REGION 6 EXECUTIVE SUMMARY

TOPIC: Louisiana Offshore Oil Port (LOOP), LLC

DATE: April 4, 2016 CONTACT: Isaac Chen, Paul Kaspar, and Kay Schwab

PURPOSE/ACTION NEEDED: Addition of monitoring requirements for brine water discharged at Outfall 004 in the joint EPA/LDEQ issued NPDES/LPDES permit, (LA0049492).

DEADLINE DATE: Ongoing, as soon as possible

BACKGROUND: The existing wastewater permit expired September 30, 2013. Coordination with LDEQ for reissuance of the permit began in February 2014 with EPA review of permit conditions for outfalls in state waters (LDEQ authority) and for permit conditions for outfalls in federal waters (EPA authority). EPA provided input to LDEQ, including the need for biomonitoring requirements at Outfall 004 for the discharge of brine waters, and LDEQ developed a draft permit. EPA concurred on the draft permit in July 2014. The facility commented on the Preliminary Draft Permit opposing the inclusion of biomonitoring requirements citing 1980/1981 studies conducted on effects of brine disposal. LOOP has onshore oil storage at its Clovelly facility, which is 25 miles inland and connects to the port complex via a 48" pipeline. Naturally occurring salt domes provide 8 underground caverns which are used to store up to approximately 60 million barrels of crude oil. A sufficient supply of brine is critical to LOOP's operations to displace crude from the caverns when it is needed. There must also be sufficient space in the Brine Storage Reservoir for storage of brine displaced from the caverns during the receipt of crude oil. (LOOP, LLC is a member of the Louisiana Mid Continent Oil and Gas Association. LOOP was organized in 1972. Marathon Pipe Line LLC, Valero Terminaling and Distribution Company, and Shell Oil Company are the owners of LOOP, LLC.)

CURRENT STATUS: EPA is continuing communications with LDEQ to try to identify possible permitting options to address potential toxicity concerns for brine discharges at Outfall 004. Current options include investigation facility flow restrictions and effluent analysis to be performed by EPA R6 Houston Lab.

ENVIRONMENTAL/PUBLIC HEALTH CONCERNS: Outfall 004 discharges into Subsegment 021102, the Gulf of Mexico, which is listed in the Final 2014 Integrated Report of Water Quality in Louisiana as <u>not</u> supporting one of its designated uses of fish and wildlife propagation (fishing).

TECHNICAL CONCERNS:

- Maximum concentrations of brine discharge: chloride – 210,000 mg/l and TDS – 318,500 mg/l which may have potential to impact the designated uses of the waterbody. Seawater typically has a salinity of approximately 35,000 mg/l.
- LOOP's brine is stored in an impervious, approximately 25 million barrel above ground reservoir.
- Outfall 004 is used for intermittent discharges of brine mostly during periods of excessive rainfall when surplus inventory is needed to be discharged in order to maintain a safe operating level in the reservoir.
- Daily maximum flow rates up to 11.33 mgd with a long term average of 5.13 mgd.

REGULATORY/LEGAL REQUIREMENTS:

- EPA R6 has issued permits for two similar (federal) facilities and the brine outfalls have performed biomonitoring for over 10 years with no failures. (Big Hill Oil Storage, TX0092827, and Bryan Mound Oil Storage, TX0074012, which are both Strategic Petroleum Reserves under the U.S. Department of Energy.)
- EPA R6's role is to provide regional consistency and include similar permit requirements for similar facilities. Additionally in this case, LOOP, LLC is a for-profit organization.

- EPA R6 recently worked with Big Hill and Byran Mound during their permit reissuances to develop attainable and beneficial biomonitoring requirements and is available to assist LDEQ and LOOP.
- The 1980/1981 studies were not EPA permitting requirements. These studies were performed as part of state and federal (USDOT) licensing requirements to own and operate a deepwater port. The first oil tanker was offloaded in May 1981. The 1998 *LOOP Marine and Estuarine Monitoring Program, 1978-95 (Volume 1: Executive Summary)* provides an "overall recommendation" that "monitoring should continue." The 1998 report explains that the Environmental Monitoring Program (EMP) was developed under mandate of the Superport Environmental Protection Plan, a regulation of the State of Louisiana, implementing the Offshore Terminal Act.

COMMUNITY CONCERNS: Unknown at this time. The permit has not been public noticed yet.

RECOMMENDATIONS: Seek the inclusion of appropriate monitoring requirements at Outfall 004 in the LOOP, LLC permit.

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