UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

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MAY 23 2014

Ms. Wren Stenger
Director, Multimedia Planning and Permitting Division
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Ref.: EPA, Issuance of Green House Gas Prevention of Significant Deterioration (PSD) Permits for 3 Projects in San Patricio, Calhoun, and Nueces Counties, Texas

Dear Ms. Stenger:

This letter responds to your emails received February 14-21, 2014, requesting National Marine Fisheries Service (NMFS) concurrence with your determinations pursuant to Section 7 of the Endangered Species Act (ESA). The United States Environmental Protection Agency (EPA), Region VI, intends to issue Greenhouse Gas PSD permits to 3 companies for the construction or modification of facilities at their respective locations (Table 1). You determined the operations of these 3 facilities under the proposed permits may affect, but are not likely to adversely affect, green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles. NMFS's determination regarding the effects of the proposed actions is based on the descriptions of the actions in this informal consultation. Any changes to the proposed actions may negate the findings of the present consultation and may require reinitiation of consultation with NMFS.

The Federal Clean Air Act (FCAA) implemented by EPA and the Texas Clean Air Act (TCAA) require that air quality concentration limits be established that are designed to protect public health, welfare, and the environment. EPA has established National Ambient Air Quality Standards (NAAQS) that are maximum concentration limits for specific pollutants in ambient air over a specific averaging time established in federal regulation (40 CFR 50). EPA has established NAAQS for six principal air pollutants, also referred to as criteria air pollutants. These six criteria air pollutants are carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (0_3), particulate matter less than 2.5 microns ($PM_{2.5}$), particulate matter less than 10 microns (PM_{10}) and sulfur dioxide (SO_2). The FCAA also establishes that geographic areas be classified as either having ambient concentrations above or below the established NAAQS. A geographic area whose ambient air concentration for a criteria pollutant is equal to or less than the primary standard is an attainment area. A geographic area with an ambient air concentration greater than the primary standard is a nonattainment area. The FCAA requires the EPA to establish regulations to prevent significant deterioration of air quality in attainment areas. The EPA established two measures to assure that existing good air quality in attainment areas is not adversely affected by increased air emissions. These two measures are: (1) the prevention of significant deterioration (PSD) increment which limits the increase in the ambient air concentration in an attainment area to an amount (the PSD increment) that will assure that the total ambient concentration in an attainment area continues to be below the NAAQS, and (2) the significant impact level (SIL). The SIL is a de minimis threshold applied to individual facilities that apply for a permit to emit a regulated pollutant in an area that meets the NAAQS. The state and EPA must determine if emissions from that facility will cause the air quality

to worsen. The SIL is a measure of whether a source may cause or contribute to a violation of PSD increment or the NAAQS, i.e. a significant deterioration of air quality.

In order to obtain a PSD permit for criteria pollutants, an applicant is required to demonstrate that the emissions from the proposed project will be below either the SIL or the PSD increment for each pollutant and therefore assure that the existing air quality after the permit is issued will remain below the NAAQS established to protect public welfare and the environment. This demonstration is performed using a computer model which simulates the dispersion of the emitted pollutants into the atmosphere and predicts ground level concentrations.

Currently, the Texas Commission on Environmental Quality (TCEQ) has been delegated authority for the issuance of the PSD permits for criteria pollutants, whereas the USEPA retains authority for permitting major sources of GHGs. As required by state regulations at 30 TAC §116.111(a)(2)(c), new or modified facilities must apply best available control technology (BACT), with consideration given to the technical practicability and economic reasonableness of reducing or eliminating the emissions from the facility and thereby minimizing the impact of emissions on the ambient air.

Regarding wastewater discharges from the proposed facilities, point source discharge permitting authority under the Federal Clean Water Act has been delegated to Texas. Texas issues Texas Pollutant Discharge Elimination System (TPDES) permits in accordance with Texas Surface Water Quality Standards for Marine Life (30 TAC 307), which set limitations on effluents to be protective of marine organisms. Further, TPDES permits are subject to permit requirements for acute and chronic biomonitoring to demonstrate that the wastewater discharges are not toxic to marine organisms.

Table 1. Projects included in this batched consultation

Project Number	Applicant	Project location	NMFS Project Number
1	Occidental Chemical Corporation	Ingleside, San Patricio County, Texas	SER-2014-13267
2	Formosa Plastics Corporation	Point Comfort, Calhoun County, Texas	SER-2014-13269
3	Flint Hills Resources	Corpus Christi, Nueces County, Texas	SER-2014-13289

1. Occidental Chemical Corporation (OxyChem)

OxyChem proposes to construct and operate an ethane cracker facility at an existing industrial complex located west of Ingleside, San Patricio County, Texas. The ethane cracker facility will be centered around the geographic coordinates of 27.886667°N, 97.235278°W (North American Datum 1983). The OxyChem property abuts the La Quinta Channel to the south, and is approximately 12 miles west of Aransas Pass (Figure 1). The property currently contains a ship dock, 2 barge docks, and approximately 1,700 linear feet of bulkhead. The ethane cracker facility will contain 5 ethane cracker furnaces and a number of supporting systems to break ethane into various product streams for further processing, storage, or transport. The primary product of this process is ethylene which will be fed to the adjacent Vinyl Chloride Monomer (VCM) Plant or piped to the Markham Storage Hub approximately 114.5 miles north/northeast of the facility. The OxyChem project will require a cooling water system, steam and condensate facilities, power supply facilities, fuel gas facilities, plant and instrument air facilities, nitrogen facilities, an emergency enclosed ground flare, storage tanks, and new power lines.

As part of the proposed action, OxyChem also intends to install 2 pipeline corridors to transfer material into or out of the facility. The Markham Ethylene Pipeline Corridor will contain an 8-inch-diameter pipeline to export ethylene from the facility to Clemville, Texas, approximately 114.5 miles north/northeast. The San Patricio Pipeline Corridor will contain a pipeline to supply ethane to the facility from outside of Sinton Texas, located 18.5 miles north/northwest of the facility. Horizontal directional drilling will be used to install pipelines at all major water crossings.

While nearly all activities associated with the construction and operation of the facility will occur on land, operation will result in the production of wastewater. This wastewater will be steam-stripped and routed to the existing biological wastewater treatment system located at the VCM plant. OxyChem will cool and treat all process wastewater using the existing wastewater treatment system prior to discharge at the previously permitted TPDES outfall (Permit WQ0003083000) in the La Quinta Channel. The total discharge from the outfall will be well below levels authorized by the existing permit. The current average flow of the existing wastewater discharge is approximately 830 gallons per minute (gpm). The combined flow of the existing wastewater (830 gpm), the ethylene plant blowdown streams (300 gpm), and the treated process wastewater (100 gpm) will be approximately 1,280 gpm. According to the Biological Assessment (BA) submitted by the applicant, the worst case contaminant expected to be in the process wastewater is benzene. The highest concentration of benzene expected after steam stripping and treatment in the activated sludge process is 0.005 milligrams per liter (mg/l), which is well below the current wastewater permit discharge concentration limit for benzene of 0.136 mg/l, to be protective of marine organisms (Texas Surface Water Quality Standards for Marine Aquatic Life [30 TAC 307]). In addition, the existing discharge of wastewater is subject to acute and chronic biomonitoring to demonstrate that the wastewater discharge is not toxic to marine organisms, pursuant to EPA toxicity testing procedures ("Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" (EPA-821-R-02-014); and "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" [EPA-821-R-02-012]). According to the data presented in the BA, historical results from this testing have consistently demonstrated that the effluent is not toxic to marine organisms and this requirement will remain in effect for future effluent discharges.

The Project is subject to PSD review for oxides of nitrogen (NO_x), CO, O_3 (review triggered based on emissions of NO_x and volatile organic compounds [VOC]), PM_{10}, $PM_{2.5}$, and GHGs. Preliminary air quality modeling of potential emissions from the ethane cracker facility indicate that air contaminant concentrations will remain below established SIL at locations along and beyond the ethane cracker facility site boundary.

Figure 1. Image showing the locations of the OxyChem (yellow) and Flint Hills Resources (green), projects around Corpus Christi Bay, Texas (©2014 Google, data SIO, NOAA, U.S. Navy, NGA, GEBCO)

2. Formosa Plastics Corporation

The Formosa Plastics Corporation proposes to expand its chemical complex within the existing footprint of its site at Point Comfort, Calhoun County, Texas. The expansion consists of an Olefins Expansion facility (a new Olefins 3 plant and a propane dehydrogenation unit), a new Low Density Polyethylene plant, and 2 new Combined Cycle Turbines. The chemical complex is located at 26.212685°N, 97.625834°W, approximately 0.5 mile east of Lavaca Bay and 23 miles northeast of Matagorda Pass (Figure 2). Formosa determined the action area in which the proposed project may result in significant direct and indirect impacts to be less than a 7 mile radius around the proposed project construction area based on air emissions, since air emissions have the potential for widest impact away from the project site. Project construction is expected to take 39 months for completion.

The proposed expansion at the Formosa Plastics Chemical Complex will not involve any in-water construction; however, the project will result in additional discharge of wastewater to the surrounding waters. All process wastewater will be treated at its Combined Wastewater Treatment Plant prior to discharge under TPDES Permit WQ0002436000. As part of the wastewater treatment, process waters are routed through an Ion Exchange Membrane, a Demineralization Treatment Unit, and a Cooling Tower Blowdown prior to discharge. The wastewater outfall discharges to Lavaca Bay via a diffuser that uniformly mixes the wastewater effluent with the surrounding waters. The existing facility currently discharges an average of 6.43 million gallons per day (mgd). The proposed expansion project would produce an additional 0.432 mgd of wastewater, i.e. the total volume of wastewater discharged via Outfall 001 would be 6.862 mgd. This total volume is well below the average daily flow of 9.7 mgd that is allowed by the existing TPDES permit. The proposed expansion project will result in an approximate 6% increase in wastewater discharge volume, but the applicant states that due to similar operating parameters and chemical loading, the pollutant

concentration of the effluent will not change. According to the results of water quality monitoring and toxicity testing studies conducted on the plant's outfall discharges: (1) over time there has been no upward trend in reported concentrations of parameters of concern in the bay or the point of entry into Lavaca Bay, (2) the mixing provided by the diffuser is complete and meets water quality objectives that are protective of aquatic life, and (3) there are no effects on the overall Lavaca Bay water quality.

The Formosa project is subject to PSD review for NO_2, CO, VOCs, PM_{10}, $PM_{2.5}$, and GHGs. There is no NAAQS pollutant for which Calhoun County (where the FPC TX plant is located) is designated nonattainment; therefore, Calhoun County is considered unclassified/attainment. Based on preliminary modeling air emissions modeling reported in the BA, the predicted concentrations associated with the proposed project are expected to be less than the screening air quality related values concentrations, Primary NAAQS, and Secondary NAAQS. The BA also reports that the potential for airborne NO_2 to be deposited in surface waters and potentially alter the pH was considered and found to be not likely. The predicted exposure of surface waters of Lavaca Bay and its tributaries to a concentration of NO_2 greater than SIL is a maximum 1.5% of hours in a year.

Figure 2. Image showing the location of the Formosa Plastics Corporation in Point Comfort, Texas (©2014 Google, data SIO, NOAA, U.S. Navy, NGA, GEBCO)

3. Flint Hills Resources

The West Refinery is located approximately 8 miles northwest of Corpus Christi and is situated among developed industrial land associated with the Port of Corpus Christi Inner Harbor. Immediately to the north of the West Refinery is the Viola Turning Basin, which is the westernmost end of the Inner Harbor. Just to the north of the Viola Turning Basin is the Nueces River and Nueces Bay. Flint Hills Resources proposes to modify its West Refinery located in Corpus Christi, Nueces

County, Texas (Figure 1), to increase the refinery's domestic crude oil processing capabilities. This will include the construction of new emission units, modifications to existing emission units, and changes to the Marine Terminal/Marine Vapor Combustor. Each of these construction activities involve multiple components such as additional facilities, utilities, cooling towers, tanks, etc., but no in-water work is proposed. Further, there will be no increase in water uptake from the Nueces River as all necessary water increases will be supplied by the City of Corpus Christi Municipal Water Supply.

The project will result in an increase of wastewater discharged to the adjacent water body (Viola Turning Basin), although this increase will be within the currently permitted discharge volume under TPDES Permit WQ0000531000. Contaminated wastewater will be treated in an existing wastewater treatment facility before being discharged via Outfall 001 into the Viola Turning Basin. According to the BA, results of water quality analyses indicate that any potential increases in concentration, loading, and temperature are small, will not degrade water quality according to Texas water quality guidance, and are within water quality standards. Project wastewater flows may increase the temperature of the discharged water by up to 2 degrees Fahrenheit (°F) at Outfall 001, but the increase in temperature of the surface water is expected to be below the maximum allowed change of 1.5°F in June, July, and August and the maximum allowed change of 4°F from September to May. The Project is conservatively estimated to increase the actual discharge volume by approximately 150 gpm (from about 2,300 gpm to about 2,450 gpm), which is within the currently permitted discharge volume. Eight of 20 chemicals in wastewater discharges are expected to decrease in concentration or exhibit no change; the other 12 parameters are expected to show small increases in concentrations (most less than a 5% change). All parameters will meet water quality standards. Further, biomonitoring data from 2012 and 2013 indicates that the current effluent is not toxic to sensitive aquatic species. Whole effluent toxicity (WET) tests conducted for Outfall 001 and No Observed Effect Concentration (NOEC) tests indicate that the effluent discharged at Outfall 001 is not toxic and is not expected to cause harm to aquatic life in the receiving water (BA at 43).

The Project—including construction of the new emission units, changes to existing emission units, and emissions from upstream and downstream affected units will not trigger federal PSD for any non-GHG new source review-regulated pollutants. Increases in GHG emissions are estimated at approximately 360,000 tons per year (tpy) CO_2e compared to the PSD significance threshold of 75,000 tpy. Air dispersion modeling results show that neither PSD SILs nor Texas-established Effects Screening Levels were exceeded at any modeling receptor outside the areas of the site that will be directly affected by construction and plant operation.

NMFS Analysis

Based on life histories and habitat preferences of leatherback and hawksbill sea turtles, we do not believe that either species will occur in any of the project areas. Leatherback sea turtles are the most pelagic of the sea turtles and typically do not utilize shallow inshore waters. Hawksbill sea turtles are generally associated with reef habitats and are not expected to utilize inshore waters of Texas. The sites are not located in critical habitat or proposed critical habitat for any listed species; thus no critical habitat will be affected. We believe green, Kemp's ridley, and loggerhead sea turtles may be present in the action areas and may be affected by the projects.

The operation of these facilities may affect sea turtles through the discharge of additional wastewaters into the surrounding estuarine environment. All additional discharges will be pre-treated and made through existing outfall structures that are monitored under current TPDES permits. Because historical monitoring of discharges from the current facilities have not caused toxicity in the

receiving waters to date, and because the proposed increases in discharges are well within the limits of their existing TPDES permits, NMFS does not believe that these modifications will have any noticeable effects on sea turtles. Therefore, NMFS believes any effects to sea turtles from additional discharges at existing outfalls will be insignificant.

The operation of these facilities may also affect sea turtles through the release of air pollutants from operational emissions. As each of the proposed facilities has the potential to emit at least one criteria pollutant in quantities greater than the major source thresholds they are subject to PSD review. Applicants for each of the projects provided air quality modeling to determine if, and to what extent, any emissions could impact the surrounding environment. In each case, models showed that emissions from the proposed additions/modifications would not exceed SILs for each criteria pollutant beyond the boundaries of their respective facility, or would do so infrequently and over large bodies of receiving surface waters where they will be diluted. Therefore, no indirect air pollution emission impacts to surface waters, soils, or vegetation are expected from the projects. Consequently, no off-site indirect effects on listed species under NMFS's jurisdiction are expected.

Finally, we concur with your project-effect determinations that the proposed actions may affect, but are not likely to adversely affect, green, Kemp's ridley, and loggerhead sea turtles. This concludes your consultation responsibilities under the ESA for species under NMFS's purview. Consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action.

We have enclosed additional information for your review including NMFS's Public Consultation Tracking System (PCTS) to allow you to track the status of ESA consultations. If you have any questions, please contact Adam Brame, Consultation Biologist, at (727) 209-5958, or by email at Adam.Brame@noaa.gov. Thank you for your continued cooperation in the conservation of listed species.

Sincerely,

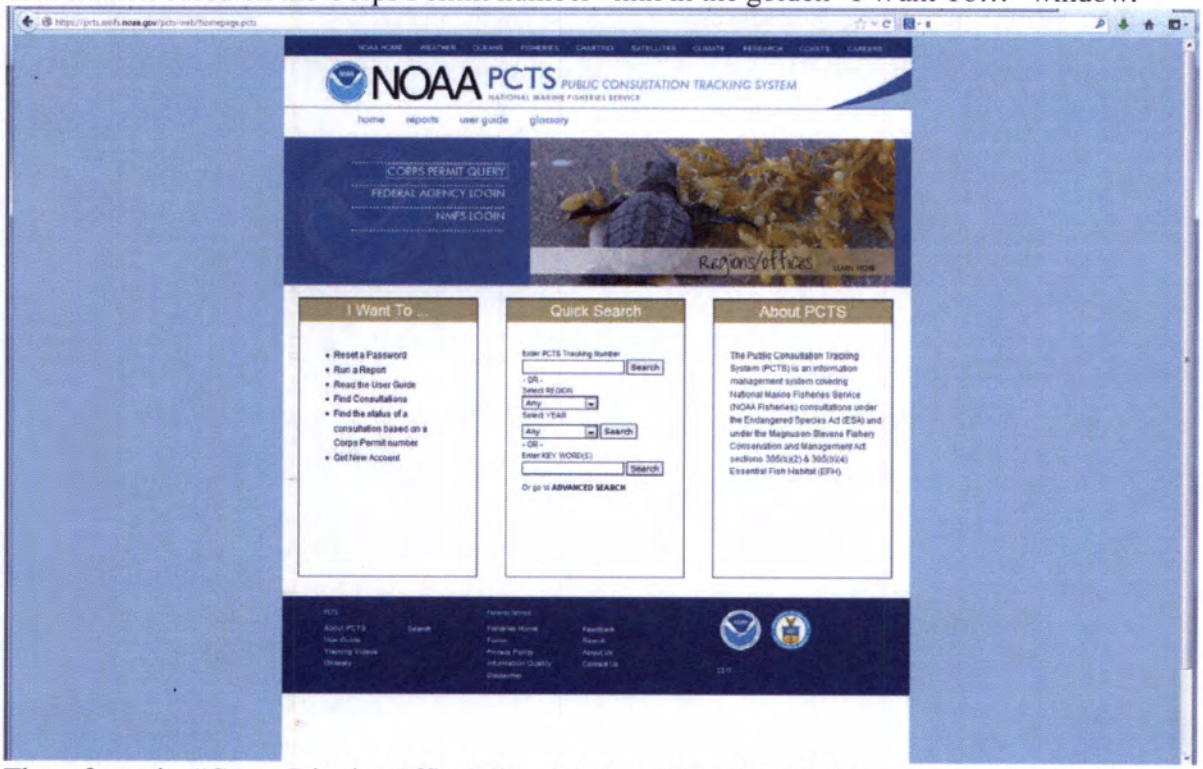
for Roy E. Crabtree, Ph.D.
Regional Administrator

Enc.: 1. *PCTS Access and Additional Considerations for ESA Section 7 Consultations* (Revised June 11, 2013)

PCTS Access and Additional Considerations for ESA Section 7 Consultations
(Revised 6-11-2013)

Public Consultation Tracking System (PCTS) Guidance: PCTS is a Web-based query system at **https://pcts.nmfs.noaa.gov/** that allows all federal agencies (e.g., U.S. Army Corps of Engineers - USACE), project managers, permit applicants, consultants, and the general public to find the current status of NMFS's Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultations which are being conducted (or have been completed) pursuant to ESA Section 7 and the Magnuson-Stevens Fishery Conservation and Management Act's (MSA) Sections 305(b)2 and 305(b)(4). Basic information including access to documents is available to all.

The PCTS Home Page is shown below. For USACE-permitted projects, the easiest and quickest way to look up a project's status, or review completed ESA/EFH consultations, is to click on either the "Corps Permit Query" link (top left); or, below it, click the "Find the status of a consultation based on the Corps Permit number" link in the golden "I Want To…" window.



Then, from the "Corps District Office" list pick the appropriate USACE district. In the "Corps Permit #" box, type in the 9-digit USACE permit number identifier, with no hyphens or letters. Simply enter the year and the permit number, joined together, using preceding zeros if necessary after the year to obtain the necessary 9-digit (no more, no less) number. For example, the USACE Jacksonville District's issued permit number SAJ-2013-0235 (LP-CMW) must be typed in as 201300235 for PCTS to run a proper search and provide complete and accurate results. For querying permit applications submitted for ESA/EFH consultation by other USACE districts, the procedure is the same. For example, an inquiry on Mobile District's permit MVN201301412 is entered as 201301412 after selecting the Mobile District from the "Corps District Office" list. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov or (727) 551-5773.

EFH Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division pursuant to Section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the MSA requirements for EFH consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Marine Mammal Protection Act (MMPA) Recommendations: The ESA Section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA Section 101 (a)(5) is necessary. Please contact NMFS' Permits, Conservation, and Education Division at (301) 713-2322 for more information regarding MMPA permitting procedures.