can be made.

Procedures for providing public input: Interested members of the public may submit relevant written or oral comments for the HSRB to consider during the advisory process. Additional information concerning submission of relevant written or oral comments is provided in section I, ``Public Meeting,'' under subsection D, ``How May I Participate in this Meeting?'' of this notice.

I. Public Meeting

A. Does this action apply to me?

This action is directed to the public in general. This action may, however, be of particular interest to persons who conduct or assess human studies, especially studies on substances regulated by EPA, or to persons who are, or may be required to conduct testing of chemical substances under the Federal Food, Drug, and Cosmetic Act (FFDCA) or the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Since other entities may also be interested, the Agency has not attempted to describe all the specific entities that may be affected by this action. If you have any questions regarding the applicability of this action to a particular entity, consult Jim Downing or Lu-Ann Kleibacker listed under FOR FURTHER INFORMATION CONTACT.

B. How can I access electronic copies of this document and other related information?

In addition to using http://www.regulations.gov, you may access this Federal Register document electronically through the EPA Internet under the ``Federal Register'' listings at http://www.epa.gov/fedrgstr/.

Docket: All documents in the docket are listed in the http://www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in http://www.regulations.gov or in hard copy at the ORD Docket, EPA/DC Public Reading Room. The EPA/DC Public Reading Room is located in the EPA Headquarters Library, Room Number 3334 in the EPA West Building, located at 1301 Constitution Avenue, NW, Washington, DC 20460. The hours of operation are 8:30 a.m to 4:30 p.m. Eastern Time, Monday through Friday, excluding Federal holidays. Please call (202) 566-1744, or e-mail the ORD Docket at ord.docket@epa.gov for instructions. Updates to the Public Reading Room access are available on the Web site (http://www.epa.gov/epahome/dockets.htm).

C. What should I consider as I prepare my comments for EPA?

You may find the following suggestions helpful for preparing your comments:

1. Explain your views as clearly as possible.
2. Describe any assumptions that you used.
3. Provide copies of any technical information and/or data you use that support your views.
4. Provide specific examples to illustrate your concerns and suggest alternatives.
5. To ensure proper receipt by EPA, be sure to identify the docket ID number assigned to this action in the subject line on the first page of your response. You may also provide the name, date and Federal Register citation.

D. How may I participate in this meeting?

You may participate in this meeting by following the instructions in this section. To ensure proper receipt by EPA, it is imperative that you identify docket ID number EPA-HQ-ORD-2011-0418 in the subject line on the first page of your request.

1. Oral comments. Requests to present oral comments will be accepted up to Tuesday, May 17, 2011. To the extent that time permits, interested persons who have not pre-registered may be permitted by the Chair of the HSRB to present oral comments during the meeting. Each individual or group wishing to make brief oral comments to the HSRB is strongly advised to submit their request (preferably via e-mail) to Jim Downing or Lu-Ann Kleibacker under FOR FURTHER INFORMATION CONTACT no later than noon, Eastern Time, Tuesday, May 17, 2011, in order to be included on the meeting agenda and to provide sufficient time for the HSRB Chair and HSRB Designated Federal Official (DFO) to review the meeting agenda to provide an appropriate public comment period. The request should identify the name of

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the individual making the presentation and the organization (if any) the individual will represent. Oral comments before the HSRB are generally limited to five minutes per individual or organization. Please note that this includes all individuals appearing either as part of, or on behalf of, an organization. While it is our intent to hear a full range of oral comments on the science and ethics issues under discussion, it is not our intent to permit organizations to expand the time limitations by having numerous individuals sign up separately to speak on their behalf. If additional time is available, further public comments may be possible.

2. Written comments. Submit written comments prior to the meeting. For the HSRB to have the best opportunity to review and consider your comments as it deliberates on its report, you should submit your comments at least five business days prior to the beginning of this teleconference. If you submit comments after this date, those comments will be provided to the Board members, but you should recognize that the Board members may not have adequate time to consider those comments prior to

making a decision. Thus, if you plan to submit written comments, the Agency strongly encourages you to submit such comments no later than noon, Eastern Time, Tuesday, May 17, 2011. You should submit your comments using the instructions in section I, under subsection C, ``What Should I Consider as I Prepare My Comments for EPA?'' In addition, the Agency also requests that persons submitting comments directly to the docket also provide a copy of their comments to Jim Downing or Lu-Ann Kleibacker listed under FOR FURTHER INFORMATION CONTACT. There is no limit on the length of written comments for consideration by the HSRB.

E. Background

The HSRB is a Federal advisory committee operating in accordance with the Federal Advisory Committee Act (FACA) 5 U.S.C. App.2 section 9. The HSRB provides advice, information, and recommendations to EPA on issues related to scientific and ethical aspects of human subjects research. The major objectives of the HSRB are to provide advice and recommendations on: (1) Research proposals and protocols; (2) reports of completed research with human subjects; and (3) how to strengthen EPA's programs for protection of human subjects of research. The HSRB reports to the EPA Administrator through the EPA Science Advisor. 1. Topics for Discussion. The HSRB will be reviewing its draft report from the April 13-14, 2011 HSRB meeting. The Board may also discuss planning for future HSRB meetings. Background on the April 13-14, 2011 HSRB meeting can be found at Federal Register Volume 76, Number 59 (Monday, March 28, 2011), pages 17121-17123) and at the HSRB Web site http://www.epa.gov/osa/hsrb/. The April 13-14, 2011 meeting draft report is now available. You may obtain electronic copies of this document and certain other related documents that might be available
electronically from the http://www.regulations.gov Web site and the HSRB Internet home page at http://www.epa.gov/osa/hsrb. The HSRB will also review and consider a draft letter providing participants with individualized study results that was provided at a previous HSRB meeting. The HSRB was asked to provide feedback on the letter that will be sent to the participants from the Antimicrobial Exposure Assessment Task Force II that measured the amount of antimicrobial cleaning products on participants' skin and the amount they breathe in while mopping floors.

For questions on document availability or if you do not have access to the Internet, consult the person listed under FOR FURTHER INFORMATION CONTACT.

Dated: April 29, 2011.
Paul T. Anastas,
EPA Science Advisor.
[FR Doc. 2011-11001 Filed 5-4-11; 8:45 am]
BILLING CODE 6560-50-P

Attachment C

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
HUMAN STUDIES REVIEW BOARD (HSRB)
PUBLIC TELECONFERENCE MEETING AGENDA

Tuesday, May 24, 2011
1:00 pm - 3:00 pm (Eastern Time)*

HSRB MEETING FOR REVIEW AND APPROVAL OF THE
DRAFT APRIL 13-14, 2011 HSRB MEETING REPORT AND A DRAFT LETTER FROM AN
HSRB WORKGROUP ON PROVIDING RESEARCH
PARTICIPANTS WITH INDIVIDUALIZED STUDY RESULTS

HSRB WEB SITE http://www.epa.gov/osa/hsrb/
Docket Telephone: (202) 566 1752
Docket Number: EPA–HQ–ORD–2011–0418

Meeting location via telephone only
Dial in number 866-299-3188; conference code 2025647189

1:00 PM	Convene Meeting and Identification of Board Members – Jim Downing (Designated Federal Officer, HSRB, OSA, EPA)
1:10 PM*	Meeting Administrative Procedures – Jim Downing, DFO
1:15 PM	Meeting Process –Sean Philpott, Ph.D. (HSRB Chair)
1:20 PM	Public Comments
1:30 PM	Board Discussion and Decision on Final Report – Sean Philpott, Ph.D. (HSRB Chair)

The Board's response to EPA charge questions presented at the April 13-14, 2011 meeting.

Completed AHETF research on exposure of workers applying pesticide sprays using open-cab airblast equipment.

Charge to the Board:
- Was the research reported in the Agricultural Handler Exposure Task Force (AHETF) completed monograph report and associated field study reports faithful to the design and objectives of the protocol, SOPs, and governing documents?
- Has EPA adequately characterized, from a scientific perspective, the limitations on these data that should be considered when using the data in estimating exposure of those who apply pesticides with open cab airblast equipment?
- Does the available information support a determination that the studies were conducted in substantial compliance with subparts K and L of 40 CFR Part 26?

*Note that agenda times are approximate. For further information, please contact the Designated Federal Officer for this meeting, Jim Downing via telephone: (202) 564-2468 or email: downing.jim@epa.gov

Completed AEATF research on exposure of professional janitorial workers when wiping indoor surfaces with an antimicrobial pesticide.

Charge to the Board:
- Was the research reported in the Antimicrobial Exposure Assessment Task Force II (AEATF) completed wipe study report faithful to the design and objectives of the protocol and governing documents of AEATF?
- Has EPA adequately characterized, from a scientific perspective, the limitations on these data that should be considered when using the data in estimating exposure of those who clean indoor surfaces with antimicrobial pesticides using a trigger-spray bottle and wipes or ready-to-use wipes?
- Does the available information support a determination that the study was conducted in substantial compliance with subparts K and L of 40 CFR Part 26?

Assessment of Published Research Study by Gulson et al. (2010): Small Amounts of Zinc From Zinc Oxide Particles in Sunscreens Applied Outdoors Are Absorbed through Human Skin.

Charge to the Board
- Is the Gulson et al. (2010) study scientifically sound, providing reliable data?
- If so, is the Gulson et al. (2010) study relevant for qualitative use in support of an assessment of the absorption of zinc oxide through the skin?
- Is there adequate information to determine that the Gulson et al. (2010) study was conducted in substantial compliance with procedures at least a protective as those in subparts A - L of EPA's regulation at 40 CFR Part 26?

Reconsideration of two concerns previously raised by the HSRB in its June 2009 review of an intentional human dosing study with chlorpyrifos (Kisicki et al., 1999); additional pertinent information was made available by the sponsor related to these two concerns.

Issues for Discussion:
- Do the recommendations provided by the HSRB at its June 2009 meeting and in its subsequent report regarding the reliability of data on the urinary metabolite trichloropyridinol in the Kisicki et al. (1999) study change in light of the new information provided?
- Do the recommendations provided by the HSRB at its June 2009 meeting and in its subsequent report regarding the level of absorption of chlorpyrifos in the Kisicki et al. (1999) study change in light of the new information provided?

2:30 PM Draft letter from an HSRB workgroup on providing research participants with individualized study results

2:55 PM Summary and Next Steps – Sean Philpott, Ph.D. (HSRB Chair) and Jim Downing (DFO)

3:00 PM Adjournment

* Note that agenda times are approximate. For further information, please contact the Designated Federal Officer for this meeting, Jim Downing via telephone: (202) 564-2468 or email: downing.jim@epa.gov