M E M O R A N D U M

DATE: December 18, 2013

TO: Richard D. Garrity, Ph.D.

FROM: Stephen Hathaway, P.E. **THRU:** Diana M. Lee, P.E.

SUBJECT: DRAFT Air Construction Permit – City of Tampa Wastewater Dept.
Howard F. Curren AWT Plant
Permit No. 0570373-020-AC

Attached is DRAFT Permit No. 0570373-020-AC which is being issued to the City of Tampa Advanced Wastewater Treatment (AWT) Plant located at 2700 Maritime Boulevard, Tampa. The facility is proposing to install oxidation catalysts on each of the four (4) existing emergency diesel generators in order to demonstrate compliance with 40 CFR 63 Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE). The regulated emissions units at this wastewater treatment plant consist of two sludge dryer trains, building fugitive emissions, five sludge storage silos, two truck loading stations with three truck loading spouts, four diesel generators, two natural gas fired generators, five digester gas fired generators, and a methanol storage tank. The only emission unit affected by this permit is the four (4) existing diesel generators (EU012).

Electricity for the wastewater treatment plant is normally supplied by Tampa Electric Company and the five digester gas generators. However, the facility has four (4) existing diesel-fired emergency generators on-site which can produce standby emergency power in the event of a power outage, or provide supplemental power generation to the electric power grid for Tampa Electric Company (non-emergency operation). The four (4) 2 MW generators are equipped with Caterpillar 3516 DITA engines, compression ignition, rated at 2,847 bhp, and are fired on No. 2 diesel fuel at a maximum rate of 137.5 gallons/hr. These generators were installed between 1993 and 1994 and the facility is required to retrofit oxidation catalysts on the stationary engine exhausts in order to comply with the NESHAP regulations for reducing CO emissions for non-emergency engines.

The City of Tampa plans to increase the hours of operation of the diesel generators, as part of TECO's demand response program, which will render them non-emergency RICE. Therefore, as a result of this operational change, the City of Tampa will be required to install an oxidation catalyst on these generators. The catalyst, manufactured by Johnson Matthey, will be installed on each of the four (4) diesel-fired standby generators (EU 012), in order to demonstrate compliance with the 70% CO reduction requirement under 40 CFR 63 Subpart ZZZZ. By reducing CO emissions, the

oxidation catalysts will also reduce HAP emissions from the engines. Initial compliance testing for CO emissions will be required to demonstrate compliance with the 70% reduction requirement, and every 3 years thereafter. Once the oxidation catalysts are installed, these engines will no longer be considered "emergency stationary RICE" under the NESHAP definition. In addition to the catalyst installation, the facility will also install crankcase ventilation kits to capture any non-exhaust emissions from the engines. The facility will also be required to monitor and record the catalyst inlet temperature and pressure drop, in order to demonstrate compliance with the regulations.

This project is subject to 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary RICE and 40 CFR 63, Subpart A – General Provisions. This project is not subject to the RICE NSPS, 40 CFR 60, Subpart IIII since the engines were installed prior to April 2006.

Based on our review, we recommend the issuance of the AC permit, as drafted.

SRH: 0570373-020-AC