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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

March 21, 1986

4WM-PF

Subject: Steam Electric Generating Point Source Guidelines (40 CFR Part 423)
pH Limitations for Low Volume Wastes Commingled with Once Through
Cooling Water

From: Charles H. Kaplan, P.E. *Chas H. Kaplan*
National Expert Steam Electric/Water

To: Regional Permit Branch Chiefs
State Directors

Attached is a February 24, 1986 interpretation of 40 CFR 423.12(b)(1) as it relates to pH limitations for low volume wastes which are commingled with once through cooling water. The pH limitations for the low volume waste (6.0 to 9.0 range) may be applied after combination with once through cooling water, provided that monitoring is prior to discharge to waters of the United States. This interpretation is subject to consideration of various factors, some of which are detailed in the memorandum, which might allow/require that pH limitations be applied prior to combination.

cc: Mr. Geoffrey Grubbs (EN-336)
Mr. Dennis Ruddy (WH-552)

T. E. LANDRY

MAR 28 1986

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: February 24, 1986

SUBJECT: Steam Electric Generating Point Source Guidelines (40 CFR Part 423)
pH Limitations For Low Volume Wastes Commingled with Once Through Cooling Water

FROM: National Expert, Steam Electric/Water
Region IV (4WM-FP)

TO: Dit Fai Chung, Environmental Engineer
Region II

COPIES TO: Mr. Geoffrey Grubbs (EN-336)
Chief, Technical Support Branch

COPIES TO: Mr. Dennis Ruddy (WH-552A)
Project Manager, Steam Electric

Reference is made to the December 18, 1985, letter from New York State requesting further clarification of the subject guidelines beyond that provided by the October 18, 1985, letter from Mr. Dennis Ruddy. At issue is whether 40 CFR Part 423 requires pH limitations to be applied for a low volume waste stream prior to combination with once through cooling water.

It has always been my understanding that where low volume wastes from a steam electric power plant are commingled with once through cooling water prior to discharge to waters of the U.S., pH limitations for the commingled stream are applicable at the combined discharge point to waters of the U.S. Limitations for other pollutants, however, are applicable prior to combination.

Provisions of 40 CFR §423.12(b)(1) require "The pH of all discharges, except for once through cooling water, shall be in the range of 6.0 to 9.0." This guideline is to be applied at the point of discharge to waters of the U.S. In developing the Regulation, once through cooling water was not subject to a pH limitation since the pH of intake water is virtually unchanged by passage through the condensers, even during chlorination.

The Agency has always opposed the use of dilution as a substitute for treatment. In the case of pH, however, combination of low volume wastes with once through cooling water (another plant waste) produces chemical neutralization, utilizing ambient intake water chemicals instead of added chemicals. However, we will not condone situations where ambient water is pumped expressly for the purpose of neutralization.

On a case-by-case basis, other factors might allow/require that limitations be applied at a point prior to combination. Some of these include:

1. Combination of specific low volume wastes with once through cooling water which could be anticipated to produce additional total suspended solids, due to the resulting neutralization, and which would exceed the amount allowed for the low volume wastes.
2. Failure to neutralize and settle the low volume waste prior to combination would result in unacceptable quantities of heavy metals or other toxic pollutants being released.
3. Requirements of 316(b) which might limit the amount of cooling water used.

Mr. Barolo of NYDEC indicated instances where monitoring of the combined discharge might be problematical. As previously noted, monitoring of a commingled discharge is required prior to discharge to waters of the U.S. To the extent that monitoring is impractical at the combined discharge point, limitations and monitoring can be required prior to combination under the provisions of §122.45(h) [as renumbered by 49 FR38049, September 26, 1984]. For the purposes of §122.45(h), the term "impractical" could include, but would not be limited to, the inability of the permittee to (1) manually collect samples, (2) locate sampling equipment, (3) locate analysis equipment, or (4) properly service and calibrate installed equipment.

Mr. Barolo also indicated a situation where an underground discharge tunnel might be dammed to provide a basin for neutralization prior to exit to waters of the U.S. I feel that such a method could achieve compliance with the guideline pH limitation based on the discussion above. However, I would suggest that the permitting authority consider that such a basin might be subject to rapid loss of function due to filling by ambient intake solids.

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