GENERAL ELECTRIC
COMPANY

REAL ESTATE AND CONSTRUCTION
OPERATION

DIAL COMM
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REGO SERVING PROGRESS

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TOXIC POLLUTANT EFFLUENT STANDARDS

(Advance Notice of Proposed Rulemaking)

BACKGROUND

As you know, EPA's hearings on the proposed standards revealed that the Agency had not done its homework -- the standards had been inadequately developed and documented.

EPA has therefore had to forgo its original intention to promulgate these standards by July 1974 and has initiated a re-consideration of the entire matter. Two new steps have been added as a prelude to the sequence followed in 1973-1974.

1) EPA will publish - probably in January 1975 - an Advance Notice of Proposed Rulemaking (ANPR). This will initiate a 60-day period of information gathering, comments, etc.

2) EPA will then conduct (probably in April or May) one or more technical symposia to discuss the issues raised during this ANPR period. By obtaining and reviewing as much advance "feed -back" as possible, EPA hopes to be able to forestall the unexpected objections that have in the past led to long delays between proposal and promulgation.

3) EPA will then "start the regulatory clock" by publishing proposed rulemaking, and 30 days later will initiate the required public hearing. Within 180-days of publication it hopes to meet its legal obligation to promulgate the regulations and standards -- this should be during the last quarter of 1975.

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CURRENT DEVELOPMENTS

EPO has obtained a draft copy of the Advance Notice of Proposed Rulemaking that is now undergoing review (and possible revision) within EPA prior to publication in the Federal Register. The following information is gleaned from this draft, and is forwarded to you to alert you to the current thinking of EPA and the actions that it may take.

Information Gathering

Under authority of Section 308 of the Federal Water Pollution Control Act, EPA "intends to request certain pertinent information from owners or operators of significant point sources discharging pollutants into navigable waters." The Agency will ask for information that will provide a description of:

"1) Sources of each toxic pollutant originating from manufacturing processes involved which contribute to the facility's wastewater flow such that the concentration and the weight per day of the toxic pollutant in the effluent discharged may be understood,
2) Measures taken or planned to reduce or eliminate each source of toxic pollutant in the discharge system,
3) Effluent discharge treatment facilities including the influent and effluent concentration of each toxic pollutant and rate of flow being discharged, as well as the unit operations and unit processes being used,
4) Effluent disposal arrangements at the manufacutring site which are pertinent to compliance with these standards, and
5) Monitoring measures and records needed to demonstrate the effectiveness of toxic pollutant(s) control."

EPO Comments

1) Stu Richel advises me that EPA does have the authority to request this information.

2) We do not know whether this information will be requested through a general notice in the Federal Register or through specific requests from EPA to plants it knows to be "significant point sources," or both. If the latter, we expect that information on PCBs will be requested from Hudson Falls, Pittsfield and Rome.

3) Other GE plants that could be affected by such a request for information are those that discharge cyanide from electroplating operations and cadmium from electroplating or battery manufacturing operations.

Statement of Basis and Purpose

At the time of proposed rulemaking EPA intends to publish a summary of the basis and purpose of the proposed standards, which should include:

"toxicological data; water quality criteria data; hydrodynamic data; availability of treatment technology; analytical limits; the appropriateness of applicability to various source categories; the digest of letters, comments, testimony, affidavits presented during the course of the public hearings, and the brief of the record filed by the objectors; and calculations of the acute and chronic limitations for the standards. In addition the documents should provide information concerning the persistence and degradability of the toxic pollutants, the usual or potential presence of the affected organisms in any waters, the importance of the affected organisms, and the nature and extent of the effect of the toxic pollutant on such organisms."

EPO Comment

If the new Statement of Basis and Purpose adequately treats all of these subjects, it will be an improvement over the original one.

Changes in EPA Position

1) EPA has changed the definition of low flow from 7 day/10 year to "30 consecutive days once in 5 years immediately downstream from the facility discharging the pollutant."

2) The acute toxicity limit for PCBs remains unchanged at 280 μg/l; the chronic toxicity limit has been increased from 0.002 μg/l to 0.010 μg/l. In translating this chronic toxicity limit to pounds per day discharge, EPA has dropped the factor of 0.6 that had previously been included to account for other sources of the pollutant. The following is a comparison of the original proposal (December 1973) and that in the draft ANPR (November 1974) for the limit on the discharge of PCBs to fresh water rivers and streams.

1973: Lbs/day = (5.4×10^{-3}) (0.002) (0.6) (cfs)

= 6.48×10^{-6} (cfs)

1974: Lbs/day = (5.4×10^{-3}) (0.01) (cfs)

= 5.4×10^{-5} (cfs)

Thus, for a given flow (cfs), the new standard would allow 8.3 times as much discharge as would be old standard. There may be a slight additional improvement resulting from the revised definition of "low flow," but essentially this change affords no real relief to Pittsfield.

3) EPA has recognized that cadmium is much less toxic in hard water ($>$100 mg $CaCO_3$/l) than in soft water ($\leq$ 100 mg $CaCO_3$/l) and has established different acute and chronic limits for the two types of water.

TOXIC LIMITS (µg/l)

	Acute		Chronic	
	1973	1974	1973	1974
Soft water	40	70	0.3	0.4
Hard water	40	2,000	0.4	3.0

1973: Lbs/day = (5.4×10^{-3}) (0.4) (0.6) (cfs)

= 1.30×10^{-3} (cfs)

1974: Lbs/day = (5.4×10^{-3}) (0.4) (cfs)

= 2.2×10^{-3} (cfs) (soft water)

Lbs/day = (5.4×10^{-3}) (3.0) (cfs)

= 1.6×10^{-2} (cfs) (hard water)

4) EPA has dropped its requirement of zero discharge into streams with a flow of less than 10 cfs, but has added the concept of "ephemeral stream." EPA has defined an "ephemeral stream" as one "that carries water only after rains or periods of snow melt and includes intermittent streams which carry water most of the time but cease to flow occasionally because evaporation and seepage into their beds and banks exceed available stream flow." In describing effluent standards, the draft says: "when the actual flow of ephemeral streams ceases, discharge of the listed pollutant shall be prohibited until five days after measurable flows return."

5) EPA proposes to ban discharge into "special waters," defined as "any water body which has been legally designated as a refuge, sanctuary, or drinking water supply reservoir, or any body of water that does not mix vertically because of permanent density stratification or that does not have a surface outflow."

6) EPA's definitions of applicability now appear to include service shops that recover "used or waste PCBs from capacitors, transformers, or other end uses."

7) The only section that might apply to the residuals problem reads as follows: "The Agency intends that the standards will be net standards. All background amounts of the pollutant(s) whether or not from the same water body into which discharge is being made, or amounts in water supplies (but not plant site runoff or production material impurities) are to be subtracted from the discharge amounts to arrive at the amount to be considered allowable for the chronic standard."

A telephone call to EPA failed to elicit any clarification as to whether this "net standard" will consider residuals as we understand them. Apparently EPA has still not resolved the residuals question.

8) The ANPR apparently anticipates amendments to the FWPCA, because it describes conditions for "phased compliance" over a 3-year period.

9) The ANPR refers to treatment technology, now under development in a pilot project for endrin manufacturing wastewater treatment. EPA says this technology is "expected to be applicable in whole or in part to other chlorinated hydrocarbons such as toxaphene, aldrin-dieldrin and DDT." From a conversation with a cognizant EPA man I have learned that the Agency believes that this technology might also be applicable to PCBs.

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No Change in EPA Position

1) PCBs are still defined as "biphenyls which have been chlorinated to varying degrees." No exclusion has been made for homologs with less than 5 chlorine atoms per biphenyl (i.e. Aroclor 1016).

2) There has been no change in the acute toxicity limit for cyanide, which remains at 100 µg/l. There is no chronic limit for cyanide.

RECOMMENDATIONS

1) EPO recommends that the GE plants that have already been identified in the hearing record -- Hudson Falls, Pittsfield, and Rome -- begin to plan how they will respond to the probable request for information concerning the items listed on page 2. The information will probably be required within 60 days of the formal EPA request.

2) Representatives of the GE - PCB plants, EPO, and Monsanto should meet with EPA to discuss details of the pilot plant developments for endrin manufacturing wastewater treatment to determine their potential applicability to PCB - containing wastewaters.

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