ESSENTIAL FISH HABITAT ASSESSMENT

Supplement to the Bureau of Ocean Energy Management Essential Fish Habitat Assessment for the Gulf of Mexico (February 2022)

National Pollutant Discharge Elimination System (NPDES) General Permit
for the Central and Western Portions of the Outer Continental Shelf (OCS)
of the Gulf of Mexico (GMG290000)

Section I. Project Description

The Water Division Director of EPA Region 6 is proposing to reissue a National Pollutant Discharge Elimination System (NPDES) general permit for its jurisdictional area in the Outer Continental Shelf (OCS) of the Gulf of Mexico (General Permit No. GMG290000) for discharges in the Offshore Subcategory of the Oil and Gas Extraction Point Source Category (40 Code of Federal Regulations (CFR) part 435, subpart A). The existing general permit which became effective on October 1, 2017, and expires on September 30, 2022, authorizes discharges from exploration, development, and production facilities located in and discharging to all Federal waters of the Gulf of Mexico seaward of the outer boundary of the territorial seas.

The proposed draft NPDES permit covers existing and new source facilities in the Central and Western Planning Areas with operations located on Federal leases offshore the coasts of Louisiana and Texas. The eastern boundary of the coverage area is demarcated by Mobile and Visoca Knoll lease blocks located seaward of the outer boundary of the territorial seas from the coasts of Mississippi and Alabama in the Central Planning Area (CPA). The western boundary of the coverage area is demarcated by the boundary with waters under the jurisdiction of Mexico. Discharges authorized by this permit would be at least 3 nautical miles off the Louisiana and the Texas Coast lines.

As proposed, the NPDES general permit includes best practicable control technology currently available (BPT), best conventional pollutant control technology (BCT), and best available technology economically achievable (BAT) limitations for existing sources and new source performance standards (NSPS) limitations for new sources as promulgated in the effluent guidelines for the offshore subcategory at 58 FR 12454 and amended at 66 FR 6850 (March 4, 1993 and January 22, 2001 respectively).

Background Information Concerning General Permits

Section 301(a) of the Clean Water Act (CWA or the Act), U.S.C. 1311(a), provides that the discharge of pollutants is unlawful except in accordance with the terms of a National Pollutant Discharge Elimination System (NPDES) permit. CWA section 402, 33 U.S.C. 1342, authorizes EPA to issue NPDES permits allowing discharges on condition they will meet certain requirements, including CWA sections 301, 304, and 401, 33 U.S.C. 1311, 1314, and 1341.

EPA may issue NPDES permits to operators of individual facilities or general permits to a class of similar dischargers within a discreet geographical area. Issuance of general permits is not controlled by the procedural rules EPA uses for individual permits, but is instead subject to section 4 of the Administrative Procedure Act (APA), 5 U.S.C. 553, as supplemented by EPA regulations, e.g., 40 CFR 124.58. EPA must, however, comply with the substantive requirements of the CWA without regard to whether it is issuing an individual or general NPDES permit.

Incorporation of the BOEM Essential Fish Habitat Assessment for the Gulf of Mexico (March 2016) and Past/Present Essential Fish Habitat and Endangered Species Act Consultations

For the issuance of the 2017 GMG290000 general permit, EPA was a cooperating agency with the Bureau of Ocean Energy Management (BOEM) on the Gulf of Mexico OCS Oil and Gas Lease Sales 2017-2022 Final Multisale Environmental Impact Statement issued March 2017. EPA adopted this final EIS to satisfy National Environmental Policy Act (NEPA) obligations regarding issuance of the NPDES permit. The Environmental Impact Statement (EIS) included Endangered Species Act (ESA) and Essential Fish Habitat (EFH) determinations that also addressed discharges authorized by NPDES permits. The EFH Assessment for the Gulf of Mexico (March 2016) prepared by BOEM in support of the EIS is hereby adopted by reference, as provided by 50 CFR §600.920(e)(5), to satisfy the relevant requirements of 50 CFR §600.920(e)(3). EPA's conclusions and other relevant information adopting and supporting the BOEM Assessment's conclusions are included in the following sections.

By letter dated June 29, 2017, EPA was informed that ESA Section 7 consultation was being considered in the larger context of consultation on BOEM leasing activities in the Gulf of Mexico and would not be addressed in separate consultation over NPDES permits authorizing discharges resulting from activities authorized as a result of BOEMs's oil and gas leasing activities. Note that the effects of the NPDES permit are limited to the authorized discharges, since effects related to location and operation of exploration and production facilities are part of the baseline established by the BOEM consultations with the Services. Also note that the BOEM analyses for ESA and EFH include a discussion on the NPDES permits and the controls that regulate the quality of authorized discharges.

Description of Activities, Facilities and Discharges Subject to the Proposed Draft Permit

The Oil and Gas Extraction Point Source Category (40 CFR part 435 - subpart A) includes facilities engaged in field exploration, development and well production and well treatment. Exploration facilities are fixed or mobile structures engaged in the drilling of wells to determine the nature of potential hydrocarbon reservoirs. A development facility is any fixed or mobile structure engaged in the drilling and completion of productive wells, which may occur prior to, or simultaneously with production operations. Production facilities are fixed or mobile structures engaged in well completion or used for active recovery of hydrocarbons from producing formations.

The proposed general permit will authorize the following discharges: drilling muds; drill cuttings; produced water; well treatment fluids; workover fluids; completion fluids; deck drainage, sanitary wastes; domestic wastes, desalinization unit discharges, blowout preventer fluid; fire control system test water; non-contact cooling water; uncontaminated ballast water; uncontaminated bilge water; excess cement slurry; and mud, cuttings and cement at the seafloor. The proposed permits will authorize discharges from facilities engaged in field exploration, development and well production and well treatment, for offshore operations for both existing and new sources occurring seaward of the territorial seas and those located within the territorial seas that discharging to waters covered by the permit. Details of authorized discharges are described in Chapter 3 of the final EIS.

Section II. Assessment of Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC) in the Gulf of Mexico

Essential fish habitats identified in the Fishery Management Plan Amendments of the Gulf of Mexico Fishery Management Council which may exist in areas affected by the proposed General Permit include water column, vegetated bottoms, non-vegetated bottoms, live bottoms, coral reefs, artificial reefs, geologic features, Mississippi/Alabama shelf and west Florida shelf. However, Flower Garden Banks National Marine Sanctuary is the only Habitat Areas of Particular Concern (HAPC) may be affected by this permitting action.

Chapters 2 and 4 of the EIS and Section 3 of BOEM EFH Assessment provide more details of EFH and HAPC.

Section III. Fisheries and Species

Chapter 2 of the EIS and Section 4 of BOEM EFH Assessment have more details of fisheries species.

Section IV. Impacts of NPDES Permitting Action

Chapter 4 of the EIS and Section 5 of BOEM EFH Assessment provide more details of impacts of routine activities. BOEM has determined that the impact on water quality from operational discharges and wastes is negligible. "Negligible impact" is defined as short-term (less than 1 year), localized contaminants and turbidity that present little to no detectable impact. Supplemental information on NPDES permit controls on authorized discharges supporting BOEM's assessment follows.

Permit Conditions

Conditions are based on: (A) NSPS for New Source facilities; (B) BCT to control conventional pollutants; (C) BAT to control toxic and nonconventional pollutants; and (D) Ocean Discharge Criteria (CWA section 403(c)). Discussions of the rationale for the specific effluent limitations for each regulated waste stream appear below.

A. Drilling Fluids

The limitations in the current permit are based on a combination of National Effluent Limitations Guidelines and Ocean Discharge Criteria. The current permit's limitations are proposed to be included in the reissued permit.

1. NSPS, BAT, and BCT

Offshore subcategory guidelines for NSPS (40 CFR 435.15) and BAT (40 CFR 435.13) for drilling fluids discharges from facilities located farther than 3 nautical miles from shore (from the inner boundary of the territorial seas), require no discharge of free oil, no discharge of diesel oil, and a minimum toxicity limit of 3% by volume. In addition, the effluent limitations guidelines prohibit the discharge of non-aqueous based drilling fluids except those adhering to drill cuttings and some small volume discharges. Free oil, for drilling fluids discharges, is measured using the static sheen test method. Toxicity is measured with a 96 hour LC50 on the suspended particulate phase using the Mysidopsis bahia species. Based on the guidelines, cadmium and mercury in stock barite used in drilling fluids are limited to 3 mg/kg dry weight and 1 mg/kg dry weight, respectively.

2. Requirements Based on Ocean Discharge Criteria (CWA section 403(c))

In addition to those effluent limitations guidelines based limits, the reissued permit is proposed to retain the prohibitions of the discharge of oil-based drilling fluids, inverse emulsion drilling fluids, oil contaminated drilling fluids, and drilling fluids to which mineral oil has been added. These prohibitions were included in the permit to ensure compliance with the no discharge of free oil BAT and NSPS limitations. In the current permit, EPA has allowed the discharge of non-aqueous based fluids with water-based drilling fluids if a non-aqueous based fluid was added in water-based drilling fluids as a carrier agent or lubricity additive.

The current permit also contains discharge rate limitations for drilling fluids which ensure discharged drilling fluids are sufficiently dispersed to prevent unreasonable degradation of the marine environment. Those limitations are proposed to remain in the reissued permit.

B. Drill Cuttings

1. All Drill Cuttings

The main source of pollutants in discharged drill cuttings is generally from the drilling fluids which were used in the well. Therefore, based on BAT, BCT, and NSPS, drill cuttings which are authorized to discharge by the general permit must all meet the same limitations and prohibitions as drilling fluids. The discharge of drill cuttings generated using drilling fluids which are oil contaminated or contain diesel oil or mineral oil is prohibited. Cadmium and mercury, as measured in barite used in the drilling fluid, is limited to 3 mg/kg and 1 mg/kg, respectively. Also, the toxicity of the suspended particulate phase of the drilling fluids is limited to 30,000 ppm. Drill cuttings discharges are limited to no free oil, as measured using the static sheen test. These limitations are included in the current permit and are not changed in the reissued permit.

2. Drill Cuttings Generated Using Non-Aqueous Based Drilling Fluids

The current permit authorizes the discharge of drill cuttings generated by use of non-aqueous based drilling fluids. The limitations included in the permit were based on the Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Oil and Gas Extraction Point Source Category, which was published in the Federal Register on January 22, 2001 (see 66 FR 6850). The limits were included in the permit for both the stock base fluids and those drilling fluids which adhere to discharged drill cuttings. Limitations on the stock base fluid include polynuclear aromatic hydrocarbons (PAH), sediment toxicity (10-day), and biodegradation rate. Prior to its use, the drilling fluid is also limited for formation oil contamination, measured using Gas Chromatography/Mass Spectrometry (GC/MS). Drilling fluids which adhere to discharged drill cuttings are limited for sediment toxicity (4-day), formation oil contamination as measured by either a reverse phase extraction test or GC/MS, and base fluids which are retained on discharged drill cuttings. No changes to those limits are proposed.

C. Produced Water

1. NSPS and BAT

The Offshore Subcategory guidelines for NSPS (40 CFR 435.15) and BAT (40 CFR 435.13) require Oil and Grease limits of 29 mg/l, monthly average, and 42 mg/l, daily maximum. Those limitations are contained in the current permit and are included in the proposed permit.

2. Ocean Discharge Criteria (CWA Section 403(c))

The 7-day toxicity limit and no free oil limit are contained in the current permit based on Ocean Discharge Criteria (CWA section 403(c). No changes to those requirements are proposed as a part of this reissuance.

D. Produced Sand

1. NSPS, BAT and BCT

The current permit prohibits the discharge of produced sand based on NSPS, BAT, and BCT, established by the Offshore Subcategory Effluent Limitations Guidelines. That prohibition is proposed to be maintained.

E. Well Treatment, Completion and Workover Fluids

1. NSPS, BAT, and BCT

The Offshore Subcategory guidelines for NSPS and BAT require Oil and Grease limits of 29 mg/l, monthly average, and 42 mg/l, daily maximum, for well treatment, completion and workover fluids. A limit of no free oil was also established by the guidelines based on BCT. Those limits are contained in the current permit and are not proposed to be changed.

2. Ocean Discharge Criteria (CWA section 403(c))

Discharged well treatment, completion, and workover fluids are proposed to be limited to no free oil as measured using the static sheen test method and no priority pollutants except in trace

amounts. If materials added downhole as well treatment, completion, and workover fluids do not contain priority pollutants then the discharge is assumed to contain no priority pollutants, except in trace amounts. The no free oil limit will help prevent the discharge of toxic pollutants contained in oil, which may contaminate these fluids and cause unreasonable degradation of the marine environment. The limit of no priority pollutants except in trace amounts will help prevent the discharge of fluids containing toxic pollutants which have the potential to cause unreasonable degradation of the marine environment. Both of these limits are included in the current permit based on Ocean Discharge Criteria under CWA section 403(c).

3. Toxicity Limits and Monitoring Requirements

An industry-wide toxicity study was performed from 2017-2020 as a requirement of the 2017 permit. During the study 28 samples were collected and tested for acute toxicity. 46% of the samples collected showed acute toxicity for one or more species indicating that there is reasonable potential for acute toxicity stemming from well treatment, completion and workover fluid discharge. Therefore in accordance with 40 CFR §122.44 (d)(1)(iv), acute WET limits are included the proposed permit. Chronic toxicity monitoring will be a requirement of the proposed permit to assess potential for chronic effects.

F. Deck Drainage

1. NSPS, BAT and BCT

The current permit's limits are based on the Offshore Subcategory NSPS, BAT and BCT guidelines which all require No Discharge of free oil as determined by the presence of a film or sheen upon, or a discoloration of, the surface of the receiving water (visual sheen). No changes to those limits are proposed.

G. Sanitary Waste

1. NSPS and BCT

For sanitary waste, the Offshore Subcategory NSPS and BCT guidelines require residual chlorine to be a minimum of 1 mg/l and maintained as close to 1 mg/l as possible for offshore facilities continuously manned by ten or more persons. Also, the NSPS and BCT guidelines require No Discharge of floating solids for offshore facilities continuously manned by nine or fewer persons or intermittently manned by any number of persons. The current and proposed permits contain limits for sanitary wastewater which are based on those guidelines.

H. Domestic Waste

1. NSPS, BAT and BCT

The current and proposed permits' limits for domestic waste are based on the Offshore Subcategory NSPS, BAT and BCT established by the Effluent Limitations Guidelines. The guidelines require no floating solids or foam and require compliance with the requirements of 33 CFR Part 151-Vessels Carrying Oil, Noxious Liquid Substances, Garbage, Municipal or

Commercial Waste, and Ballast Water.

I. Miscellaneous Discharges

1. Best Professional Judgment

The current permit's requirements of No Free Oil as monitored by the Visual Sheen Test and no floating solids or foam are based on BCT using Best Professional Judgment (BPJ) and are proposed to be continued in the reissued permit. These miscellaneous discharges are not addressed in the Offshore Subcategory guidelines. In addition, the miscellaneous discharges of chemically treated sea water and fresh water are limited for the concentration of treatment chemicals used based on BAT using BPJ and for whole effluent toxicity based on 403(c).

2. Ocean Discharge Criteria (CWA Section 403(c))

Fluids which are used as Sub Sea Wellhead Preservation Fluids, Sub Sea Production Control Fluids, Umbilical Steel Tube Storage Fluids, Leak Tracer Fluids, and Riser Tensioning Fluids shall have a 7-day No Observable Effect Concentration (NOEC) of no less than 50 mg/l. This permit action proposes to restrict the use of products which can not meet the 50 mg/l NOEC limitation by not authorizing discharges if the product fails the toxicity test. Because subsea fluids are inherently stable, according to the OOC comments, it would be reasonable to conduct toxicity tests prior to the application of the product. Therefore, no discharge of a subsea fluid is authorized if that product fails the 50 mg/l NOEC limit. Also, discharges of subsea fluid at a concentration above the product-specific NOEC are prohibited.

Because a 50 mg/l of powder dye solution is much more concentrated than a 50 mg/l of liquid dye solution, in the 2012 permit provided that the maximum concentration that can be used for leak testing is the 7-day NOEC for that specific powder dye.

Chemically treated miscellaneous discharges are required to comply with a 48-hour toxicity testing limitation prior to discharging.

J. All Discharges

For all permitted discharges, the current permit requires no discharge of halogenated phenols based on CWA section 403(c), no discharge of rubbish, trash and other refuse based on the International Convention for the Prevention of Ships (MARPOL), no discharge in areas of biological concern based on CWA section 403(c) and the minimization of discharge of surfactants, dispersants and detergents based on CWA section 403(c). These requirements are not proposed to be changed.

<u>Additional Permit Conditions Regarding Areas of Biological Concern and Marine Sanctuaries (Maybe consolidate this section with Bio-Concern)</u>

There shall be no discharge in Areas of Biological Concern and National Marine Sanctuaries. [Note: Restrictions set in this Subsection apply to the existing Flower Garden Banks National Marine Sanctuary and future designated as Areas of Biological Concern and National Marine

Sanctuaries which are within the geographical area covered under this permit.]

[Exception] Facilities located within a National Marine Sanctuary boundary are authorized to discharge in accordance with this permit if all of the following conditions are met:

- The platform was installed prior to the designation of the National Marine Sanctuary;
- The platform is located outside of the No Activity Zone defined by the BOEM or other federal agency;
- All materials are discharged through a shunt pipe that terminates within 10 meters of the sea floor;
- Sanitary waste is treated with an approved marine sanitation device (MSD) that complies with pollution control standards and regulations under section 312 of the Clean Water Act; and
- The materials discharged are associated with and incidental to oil and gas exploration, development, or production and originate from wells located within the boundaries of the National Marine Sanctuary and outside the No Activity Zone.

Section V. Impacts of Accidental Events

BOEM has assessed impacts of accidental events. However, this NPDES permit does not authorize unpermitted discharges nor exploration and production activities per se, so the effects of accidental events considered by BOEM that are related to location and support of exploration and production activities are outside the scope of the NPDES permit.

Section VI. Cumulative Impacts

BOEM has performed cumulative impact analysis in the final EIS and Section 7 of BOEM EFH Assessment. As stated above, this permitting action which authorized discharges of specific wastes has contributed negligible impact to the environment.

Section VII. Overall General Conclusions

BOEM made an overall general conclusion in Section 8 of BOEM EFH Assessment. This NPDES permitting action was a small portion of BOEM EFH assessment.

Impact Summary for Essential Fish Habitat and Federal Action Agency Determination

EPA's conclusions specific to the reissuance of the GMG290000 general permits are presented in this section and are made in the context of impacts attributable to EPA's permitting action and the limits and other conditions places on authorized discharges.

The Magnuson-Stevens Act implementing regulations (50 CFR 600.920(e)(3)) state that all EFH assessments must include the following information: 1) a description of the proposed action; 2) an analysis of the effects, including cumulative effects, of the proposed action on EFH, the managed

species, and associated species, such as major prey species, including affected life history stages; 3) the Federal agency's view regarding the effects of the action on EFH; and 4) proposed mitigation, if applicable.

A description of the proposed action can be found on Section 1 of this document. Any potentially harmful physical characteristics and chemical constituents present at the time of discharge should disperse rapidly as the plume undergoes physical dilution processes. Adverse impacts to any benthic or demersal EFH are, therefore, unlikely to occur as a result of these discharges. The high degree temporal and spatial patchiness with regard to the distribution of plankton assemblages in the water column and the relatively small volume of concentrated effluent present within the disposal zone at any time should greatly limit plankton exposure to potentially harmful water quality conditions.

As a result of the analyses presented above, EPA has determined that the minimal short-term impacts associated with the discharge will not result in substantial adverse effects on EFH or managed species in any life history stage, either immediate of cumulative, in the project area. Mitigation measures incorporated into the permit include:

1) Limitations on the quality of authorized discharges designed to ensure compliance with the technology and water quality requirements of the Clean Water Act.

2) Monitoring requirements to ensure compliance with permit limitations, including whole effluent toxicity monitoring that assesses the cumulative effect of all constituents in discharges.

3) Restrictions on the ability to discharge in proximity to Areas of Biological Concern and Marine Sanctuaries.

4) A Permit Reopener Clause in the final permit: The permit will be reopened and modified if necessary to add conditions determined to be necessary to comply with the ESA following the completion of required consultation under ESA Section 7(a)(2). The permit may be reopened and modified if necessary to add conditions determined to be necessary to comply with any regulatory requirements or court rulings.

Attachments:

Essential Fish Habitat Assessment for the Gulf of Mexico, Bureau of Ocean Energy Management, March 2016

Draft Permit for Reissuance of the NPDES General Permit for the Central and Western Portions of the Outer Continental Shelf (OCS) of the Gulf of Mexico (GMG290000), EPA Region 6, February 2022

Fact Sheet for Reissuance of the NPDES General Permit for the Central and Western