UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

January 19, 2021

Barry Wray
Executive Director
Florida Keys Environmental Coalition
114 W. Pippin Drive
Islamorada, FL 33036

Subject: Meeting with EPA on November 12, 2020 Regarding the Oxitec Experimental Use Permit Approved on April 30, 2020

Dear Mr. Wray:

Thank you for meeting with us on November 12, 2020, regarding concerns that the Florida Keys Environmental Coalition have about the Oxitec experimental use permit (EUP) application for OX5034 *Aedes aegypti* mosquitoes.

Within this letter, we've addressed each of your specific questions and concerns.

FKEC expressed concern that the data contained in the Zhao *et al*., 2020 publication regarding survival of female fruit flies containing the tTA construct suggests Oxitec's GE mosquitoes containing the tTav construct may have surviving females. EPA evaluated the Zhao *et al.* publication, which was not published until after EPA approved the (EUP) at issue. EPA's evaluation shows that the survival of female fruit flies containing the tTA seen in the Zhao et al. publication does not imply that the same outcome would be expected for Oxitec's OX5034 mosquitoes. As EPA recognized spontaneous mutations as a potential avenue for resistance development in its previously completed risk assessment, EPA required Oxitec to continually monitor for the presence of resistance in field-collected hemizygous *Ae. aegypti* larvae for the duration of the EUP. Based on the product-specific data evaluated by EPA, the Agency finds that instances of female survival into adulthood due to genetic resistance are expected to be negligible within the parameters of this EUP. EPA has posted a detailed review of the Zhao et al. publication in in docket EPA-HQ-OPP-2019-0274 at www.regulations.gov. The review is entitled "Review of the Zhao *et al*., 2020 study on 'Genetic breakdown of a Tet-off conditional lethal system for insect population control' and its relevance to the OX5034 *Ae. aegypti* Experimental Use Permit; EPA File Symbol 93167-EUP-1."

Another concern raised was about potential issues associated with tetracycline-resistant bacteria. EPA assessed this issue as part of the EUP and determined the probability that releases of OX5034 male mosquitoes during testing would spread antibiotic resistant bacteria in the environment is negligible. Additional information on this topic can be found in EPA's risk assessment (EPA-HQ-OPP-2019-0274-0359) on pages 48-49, and also in its response to

comment document (EPA-HQ-OPP-2019-0274-0355) on pages 75-77. Both of these documents can be found in docket EPA-HQ-OPP-2019-0274.

EPA also considered your concern that wild female mosquitoes may acquire GE proteins through mating with OX5034 male mosquitoes and expose people through biting. EPA does not find there to be a plausible pathway through which wild female mosquitoes could acquire GE proteins through mating with OX5034 male mosquitoes that would result in subsequent exposure of people to these proteins through mosquito bites.

You also expressed concern that EPA did not conduct an Environmental Impact Statement (EIS) under the National Environmental Protection Act (NEPA). As part of the EUP process, EPA performed a rigorous environmental risk assessment which found that there will be no unreasonable adverse effects on the environment. In addition, as explained in the response to comment document, including discussion of relevant caselaw and the rationale underlying those judicial opinions, because Congress did not intend for NEPA requirements to apply to pesticide registration actions by EPA under FIFRA, EPA need not conduct a NEPA analysis before issuing the present EUP. More details on this issue can be found in pages 137-139 of EPA's response to comment document (EPA-HQ-OPP-2019-0274-0355), which can be found in docket EPA-HQ-OPP-2019-0274.

Finally, FKEC also raised a concern that people are being tested against their will and need to provide informed consent. EPA determined that the research involved with Oxitec's release of male OX5034 mosquitoes does not meet the regulatory definition of research involving human subjects under the applicable regulatory standard, 40 CFR 26, Subparts K-L. In turn, because the research does not include "human subjects" as defined in the regulation, the threshold of "research involving intentional exposure of human subjects" is not met, and therefore the requirements of EPA's human studies rule do not apply to this research proposed by Oxitec. EPA continues to stand by this previous assessment. Additional information regarding this issue can be found on pages 134-137 of EPA's response to comment document (EPA-HQ-OPP-2019-0274-0355), which is available in docket EPA-HQ-OPP-2019-0274.

We appreciate you taking the time to meet and voice your concerns. If you have additional questions or concerns, please contact me or your staff may contact Charles Smith, Acting Director of the Biopesticides and Pollution Prevention Division at smith.charles@epa.gov.

Sincerely,

ALEXANDRA DAPOLITO DUNN

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Alexandra Dapolito Dunn, Esq.
Assistant Administrator