United States
Environmental Protection
Agency

Region 10
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Seattle WA 98101

Alaska
Idaho
Oregon
Washington

EPA

JUN 25 1992

Reply to
Attn of: WD-139

MEMORANDUM

SUBJECT: Recommendation for TMDL Approval
Grays Harbor (Inner) - dioxin

FROM: Amber Wong, Standards to Permits Specialist
Water Quality Section

TO: File

- TMDL submitted March 9, 1992
- TMDL package completed June 16, 1992
  - EPA Approval Checklist
  - Document 1: Transmittal letter
  - Document 2: TMDL document
  - Document 3: Industrial Section, Washington Department of Ecology. 1990 (version 2.0), Proposed Effluent Limitations for Dioxin and AOX, Olympia, WA
  - Document 4: Letter from Richard Burkhalter, Ecology to Dave Ragsdale, EPA-WOO, transmitting new TCDD and AOX effluent limits, dated January 29, 1991
  - Document 5: Public participation, public notice and public hearing documentation
  - Document 6: NPDES Permit No. WA-000080-9, Weyerhaeuser Paper Company (Cosmopolis), issued May 10, 1991, amended May 24, 1991 expiration date: May 10, 1996
  - Document 7: Fact Sheet for Weyerhaeuser Paper Company (Cosmopolis) NPDES permit; dated August 8, 1990

- Document 8: Responsiveness Summary to comments received during public hearings and public notice of Weyerhaeuser Paper Company (Cosmopolis) NPDES permit, dated May 10, 1991

- Document 9: NPDES Permit No. WA-000307-7, ITT Rayonier (Hoquiam), issued June 4, 1991 expiration date: June 4, 1996

- Document 10: Fact Sheet for ITT Rayonier (Hoquiam) NPDES permit; dated August 8, 1990

- Document 11: Responsiveness Summary to comments received during public hearings and public notice of ITT Rayonier (Hoquiam) NPDES permit, dated June 14, 1991

Transmittal letter - Complete (see Document 1)

- states that TMDL has been established in accordance with Section 303(d)(1) of the Clean Water Act.

- **Review note: meets requirements**

Problem Assessment - Complete (see Document 3)

Background

- Framework for TMDL came from EPA Dioxin Strategy (1983), National Dioxin Study, five-mill study (1987), U.S. EPA-Paper Industry Cooperative Dioxin Study (104 mill study, 1988).

- On October 20, 1988, EPA issued an interim strategy for regulating dioxin discharges from existing mills. The strategy set out proposed interim control measures for chlorine minimization and suspended solids controls, but stopped short of designating effluent limits.

- On June 9, 1989, Ecology listed 8 pulp mills as violating water quality standards for the priority pollutant TCDD pursuant to Section 304(l) of the Clean Water Act. Weyerhaeuser Paper Company (Cosmopolis) and ITT Rayonier (Hoquiam), discharging to Inner Grays Harbor, were on this list. Individual Control Strategies (ICSs), defined as water quality-based permits, were required for these two facilities. Derivation of the TMDL for Inner Grays Harbor for TCDD was part of developing the permits.

Assessment

- The applicable water quality criterion for TCDD is 0.014 ppq, based on a 10 -6 risk level and ingestion of aquatic organisms only (no drinking water component).

- Data from Weyerhaeuser Paper Company (Cosmopolis) and ITT Rayonier (Hoquiam) showed measurable quantities of dioxin in effluent and sludge. These values showed that existing effluent from these facilities would cause violations of the dioxin water quality standard.

- Two point sources [Weyerhaeuser Paper Company (Cosmopolis) and ITT Rayonier (Hoquiam)] were identified. Neither had existing controls for TCDD.

- **Review notes: Problem assessment accurately gives background information, identifies exceedence of water quality standard for dioxin due to two point sources in the waterbody. Supporting information - effluent, sludge, fish data - quantify Weyerhaeuser and ITT Rayonier contribution.**

<u>TMDL document</u> - Complete (see Document 2)

- States that a loading capacity of 0.18 mg/day has been established for Inner Grays Harbor.

- **Review note: Clearly identifies the load capacity for the TMDL. Clearly links this to the water quality criterion of 0.014 ppq. Concisely summarizes the implementation and monitoring followup (through the NPDES permits). References the supporting technical documents; also, final derivation is in responsiveness summary.**

<u>Supporting Studies</u> - Complete (see Documents 3, 4, and 8)

- TCDD permit limits for each point source (WLA) were calculated based on compliance with the water quality criteria, taking into account the replacement rates of the Inner Harbor water. Four factors in calculating the WLAs were: 1) the applicable water quality criterion of 0.014 ppq, 2) the harmonic mean flow of 13,073 cfs for the Inner Harbor (document 4), 3) the fraction of the dioxin loading capacity reserved for Inner Grays Harbor (0.4037), as derived in EPA's TMDL for the Columbia River, and 4) 2 wasteload allocations. Based on this analysis, the long term TCDD loading for each mill is 0.09 mg/day. (Responsiveness summary).

- For compliance purposes, the annual average load for each mill = 0.17 mg/day. Daily maximum limit is 0.28 mg/day.

- Both Weyerhaeuser and ITT Rayonier must meet this level by March 8, 1994.

- Weyerhaeuser permit issued May 10, 1991.

- ITT Rayonier permit issued June 4, 1991.

- **Review notes: Documentation clearly gives basis for calculating the TMDL. Tidal exchange flow was used for determining the TCDD loading for Grays Harbor. Calculation of the WLA - fine, using statistical method. The date for meeting the effluent limits falls within guidelines.**

Public participation - Complete (see Documents 5, 7, 10)

- Public notice of the Weyerhaeuser permit and wasteload allocation from August 8, 1990 to September 12, 1990. Public hearing on the permit on September 12, 1990.

- Public notice of the ITT Rayonier permit and wasteload allocation from August 8, 1990 to September 10, 1990. Public hearing on the permit on September 10, 1990.

- **Review notes: Adequate public participation.**

Enforceability - Complete (see Documents 6, 7, 8, 9, 10, and 11)

- NPDES Permit No. WA-000080-9, Weyerhaeuser, Cosmopolis

- NPDES Permit No. WA-000307-7, ITT Rayonier, Hoquiam

- **Review notes: Valid permits and supporting documentation with applicable conditions**

TMDL effectiveness plan - Complete (see Documents 6 and 9)

- In permit: effluent and sludge monitoring for dioxins, furans, adsorbable organic halogens; ambient bioaccumulation.

- **Review notes: Adequate monitoring to assess compliance with the TMDL.**

Recommendation, approve TMDL.

ALW, 6/16/92

TOTAL MAXIMUM DAILY LOAD

Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Developed pursuant to 40 CFR 130.7 and the Federal Clean Water Act

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WATERBODY SEGMENT: WA-22-0030

Grays Harbor (Inner)

(east of longitude 123°59'00"W
to longitude 123°45'45"W)

RECEIVING SYSTEM INFORMATION:

Basin: Lower Chehalis
County: Grays Harbor

TMDL PARAMETER:

2,3,7,8 TCDD (Dioxin)

APPLICABLE RULES:

WAC 173-201-047(3)
WAC 173-201-047(4)

SOURCES COVERED BY THIS TMDL:

Allocation Type	Source Description
WLA	Weyerhaeuser at Cosmopolis
WLA	ITT Rayonier at Hoquium

TMDL:

A TMDL for 2,3,7,8 TCDD of 0.18 mg per day to inner Grays Harbor. This loading rate has been shown to be consistent with the narrative state water quality criterion of 0.014 ppq and the long term harmonic mean flow of 13,073 cfs for Chehalis River at Hoquium.

Technical Documents:

Industrial Section, Washington Department of Ecology. 1990 (version 2.0). Proposed Effluent Limitations for Dioxin and AOX. Olympia, WA.

Burkhalter, R.A. New TCDD and AOX Effluent Limits. Letter to Dave Ragsdale dated January 29, 1991.

Addendum to Public Comment Responsiveness Summary for the Weyerhaeuser Mill at Cosmopolis. dated May 10, 1991.

Addendum to Public Comment Responsiveness Summary for the ITT Rayonier Mill at Hoquiam. dated August 9, 1990.

Implementation:

The WLA has been incorporated into the draft permits for both WLAs. Both permits have been appealed. Final action on these permits await the decision on the appeal.

Monitoring:

Both draft permits under appeal require ambient monitoring to assess TMDL implementation be conducted by the permittees before 180 days of the permit expiration for bioaccumulation of TCDD in 4 species; Starry Flounder, Sandab, Mussels, and Crab.