Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

Subject: ATTACHMENT Authorization Options for Required Diesel Additives last rev 9-6-05

1) A mixture by **ORYXE referred to as OR-LED**
This additive is represented as intended for use as a low emissions diesel additive and consists of 55% to 65% 2-ethylhexyl nitrate (EHN) and 35% to 45% toluene, with Effects Screening Levels (ESLs) of 1050 µg/m^3 and 1880 µg/m^3, respectively. Assuming a rural location, a new 24,000 gallon fixed roof tank, 22 foot vent release height, and a filling rate of 4 hours (9,000 gallons per truck load per hour), emissions (using standard calculation methods) have been estimated at approximately 23.0 lb volatile organic compounds (VOC) per hour and impacts would be acceptable at a distance of 500 to 750 meters from the new tank. These chemicals, restrictions and specifications are obviously not included in the tank PBRs §§106.472, 473, 478 and therefore another authorization would be needed. Use of this additive should follow general guidance given in the memo, specifically, use of a pressurized tank or authorization through a permit amendment.

2) A mixture by **Biofriendly called Green Plus**
This additive is represented to consist of 99% isopropanol (ESL of 7850 µg/m^3) and 1% inert catalyst. The handling of this additive is represented to be in 300-500 gal sealed totes, and emission estimates show negligible VOC emissions. Based on information received, this additive's use should be able to be authorized under §106.476. In the case where this additive will be handled in a larger tank than those proposed by the manufacturer, §106.478 is the appropriate authorization mechanism as isopropanol is covered in Table 478A under item (C).

3) A mixture by **Ethyl Corporation referred to as FHR**
This additive has several proprietary constituents with an overall vapor pressure of 0.013 psia. Assuming a rural location, a new 36,000 gallon fixed roof tank and a filling rate of 4 hours, using conservative assumptions, emissions have been estimated at less than 1.0 lb/hr VOC. Maximum impacts occurred at approximately 300 feet and were less than 50% of the worst-case ESL (assuming 100% of the emissions were that constituent). Based on the emissions estimates, impacts and chemical composition of this additive, §106.478 is an appropriate authorization mechanism.

4) A mixture by **Kern Oil referred to as JC-747**
This additive has several proprietary constituents with an overall vapor pressure of 0.13 psia and an initial boiling point of 304° F. Assuming a rural location, a new 36,000 gallon fixed roof tank and a filling rate of 4 hours, using conservative assumptions, emissions have been estimated at approximately 2.97 lb/hr VOC. Maximum impacts occurred at approximately 300 feet and for three of the four major constituents were 3%, 25%, 33% of the ESLs, respectively. The remaining constituent impacts were estimated at 1.6 times the ESL, however, it should be that the maximum impact is less than twice the ESL and nearby structures are likely to be industrial receptors, where impacts up to twice the ESL are considered acceptable. Furthermore, the MSDS for the additive indicated that this compound could be present from 0 to 40% by weight, but the estimates used assumed the maximum of 40% as a worst case because of the relatively low ESL (180) and a relatively higher vapor pressure. Based on this analysis, the Air Permits Division is comfortable with this additive being stored and handled in a fixed roof tank under PBR. PBR §106.472 may be used as an authorization mechanism if the tank is located 500 feet from any receptor.

Additional mixture analysis or detailed information on the evaluations referred to above can be obtained from the Air Permits Division. Please contact Ms. Anne M. Inman, Manager, General/Standard/Rule

(GSR) Permits Section by calling 512-239-1264 or by email at ainman@tceq.state.tx.us.