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M E M O R A N D U M

To: James Boylan, Branch Chief

Thru: Elisabeth Munsey, Manager, Planning and Support Program

From: Byeong-Uk Kim, Manager, Data and Modeling Unit

Subject: Effingham County Odor Modeling Results

The purpose of this memo is to summarize the results of the modeling conducted by the Data and Modeling Unit (DMU) to locate potential emission sources associated with odor complaints in the Rincon area in Effingham County. On March 7, 2024, DMU received a request from the EPD Coastal District Office to conduct modeling to investigate the cause of odor incidences in the Rincon area. Those modeling results were presented to the EPD Coastal District on October 8, 2024.

The DMU modeling approach utilized 1-minute wind data to track air parcels back in time to show the areas that might have contributed to the source of the odors. For the Effingham County odor modeling, DMU used 1-minute wind speed and wind direction data from the Savannah L&A meteorological monitor and odor complaint information from November 2023 to February 2024 that was provided by the EPD Coastal District office. In total, 91 out of 103 odor complaints contained the required information (i.e., incidence date, time, and location) needed to create modeled back-trajectories. After a preliminary analysis, there are two sources in the area likely associated with odor incidences: DRT and Springfield WPCP.

For a detailed analysis, a 500-meter buffer zone around DRT and the Springfield WPCP (City of Springfield) was used to account for potential biases in the wind direction data. The modeling results show that 74.7% of the back-trajectories passed the 500-meter buffer zone for the 1st hour of back-trajectories from incident locations. The modeling results show that 42.9% of the back-trajectories passed over DRT and/or Springfield WPCP.

In summary, the modeling results indicate that the odor source(s) are likely in and/or near the 500-meter buffer zone surrounding DRT and Springfield WPCP.