



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

MAR 15 1989

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Guidance for Section 304(1) Listing and
Permitting of Pulp and Paper Mills

FROM: Martha G. Prothro, Director *Martha G. Prothro*
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TO: Water Management Division Directors
Regions I - X

As part of the National Bioaccumulation Study we have identified the presence of chlorinated dioxins and/or furans in fish tissues near the discharges of all of the first 81 chlorine bleaching pulp and paper mills examined to date. Seventy-four of these 81 sites had detectable levels of 2,3,7,8-TCDD present in the fish tissue. Several of these mills are indirect dischargers to POTWs but in every such case, 2,3,7,8-TCDD was found in fish near the discharge from the POTW.

As further evidence of the association of chlorine bleaching pulp and paper mills with dioxin formation and discharge, the Cooperative Dioxin Study recently conducted by EPA and the paper industry at five mills found dioxins and/or furans in the effluents of four of the five plants studied and in the sludges of all five plants. EPA and the paper industry are now cooperating in a follow-up study to collect detailed effluent and operating data for dioxin and furans at all 104 U.S. pulp and paper mills which use chlorine to bleach pulp. Initial results received so far indicate that dioxins and/or furans are present at detectable levels in about 80 percent of the effluent samples.

Listing

The (A)(ii) list of Section 304(1)(1), often called the "long list," must include waters which after the application of BAT cannot reasonably be anticipated to attain or maintain the fishable/swimmable goals of the Act. Based on the results of the dioxin studies conducted to date, we have concluded that all 104 chlorine bleaching pulp and paper mills or associated

POTWs should be assumed to be discharging dioxins or furans at levels which will lead to detectable levels in fish tissue. Such levels are inconsistent with the fishable/swimmable goals of the Act, which is the basis for the subsection (A)(ii) list. Therefore, receiving waters for all 104 mills or associated POTWs should be listed under Section 304(1)(1)(A)(ii).

The (B) list of Section 304(1)(1), often called the "short list," is limited to those waters for which applicable water quality standards (including narrative "free-from" standards) are not expected to be achieved due entirely or substantially to point source discharges of Section 307(a) pollutants. Only 2,3,7,8-TCDD is a Section 307(a) pollutant; other dioxins and furans are not.

2,3,7,8-TCDD has been detected to date in fish at 74 of the 81 mills tested.* Using conservative assumptions, we calculate that the EPA water quality criterion for this pollutant will be exceeded at the 10^{-6} risk level at all 74 mills where 2,3,7,8-TCDD has been detected in fish tissue. EPA water quality criteria present human health values for 2,3,7,8-TCDD at the 10^{-5} , 10^{-6} and 10^{-7} cancer risk levels. In the absence of an explicit State policy or formally proposed or final numeric criterion which establishes a different risk level, EPA will use the risk level of 10^{-6} to interpret the States' narrative water quality standards for Section 304(1) listing. This will ensure that all waterways affected by point source discharges of 2,3,7,8-TCDD are not arbitrarily omitted from lists without sound site-specific data and analysis. New site-specific data generated in the future (including local fish consumption patterns, intensive site surveys, or new State numeric water quality standards) may then be considered during the ICS development process.

On the basis of the information that is now available, we have concluded that for the subsection (B) list, receiving waters should be listed for every mill or associated POTW where

*2,3,7,8-TCDD is a highly potent carcinogen which probably affects humans. The Science Advisory Board recently reevaluated the potency factor used in calculating the national water quality criterion for the pollutant, and recommended that the factor remain unchanged.