EPA Human Studies Review Board (HSRB)

April 24-26, 2018 Meeting Minutes

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

Date and Time: Tuesday, Apr. 24, 2018, Wednesday, Apr. 25, 2018, and Thursday Apr. 26, 2018, all 1: 00 to 5:30 pm EST.

Locations: Via teleconference and webinar

Purpose: The HSRB provides advice, information and recommendations on issues related to scientific and ethical aspects of human subjects research.

April 24th meeting:

Meeting was called to order at 1:00 p.m.by Tom O'Farrell, designated federal official (DFO) for the HSRB. Roll was taken and the following members and observers were present:

HSRB members	EPA staff members
Liza Dawson, Ph.D. (HSRB Chair) Edward Gbur, Jr., Ph.D. (HSRB Vice-Chair) Jennifer Cavallari, Sc.D., CIH Alesia Ferguson, Ph.D. Kyle L. Galbraith, Ph.D. Walter T. Klimecki, D.V.M., Ph.D. Randy Maddalena, Ph.D. Jun Zhu, Ph.D. Kendra Lawrence, Ph.D., consultant	Michelle Arling (EPA, OPP) Clara Fuentes (EPA, OPP) Helen Hull-Sanders (EPA, OPP) James Nguyen (EPA) David Miller (EPA, OPP) Eric Bohnenblust (EPA, OPP) Tom Sinks (EPA, OSA) Tom O'Farrell (OSA)
Members of the public, representatives of research sponsor and research team Genevieve Faherty (Citrefine) Sarah Dewhirst (ARTEC) James Logan (ARTEC) Vanessa Chen Hussey (ARCTEC) Julia Pierce (ARCTEC) Jonathan Cohen (ICF) Dan Hollas (SC Johnson & Son) Weiyang Jang (CA EPA) Wei Zhao (public) Kevin Sweeney (public)	

Tom O'Farrell provided an introduction to the meeting and outlined the Federal Advisory Committee Act (FACA) procedures. Dr. Tom Sinks of the EPA Office of the Science Advisor welcomed the Board and thanked Tom O'Farrell and Michelle Arling and OPP for their work on the HSRB. Ms. Michelle Arling said

that EPA is working on issuing a proposed rule to harmonize Subpart K with the revisions to the Common Rule. EPA plans to have the EPA harmonized rule finalized by early 2019, to align with the compliance date for the revised Common Rule.

The Board reviewed one protocol during the session on April 24th, "A Protocol for laboratory-based-testing of a tick repellent containing Oil of Lemon Eucalyptus." The Agency's scientific review of this protocol was presented by Dr. Clara Fuentes of the EPA Office of Pesticide Programs (OPP). The study protocol is for testing efficiency of a skin-applied repellent against three species of ticks. The study protocol was submitted to EPA by the London-based Arthropod Control Product Test Centre (arctec) on behalf of the product registrant. The study is designed to estimate the lasting repellency of repellent products containing 30% of the active ingredient Citriodiol, which is oil of lemon eucalyptus (OLE). Based on data from the dermal route of exposure, the no observed adverse effect level for PMD (the active ingredient present at 65% in OLE) is 1,000 milligrams per kilogram. Lowest observed adverse effect level is 3,000 milligrams per kilogram. The no observed adverse effect level derived from a maternal and developmental toxicity study in rabbits is 3,000 milligrams per kilogram. PMD is not mutagenic and not genotoxic. The proposed sample size for testing repellency is 10 subjects per tick species. Symmetry testing is proposed as a second objective for determination of consumer dose. Efficacy of the product will be evaluated at the consumer dose. The proposed sample size for determination of consumer dose is 21 subjects.

Subjects' arms will be resting on a vertical surface at a 30-degree angle. The product will be applied from the boundary line at the wrist to the elbow of the treated forearm. Ticks will be released at the release line. A crossing will be recorded when the tick crosses the boundary line at three centimeters on to the treated area within three minutes and remains in the treated area for at least 1 minute. A crossing is confirmed when it is followed by another crossing within 30 minutes apart from the first. For subjects who received a confirmed crossing, they're complete protection times is the period between product applications and first confirmed crossing. EPA made 26 recommendations to the study protocol. Dr. Fuentes stated that if amended to address the concerns raised in the EPA review, the protocol entitled single trial to determine the complete protection time of an insect repellent formulation containing 30% citric oil from the eucalyptus, against three species of ticks, it's likely to yield scientifically reliable information.

Ms. Arling of EPA OPP reviewed the ethical aspects of the study protocol. The Western IRB reviewed and approved the protocol. EPA recommended several amendments to the protocol including: revising waiting period between test days from one week to 48 hours, expanding recruitment area to all of London, include a thorough description of consent meeting, inspection of forearms prior to testing, and include IRB's requirements for reporting changes to protocol. With all the recommendations addressed, the protocol will meet all applicable requirements of 40 CFR part 26.

The HSRB's scientific review was presented by Board members Drs. Walt Klimecki and Randy Maddalena and consultant Dr. Kendra Lawrence. Dr. Maddalena questioned whether practicing with the spray bottle would provide value to the study and was concerned whether the instructions given to subjects would bias the study. Dr. Maddalena also questioned why the forearm is being used instead of the leg. Walt Klimecki commented that the PMD and the level used raises no toxicological red flags. Dr. Lawrence asked why the study authors chose this tick species over *dermacentor variabilis* because *dermacentor* is the primary vector for Rocky Mountain Spotted Fever in the US. Dr. Lawrence agreed

with the EPA recommendation that the average consumer dose that's been developed by the Agency be used instead of establishing a study-specific dose through a dosimetry phase. Dr. Ed Gbur addressed the HSRB's review of the statistical analysis of the study. Dr. Gbur had questions about the randomization processes used for the study. These issues were discussed by the whole Board. Dr. Eric Bohnenblust (EPA) recommended that the study go ahead with the dosimetry as currently stated but the sponsors check in with EPA after the "consumer dose" is determined and before testing the product's efficacy using human subjects. The Board concluded that if the protocol is amended per the recommendations by the EPA and HSRB, it will likely generate scientifically reliable data useful for estimating complete protection time for ticks.

HSRB chair Dr. Liza Dawson presented the HSRB's ethics review of the study. Dr. Dawson had a question about whether adequate consideration was given to subjects' comfort and if a EpiPen will be available. The Board responded affirmatively to the charge question that the research is likely to meet the applicable requirements of 40 CFR, part 26, subparts K and L. This concluded the Board's session for April 24th and the meeting was adjourned.

April 25th meeting:

Meeting was called to order at 1:00 p.m.by Tom O'Farrell, designated federal official (DFO) for the HSRB. Roll was taken and the following members and observers were present:

HSRB members	EPA staff members
Liza Dawson, Ph.D. (HSRB Chair) Edward Gbur, Jr., Ph.D. (HSRB Vice-Chair) Jennifer Cavallari, Sc.D., CIH Alesia Ferguson, Ph.D. Kyle L. Galbraith, Ph.D. Walter T. Klimecki, D.V.M., Ph.D. Randy Maddalena, Ph.D. Jun Zhu, Ph.D.	Michelle Arling (EPA, OPP) Tim Dole (EPA, OPP) Timothy Leighton (EPA, OPP) Alicia Denning (EPA, OPP) Tom O'Farrell (EPA, ORD)
Members of the public, representatives of research sponsor and research team Jonathan Cohen (ICF) Adrian Krygsman (ACC) Amelia Thorn (ACC) Leah Rosenheck (LR Risk Consulting, Inc) Megan Boatright (Golden Pacific Labs) Robert Testman (Golden Pacific Labs) Michael Bartels (AEATF) Brian Lange (AEATF) Linda Giles (public) William Jordan (public) Kimon Acedo (public) John Houk (public)	

Tom O'Farrell introduced the meeting and outlined the Federal Advisory Committee Act (FACA) procedures. The HSRB reviewed the final report and EPA's review of "A Study for Measurement of Potential Dermal and Inhalation Exposure During Application of a Latex Paint Containing an Antimicrobial Pesticide Product Using a Brush and Roller for Indoor Surface Painting" submitted to EPA by the Antimicrobial Exposure Assessment Task Force (AEATF). The protocol was originally reviewed by the HSRB in 2014. EPA and the HSRB made recommendations to improve the clarity and design in the protocol and the AEATF made these modifications. The Agency's scientific review of this study was presented by Mr. Tim Leighton of the EPA's Office of Pesticide Programs. The objective of the study was to capture the range of expected dermal and inhalation exposures of BIT (isothiazolone chemical) when painting with a brush and roller. Subjects painted all areas of a room built in a warehouse with BIT-containing paint. Eighteen individuals were used and the sampling time was two hours on average. Subjects were given two gallons of paint to apply. Subjects wore inner and outer whole-body dosimeters, as well as air samplers. Paint containing different concentrations of the active ingredient (BIT) were used and the results showed that exposure tends to increase with the amount of active ingredient. All of the inhalation samples were non-detect. EPA concluded that the study results are sufficient to support estimates of dermal and inhalation exposures.

Ms. Arling of EPA OPP reviewed ethical aspects of the study. The HSRB reviewed this protocol in April of 2014 and recommended that as long as the protocol addressed the recommendations, the research would meet regulatory standards. EPA concluded that the AEATF did address the recommendations satisfactorily. Risks to subjects were effectively minimized in the study as it was implemented and subjects were protected by wearing a PPE specified in the protocol. The protocol had two amendments that were approved by the Schulman IRB. In conclusion, there were no significant deficiencies in the ethical conduct of the research that would prevent EPA's reliance on the study and the protocol was implemented as approved by the IRB and amendments.

Mr. William Jordan, a member of the public, made a comment about EPA's proposed transparency rule signed on April 24, 2018 (83 FR 18768).

The HSRB's scientific review of this study was presented by HSRB members Dr. Cavallari and Dr. Ferguson. Dr. Ferguson questioned whether EPA can use the data to extrapolate up to any maximum amount of active ingredient and had a question about the equation used for the time-weighted average of exposure. Dr. Ferguson also had a question about how the corrections were made for the recovery efficiency calculations and whether the study had enough statistical power. Dr. Cavallari also had a question about whether study was able to meet 80% statistical power. Dr. Gbur addressed the statistical analysis of the study and said that overall the statistical analysis was thorough. Dr. Gbur that recommended that studies like this might consider using a gamma distribution instead of a log-normal distribution.

After a short discussion, the Board agreed that the protocol was scientifically sound and responded affirmatively to the science charge questions.

HSRB member Dr. Kyle Galbraith presented the HSRB's ethics review of the study. He stated that there were no major ethical concerns with the study. The Board responded affirmatively to the charge question, stating that the study meets the requirements of 40 CFR 26 subpart Q.

Next, the HSRB reviewed the AEATF study "Determination of Removal Efficiency of 1,2-Benzisothiazol-3(2H)-one (BIT) from Hand Surfaces Using an Isopropyl Alcohol/Water Wipe and Wash Procedure". The Agency's scientific review of this study was presented by Mr. Leighton of the EPA's Office of Pesticide Programs. This study was originally reviewed by EPA and the HSRB in 2014. Following the protocol review, EPA and HSRB made several recommendations to improve the clarity and design of the study and those were made to EPA's satisfaction. The study objective is to determine the efficiency of using a specific hand washing procedure to remove latex paint containing BIT from subjects' hands. Twenty subjects were used and were split into two groups, each group exposed to paint with different concentrations of BIT. Fifty microliters of paint were placed on a subject's hands for 40 minutes and then the paint was washed off. Paint was washed off with a 50/50 mixture of IPA and water, using a scripted handwash procedure. The average recovery of BIT in the study was approximately 67%. One of the limitations of the study is that the loading on the skin can only be roughly estimated because when people paint, the paint is not uniformly distributed on their hands. EPA concluded that the results of the paint removal efficiency study were sufficiently sound to use.

Ms. Arling of the EPA's Office of Pesticide Programs reviewed ethical aspects of the study protocol. Each subject gave written consent to participate in the study and the consent was obtained using the form approved by the IRB in February of 2015. Subjects were screened using the eligibility criteria listed in the protocol. The Schulman IRB approved the protocol on February 9, 2015 with two amendments. EPA determined that AEATF satisfied the requirement under the human studies rule to provide documentation related to the ethical conduct of the study. EPA concluded that there were no significant deficiencies to prevent EPA's reliance on the study and the study was conducted in substantial compliance with 40 CFR 26, subpart Q. This concluded the Board's session for April 25th and the meeting was adjourned.

April 26th meeting:

Meeting was called to order at 1:00 p.m.by Tom O'Farrell, designated federal official (DFO) for the HSRB. Roll was taken and the following members and observers were present:

HSRB members	EPA staff members
Liza Dawson, Ph.D. (HSRB Chair) Edward Gbur, Jr., Ph.D. (HSRB Vice-Chair) Jennifer Cavallari, Sc.D., CIH Alesia Ferguson, Ph.D. Kyle L. Galbraith, Ph.D. Walter T. Klimecki, D.V.M., Ph.D. Randy Maddalena, Ph.D. Jun Zhu, Ph.D. Kendra Lawrence, Ph.D., consultant	Michelle Arling (EPA, OPP) Tim Dole (EPA, OPP) Timothy Leighton (EPA, OPP) Alicia Denning (EPA, OPP) Eric Bohnenblust (EPA, OPP) Milutin Djurickovic (EPA, OPP) Wiebke Striegel (EPA, OPP) John Kough (EPA, OPP) Mike Mendelsohn (EPA, OPP) Tom O'Farrell (EPA, ORD)
Members of the public, representatives of research sponsor and research team Jonathan Cohen (ICF) Adrian Krygsman (ACC) Amelia Thorn (ACC) Leah Rosenheck (LR Risk Consulting, Inc) Megan Boatright (Golden Pacific Labs) Robert Testman (Golden Pacific Labs) Michael Bartels (AEATF) Nigel Snoad (public)	

Tom O'Farrell introduced the meeting and outlined the Federal Advisory Committee Act (FACA) procedures. The HSRB continued with its review of the AEATF study "Determination of Removal Efficiency of 1,2-Benzisothiazol-3(2H)-one (BIT) from Hand Surfaces Using an Isopropyl Alcohol/Water Wipe and Wash Procedure". The HSRB's scientific review was presented by Board members Dr. Cavallari and Dr. Ferguson. Dr. Cavallari agreed with EPA that the study was successfully executed and the removal efficiency data is useful for correcting hand exposure residue. Dr. Cavallari also said since the removal efficiency appears to be concentration dependent at the levels that were tested, there should be some caution taken when extrapolating removal efficiencies that are below or above the concentration range. Dr. Ferguson asked if this hand efficiency will be used to adjust the other field studies that are now going on, like the AEATF airless sprayer study (note: the HSRB reviewed the protocol for this study at the October 2017 meeting[1]). Mr. Leighton said this study will be used for the two painting studies (brush and roller; airless sprayer). Dr. Ferguson concluded that the hand efficiency study can be used to adjust the brush and roller study and the other upcoming study. Dr. Zhu addressed the statistical analysis of the study and said the statistical analysis was adequate.

After a short discussion, the Board agreed that the study generated scientifically reliable data and responded affirmatively to the science charge question.

[1] https://www.epa.gov/osa/october-25-26-2017-meeting-human-studies-review-board

HSRB member Dr. Galbraith presented the HSRB's ethics review of the study. The study was reviewed by the HSRB in April 2014 before the study started. Dr. Galbraith said that it looks like the sponsors addressed the HSRB recommendations sufficiently and he was comfortable saying that the available information supports the determination that the research was conducted in substantial compliance with 40 CFR Part 26, Subpart Q. The Board responded affirmatively to the ethics charge question.

Next, the Board reviewed the journal article "Assessing key safety concerns of a *Wolbachia*-based strategy to control dengue transmission by *Aedes* mosquitoes". The Agency's scientific review of this protocol was presented by Dr. Eric Bohnenblust of the EPA's Office of Pesticide Programs. This study was submitted to EPA as part of a review package to assess the risk associated with human exposure to *Wolbachia*-infected mosquitoes. *Wolbachia Pipientis* is a common obligate intracellular bacterium, which is found in an estimated 65% of insect species. These products work through a technique called sterile insect technique, which involves the release of sterile males into the environment to mate with wild type females to control insect populations. The study objective was to determine whether humans bitten by *Wolbachia* infected *Aedes aegypti* developed an immune response specific to *Wolbachia*. The study was conducted with five controlled subjects who did not blood feed any mosquitoes, and 17 human volunteers who blood fed *Wolbachia* infected *Aedes aegypti* mosquitoes for six weeks. Each blood feed subject fed between two and four cages containing 150 mosquitoes twice per week. After the period of six weeks of sustained feeding, 10 mL of blood was drawn from each blood feed individual, and the non-blood feeding individuals. The authors then conducted western blots to detect potential anti WSP, *Wolbachia* surface protein antibodies, using serum from the non-blood feeders (as a control) as well as blood feeders. ELISA assays were also conducted. The results of the Western blots showed no reactivity to Wolbachia extract incubated with serum from blood feeding and non-blood feeding groups, suggesting that humans were not being exposed to the *Wolbachia* in the study. EPA recognized that the published article did not include specific information, such as a detection limit and the amount of sample used. There are no reports of *Wolbachia* being transferred to humans bitten by mosquitos. Recognizing the uncertainties with the research presented in the article summarizing the study, EPA believes that this information can be used as part of a weight of evidence approach when considered with the additional evidence to indicate that humans are not exposed to the *Wolbachia* microbial pesticide through the release of *Wolbachia* infected Aedes mosquitoes as part of the sterile insect male release program.

Ms. Arling of the EPA's Office of Pesticide Programs reviewed ethical aspects of the study. All documentation of the ethical conduct of this study comes from the article itself and from the IRB submission package, which was shared with the EPA by the approving ethics community, the University of Queensland Human Medical Ethics Commission. Personnel working at the lab were asked to volunteer for unpaid participation in the blood feeding experiment. They were informed that the researchers would provide the consent form that included background information on the project, a description of the blood feeding procedure, and a comprehensive list of the possible risks associated. They were also provided as much scientific information as necessary to inform their consent. Subjects were free to withdraw at any time without forfeiting benefits. The information provided to subjects also explained that their information would be kept confidential, and the article itself didn't reveal any information about the subjects. The primary risk to the subjects were discomfort from the mosquito bites and the blood drawing process. The information materials provided to subjects who consented to participate in the blood feeding included information that minor discomfort, redness, and itching could

occur. EPA concluded that nothing in the information available suggests that the research was fundamentally unethical or intended to harm participants, or that it was deficient relative to the ethical standards prevailing at the time the research was conducted in a way that placed participants in increased risk of harm, or that impaired their informed consent.

The HSRB's scientific review was presented by HSRB members Dr. Klimecki and Dr. Maddalena and consultant Dr. Lawrence. Dr. Klimecki questioned the validity of the negative data in the western blot and ELISA. Dr. Maddalena was not sure the paper contributed to the weight of evidence approach being used. Dr. Lawrence commented that it appears that the possibility of exposure to *Wolbachia* through mosquitos is very low and the paper does not really add anything to that assessment. Dr. Zhu addressed the statistical analysis of the study and commented that is was not clear how the volunteers were selected, what kind of randomization protocols were used and whether there was enough sample size and how the analysis was done. Dr. Zhu said the details were not clear enough to weight the study statistically. The Board then discussed these issues. The Board concluded that because of incomplete methods, descriptions, and incomplete assay validation, the research described in the article did not meet standards of being scientifically sound, providing reliable data for the purpose of contributing to a weight of evidence in EPA's assessment of the risks to human health associated with releasing *Wolbachia* infected mosquitoes.

HSRB chair Dr. Dawson presented the HSRB's ethics review of the study. Dr. Dawson said the study was conducted according to prevailing ethical standards and the correct procedures were followed, such as subjects provided informed consent and the protocol underwent IRB review. Dr. Dawson recommended that future studies should not include study staff members as subjects in the study. The Board responded affirmatively to the ethics charge question that the research was conducted in substantial compliance with 40 CFR Part 26 Subpart Q; however, the Board noted that if research is not scientifically valid, it is not appropriate to rely on the results. This concluded the Board's session for April 26th and the meeting was adjourned.

Respectfully submitted:

Thomas J. O'Farrell, 7/23/18

Thomas O'Farrell
Designated Federal Officer
Human Studies Review Board
United States Environmental Protection Agency

Certified to be true by:

Liza Dawson, Ph.D.
Chair
Human Studies Review Board
United States Environmental Protection Agency

NOTE AND DISCLAIMER: The minutes of this public 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.

Attachment A
EPA HUMAN STUDIES REVIEW BOARD MEMBERS

Chair

Liza Dawson, Ph.D.
Research Ethics Team Leader
Division of AIDS
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Bethesda, MD

Vice Chair

Edward Gbur, Jr., Ph.D.
Professor of Statistics
Director, Agricultural Statistics Laboratory
University of Arkansas
Fayetteville, AR

Members

Jennifer Cavallari, Sc.D., CIH
Assistant Professor
Division of Occupational and Environmental Medicine
University of Connecticut
Storrs, CT

Alesia Ferguson, Ph.D.
Associate Professor
Department of Environmental and Occupational Health
University of Arkansas
Little Rock, AR

Kyle L. Galbraith, Ph.D.
Human Subjects Protection
Carle Foundation Hospital
Urbana, IL

Walter T. Klimecki, D.V.M., Ph.D.
Associate Professor
Departments of Pharmacology and Toxicology
The University of Arizona Health Sciences
Tucson, AZ

Randy Maddalena, Ph.D.
Physical Research Scientist
Indoor Environment Group
Lawrence Berkeley National Laboratory
Berkeley, CA

Jun Zhu, Ph.D.
Professor of Statistics and of Entomology
Department of Statistics
University of Wisconsin–Madison
Madison, WI

Consultants to the Board

Kendra L. Lawrence, Ph.D., BCE, PMP
Health Sciences Product Manager
U.S. Army Medical Materiel Development Activity
Fort Detrick, MD

Attachment B
Federal Registers Notice Announcing Meetings

ENVIRONMENTAL PROTECTION AGENCY

[FRL-9976-38-ORD]

Human Studies Review Board; Notification of Public Meetings

AGENCY: Environmental Protection Agency.

ACTION: Notice.

SUMMARY: The Environmental Protection Agency (EPA), Office of the Science Advisor announces two separate public meetings of the Human Studies Review Board (HSRB) to advise the Agency on the ethical and scientific review of research involving human subjects.

DATES: A virtual public meeting will be held on Tuesday, April 24, 2018, Wednesday, April 25, 2018, and Thursday, April 26, 2018 from 1:00 pm to approximately 5:30 pm Eastern Time on all dates. A separate, subsequent teleconference meeting is planned for Thursday, June 14, 2018, from 2:00 pm to approximately 3:30 pm Eastern Time for the HSRB to finalize its Final Report of the April 24-26, 2018 meeting and review other possible topics.

ADDRESSES: All of these meetings will be conducted entirely by telephone and on the Internet using Adobe Connect. For detailed access information visit the HSRB Website: http://www2.epa.gov/osa/human-studies-review-board

FOR FURTHER INFORMATION, CONTACT: Any member of the public who wishes to receive further information should contact the HSRB Designated Federal Official (DFO),

Thomas O'Farrell on telephone number (202) 564-8451; fax number: (202) 564-2070; email address: ofarrell.thomas@epa.gov; or mailing address: Environmental Protection Agency, Office of the Science Advisor, Mail code 8105R, 1200 Pennsylvania Avenue NW, Washington, DC 20460.

SUPPLEMENTARY INFORMATION:

Meeting access: These meetings will be open to the public. The full Agenda and meeting materials will be available at the HSRB Website: http://www2.epa.gov/osa/human-studies-review-board . For questions on document availability, or if you do not have access to the Internet, consult with the DFO, Thomas O'Farrell, listed under FOR FURTHER INFORMATION, CONTACT.

Special accommodations. For information on access or services for individuals with disabilities, or to request accommodation of a disability, please contact the DFO listed under FOR FURTHER INFORMATION, CONTACT at least 10 days prior to the meeting to give EPA as much time as possible to process your request.

How May I Participate in this Meeting?

The HSRB encourages the public's input. You may participate in these meetings by following the instructions in this section.

1. Oral comments. To pre-register to make oral comments, please contact the DFO, Thomas O'Farrell, listed under FOR FURTHER INFORMATION, CONTACT. Requests to present oral comments during either meeting will be accepted up to Noon Eastern Time on Tuesday, April 17, 2018, for the April 24-26, 2018 meeting and up to Noon Eastern Time on Thursday,

June 7, 2018 for the June 14, 2018 meeting. To the extent that time permits, interested persons who have not pre-registered may be permitted by the HSRB Chair to present oral comments during either meeting at the designated time on the agenda. Oral comments before the HSRB are generally limited to five minutes per individual or organization. If additional time is available, further public comments may be possible.

2. Written comments. Submit your written comments prior to the meetings. For the Board to have the best opportunity to review and consider your comments as it deliberates, you should submit your comments by Noon Eastern Time on Tuesday, April 17, 2018, for the April 24-26, 2018 meeting and up to Noon Eastern Time on Thursday, June 7, 2018 for the June 14, 2018 meeting. If you submit comments after these dates, those comments will be provided to the HSRB members, but you should recognize that the HSRB members may not have adequate time to consider your comments prior to their discussion. You should submit your comments to the DFO, Thomas O'Farrell listed under FOR FURTHER INFORMATION, CONTACT. There is no limit on the length of written comments for consideration by the HSRB.

Background

The HSRB is a Federal advisory committee operating in accordance with the Federal Advisory Committee Act 5 U.S.C. App.2 § 9. The HSRB provides advice, information, and recommendations on issues related to scientific and ethical aspects of third-party human subjects research that are submitted to the Office of Pesticide Programs (OPP) to be used for regulatory purposes.

Topic for discussion. On April 24-26, 2018, EPA's Human Studies Review Board will consider four topics: 1) A protocol for laboratory-based testing of a tick repellent containing Oil of Lemon Eucalyptus, submitted by ARCTEC (Arthropod Control Product Centre) and by sponsored by Citrefine International, 2) a published article titled "Assessing key safety concerns of a *Wolbachia*-based strategy to control dengue transmission by *Aedes* mosquitoes", authored by Jean Popovici, Luciano A Moriera, Anne Poinsignon, Inaki Iturbe-Ormaetxe, Darlene McNaughton, and Scott O'Neill, 3) a completed study submitted by the Antimicrobial Exposure Assessment Task Force: "Determination of Removal Efficiency of 1,2-Benzisothiazol-3(2H)-one (BIT) from Hand Surfaces Using an Isopropyl Alcohol/Water Wipe and Wash Procedure", and 4) a completed study submitted by the Antimicrobial Exposure Assessment Task Force: "A Study for Measurement of Potential Dermal and Inhalation Exposure During Application of a Latex Paint Containing an Antimicrobial Pesticide Product Using a Brush and Roller for Indoor Surface Painting".

The Agenda and meeting materials for these topics will be available in advance of the meeting at http://www2.epa.gov/osa/human-studies-review-board.

On June 14, 2018, the HSRB will review and finalize their draft Final Report from the April 24-26, 2018 meeting, in addition to other topics that may come before the Board. The HSRB may also discuss planning for future HSRB meetings. The agenda and the draft report will be available prior to the meeting at http://www2.epa.gov/osa/human-studies-review-board.

Meeting minutes and final reports. Minutes of these meetings, summarizing the matters discussed and recommendations made by the HSRB, will be released within 90 calendar days of

the meeting. These minutes will be available at http://www2.epa.gov/osa/human-studies-review-board. In addition, information regarding the HSRB's Final Report, will be found at http://www2.epa.gov/osa/human-studies-review-board or from Thomas O'Farrell listed under FOR FURTHER INFORMATION, CONTACT.

Date: _____

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Jennifer Orme-Zavaleta, Ph.D.

EPA Science Advisor