UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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MEMORANDUM

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TO : All Regional Enforcement Directors
NFIC, Denver
NFIC, Cincinnati

FROM : Acting Director
Permit Assistance and Evaluation Division

SUBJECT: Oil and Grease Limitations for Petroleum Marketing Terminals

The purpose of this memorandum is to provide guidance in drafting NPDES permits for oil and grease limitations in petroleum marketing terminals.

In deciding what effluent limitations should be placed on petroleum marketing terminals in NPDES permits, the following considerations have been taken into account:

1. Oil pollution prevention regulations promulgated at 40 CFR 112 for the control of oil and hazardous materials under section 311 of the Act require that the discharger install and maintain facilities for the prevention and recovery of spills and for storm runoff management and control including controlled release to prevent oil pollution. It further requires that these facilities and control measures be installed within twelve months of promulgation of the regulations or January 11, 1975. Therefore, in considering the definition of BPT for oil and grease we may assume a controlled discharge which, though it may be intermittent, will not ordinarily contain slugs of oil.

   In passing, we should also note that discharge at levels at or below 10 mg/l oil and grease does not guarantee against sheen. Detection of the iridescent (rainbow effect) characteristic of a thin film of oil on water is a highly subjective test depending, in part, upon the state of motion of the water as well as the conditions of lighting and the discrimination of the individual's eyesight. In addition, whether, in fact, a sheen will be caused by the discharge of any given concentration of any particular oil into any specific body of water depends upon, among other things, the salinity of the water, the temperature of the water, the state of motion of the water, the viscosity of the

oil, the solubility of the oil, the degree of mixing, dispersion and turbulence with which the oil is injected into the water and the presence or absence of any soaps, detergents or other emulsifying agents in the oil or the water.

2. The concept of best practical treatment includes the range of practice such as may be found in either petroleum oil refineries or marketing terminals. It is not limited to API separators nor does it necessarily include, for any given installaiton, dissolved air flotation and/or deep bed filtration. Rather, we feel that the scope of BPT, for oil and grease limitations includes housekeeping, replacement of oil soaked earth, dikes and sumps at oil transfer points to prevent and recover spills, rain sheds over the transfer point to prevent contamination of rain runoff, other storm runoff management and control facilities, API separators including parallel plate and corrugated plate separators biological oxidation by a variety of means, filtration including deep bed filtration as well as hay filtration, dissolved air flotation and any other practice normally found in the petroleum oil handling industry. Thus, for very large petroleum marketing terminals where the value of product handled is high and trained operators are normally on duty, we feel a high degree of end of pipe treatment is warranted in addition to normal housekeeping and other control measures as may be indicated. On the other hand, for medium sized petroleum marketing terminals, we would expect that a high degree of housekeeping and spill prevention as described above would afford the same results.

3. The total variability of results obtained in sampling and analyzing oil water mixtures of the oil content is on the order of plus or minus 60% at 99.5% confidence for samples in the range of 15 ppm. The analytical method itself contributes a large part of this variability, however, of overwhelming significance is variability associated with the difficulty in sampling oil water mixtures particularly where the oil content is very low. We have just begun work on defining standard sampling techniques.

With these considerations in mind and considering it difficult to justify effluent limitations for oil and grease more stringent for petroleum marketing terminals than those imposed upon petroleum refineries, our guidance is as follows:

Key limitation is the daily maximum which should be limited at 15 mg/l. The sampling frequency can be anywhere from one per day to once per year or may be defined as "during periods of discharge".

In deciding upon the frequency of self-monitoring sampling required, you should take into account the average annual rainfall for the particular area in order that the sampling frequency be rational. The sample type is to be three grabs. The definition of daily average and daily maximum contained in your standard permit language should be crossed out and the following language substituted: "Daily maximum shall be the average of a minimum of three grab samples taken at equal intervals during the period of discharge with the first grab taken during the first hour of discharge." The interval of sampling shall be specified on a case by case basis.

Consistent with this daily maximum limitation, the daily average (monthly) should be limited at 10 mg/l. The definition of daily average to be inserted in the permit is as follows: "Daily average limitation is the average of all grab samples taken during the month." A daily average limitation is necessary in instances where large terminals have a continuous discharge and is required under NPDES program regulations. In areas of low rainfall and where other effluent sources do not constitute a continuous discharge, the daily average (monthly) limitation may be omitted. This is because the concept of a daily average limitation is inconsistent with highly intermittent flows and the statistical inferences have not been evaluated.

Compliance schedules must be included in NPDES permits for petroleum marketing terminals that do not already have spill prevention, water management, and pollution abatement facilities already installed and operating, especially in compliance with the oil pollution prevention regulations (40 CFR 112). The compliance date in the NPDES permit must be consistent with these regulations.

There may be special circumstances where an instantaneous maximum is appropriate. We would recommend that this be used with some care, as it means that the discharger is in jeopardy of enforcement based on a single grab sample.

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