

Intercontinental Terminals Company (ITC) Deer Park Facility Tank Fire “ITC Tank Fire”

Avian Injury Quantification – Phase 1 Necropsy and Pathology

Approval of this Assessment Plan for necropsy and pathology evaluation of bird carcasses will support the avian injury quantification for the purposes of Natural Resources Damage Assessment. Each party reserves its right to produce its own independent interpretation and analysis of any data collected pursuant to this work plan.

This plan will be implemented consistent with existing Trustee¹ regulations and policies. All applicable state and federal permits must be obtained prior to conducting work.

By signing this assessment plan and agreeing to fund the work outlined, ITC is not endorsing the model articulated in the work plan.

Chip Wood
Department of the Interior Trustee Representative

10/28/2019
Date

State of Texas Trustee Representative

Date

ITC Representative

Date

¹ The natural resource trustees for the ITC Tank Fire (a/k/a ITC 2nd 80's Fire) are Texas Commission on Environmental Quality, the Texas Parks and Wildlife Department, the Texas General Land Office, the National Oceanic and Atmospheric Administration and the U.S. Department of the Interior.

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Department of the Interior Trustee Representative

Date

State of Texas Trustee Representative

Date

Ralph Markarian



ITC Representative

Oct 25, 2019

Date

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Department of the Interior Trustee Representative

Date



State of Texas Trustee Representative TPWD

10/4/19

Date

ITC Representative

Date

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SETTLEMENT COMMUNICATION

Introduction

During the response to the Intercontinental Terminals Company LLC (ITC) Tank Fire², a variety of hazardous substances including but not limited to mixtures of fire water, firefighting aqueous film forming foams, benzene, ethylbenzene, naphtha, xylene, toluene, pyrolysis gas, polyfluoroalkyl substances (PFAS) and other refined oil and petrochemical products were released into the air and waters surrounding the ITC Deer Park Facility in East Houston, Texas (Facility). Unlike conventional crude or fuel oil discharges, some of the ITC-related products were difficult to visually identify in the environment and may have differing mechanisms of toxicity to exposed wildlife. A thorough post-mortem examination of exposed wildlife can provide information on adverse effects. It may also be important to evaluate indicators of exposure to establish the connection between exposure and the death of birds.

As part of the cooperative assessment, the Trustees request funding to support necropsy and pathology assessment of a subset of birds that died in rehabilitation or were recovered as part of the response to the ITC Tank Fire. Funds provided for this activity will be used to evaluate exposure and cause of death pursuant to this plan. Information derived from this study will be used to inform the development and implementation of preliminary avian injury quantification models.

Objective and Study Design

As described above, the purpose of this Plan is to complete necropsy- and pathology-based post-mortem assessment on a subset of the birds that died in rehabilitation or were recovered as part of the response to the ITC Tank Fire for integration into avian injury quantification models. This Study represents one phase of a potential multi-phased approach to evaluate impacts to birds exposed to ITC Tank Fire-related substances. In this phase, a subset of six to ten birds currently held by Wildlife Response Services, LLC will be submitted to the USGS-National Wildlife Health Center (NWHC) to conduct diagnostic investigations to determine causes of avian morbidity and mortality. Veterinary pathologists and necropsy technical staff with the NWHC will examine the carcasses to verify species and condition, collect and process photographic and radiographic images as necessary, conduct detailed necropsies, collect appropriate samples for histological preparation, and collect and submit appropriate tissue samples for diagnostic laboratory evaluation based upon gross observations at time of necropsy. Necropsy and histology findings and the results of any laboratory tests will be interpreted by pathologists to determine cause of death. Based on the findings in Phase 1, the Trustees may propose a second phase of analysis to include tissue analyses to assess chemical exposure or characterization of physiological markers of exposure, such as hemolytic anemia or immunological responses.

Sample Selection and Handling

Prior to conducting necropsies, Trustees representatives in coordination with the ITC representatives and NWHC staff will agree on the samples that will be analyzed. Carcasses or samples will be selected from birds both with and without visual evidence of exposure to represent a range of exposure potential. Intact fresh or frozen carcasses are preferred (opposed to portions of bird carcasses) to maximize diagnostic potential and to allow for the variety of testing that may be required for to determine cause of death. If whole carcass submission is not possible, other tissues may be accepted for determining cause of death when the sample diagnostic yield is expected to be high.

Reports, carcasses, and samples will be handled and stored using appropriate chain-of-custody protocols, as directed by the NWHC and consistent with 445 FW 3, Exhibit 1 (<https://www.fws.gov/policy/e1445fw3.html>) and 448 FW 1 (<https://www.fws.gov/policy/448fw1.html>).

Upon completion of Phase 1, , the need for further analyses will be evaluated and discussed among the Trustees and ITC representatives.. If additional assessment is judged to be appropriate, the Trustees will develop another Assessment Plan outlining the planned activities and analyses to be performed. If it is determined that a subsequent phase of analysis is not required or remnant carcasses or samples are not to be used, the Trustees shall provide written notice to

² The "ITC Tank Fire" references the March 2019 tank fires at the Intercontinental Terminals Company Deer Park Facility in East Houston, Texas.

SETTLEMENT COMMUNICATION

ITC of that determination and ITC may elect in writing within 45 days of the receipt of such notice to retain or take possession of any remaining carcasses or samples for ITC's use, at ITC's cost. Absent a timely written election to retain or take possession of the carcasses or samples, they may be disposed of.

Disposal of Carcasses and Samples

Unless otherwise stated or as instructed by a court order, carcasses, preparations and samples can be disposed of when the Trustees, in consultation with ITC, determine: (1) there is no longer a need for the carcasses, preparations or samples or (2) the case has been officially adjudicated by judgment or settlement.

The NWHC should:

1. Dispose of carcasses and samples only upon receipt and verification of a written directive from the USFWS Coordinator.
2. Not abandon or destroy carcasses in a manner that is detrimental or dangerous to public health or safety.
3. Conduct carcass and sample disposal in accordance with local, state, and Federal air and water pollution control standards.
4. Complete a sign out form for destruction using the appropriate chain of custody form (Form 2063).
5. Document the destruction of all items.

Data and Quality Assurance

All data will be posted to DIVER for access by all parties. The NWHC Diagnostic Necropsy Laboratory will receive carcasses in accordance with chain-of-custody protocols, and all information derived from carcasses will be recorded in NWHC's Laboratory Information Management System (LIMS). Necropsies will be performed by ACVP-Board Certified pathologists. Collected samples will be uniquely identified, associated with the appropriate case and accession number, and recorded in LIMS. Collected samples will be submitted to appropriate laboratories for further processing, including histology and other diagnostic testing.

Deliverables Produced

The deliverable for this study is a final case report describing post-mortem findings stemming from gross and microscopic examination, results of any additional diagnostic analyses completed, and conclusions regarding causes of morbidity and mortality for each of the carcasses examined. The final case report will be made available DIVER to ITC and the Trustees and will be available to the public.

Principal Investigator

David S Blehert
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National Wildlife Health Center
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U.S. Fish and Wildlife Service Coordinator (Primary Point of Contact)

Chip Wood
U.S. Fish & Wildlife Service - Environmental Response and Restoration Program
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E-mail: chip_wood@fws.gov
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ITC Technical Representative for Purpose of this Assessment Plan

Ralph K. Markarian PhD

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Kennett Square, PA 19348

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Budget

The estimated cost for the Avian Injury Quantification – Phase 1 Necropsy and Pathology study is \$10,306.42 including associated contingency, Department of the Interior salary and overhead costs. The Trustees and ITC acknowledge that this budget is an estimate, and that actual costs may prove to be higher. ITC's commitment to fund the costs of this work includes any additional reasonable costs within the scope of this approved work plan that may arise.

Cost Category	Amount
USFWS Labor and Benefits	\$590.18
Contracts – USGS-National Wildlife Health Center (NWHC)	\$8,000.00
<i>Veterinary and Pathologist Salaries & Overhead</i>	<i>\$4,000.00</i>
<i>Diagnostic Procedures, Evaluation and Report</i>	<i>\$2,000.00</i>
<i>Pathology Preparations, Evaluation and Report</i>	<i>\$1,200.00</i>
<i>Supplies</i>	<i>\$800.00</i>
FWS Indirect Support	\$679.90
DOI Indirect Support	\$99.39
TOTAL PROJECT COSTS	\$9,369.47
Contingency Costs 10.00%	\$936.95
TOTAL PROJECT COST with Contingency	\$10,306.42