



JUL 14 1992



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Reply to
Attn of: WD-139

Publication # 92-10-205

Michael T. Llewelyn, Program Manager
Water Quality Program
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Re: Approval of Total Maximum Daily Load (TMDL) for the Strait
of Juan de Fuca (East)

Dear Mr. ^{make}Llewelyn:

I am pleased to approve the following TMDL and associated
wasteload allocation that was submitted by your Department on
March 9, 1992:

<u>Waterbody Segment</u>	<u>Waterbody Name</u>	<u>TMDL Parameter</u>
WA-18-0010	Strait of Juan de Fuca	Dioxin

Dioxin controls have been established to ensure compliance
with the state's narrative water quality standard for toxic
substances. A wasteload allocation has been implemented
through effluent limitations in a National Pollutant Discharge
Elimination System (NPDES) permit for ITT Rayonier,
Incorporated, Port Angeles (NPDES Permit No. WA-000079-5).

By EPA's approval of this TMDL, it is now incorporated
into the state's water quality management plan.

Sincerely,

Charles E. Findley, Director
Water Division

cc: Lynn Singleton, Ecology
Steve Butkus, Ecology
Will Kendra, Ecology

LAT Long of outfall
48° 7' 28"
123° 22' 45"



JUL 02 1992

EPA APPROVAL LIST

Reply to
Attn of: WD-139

MEMORANDUM

SUBJECT: Recommendation for TMDL Approval
Strait of Juan de Fuca (East) - dioxin

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

Amber Wong

TO: File

- TMDL submitted March 9, 1992
- TMDL package completed July 2, 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-000079-5, ITT Rayonier, Incorporated (Port Angeles), issued July 3, 1991
expiration date: July 3, 1996
 - Document 7: Fact Sheet for ITT Rayonier, Incorporated (Port Angeles) NPDES permit; dated August 10, 1990

- Document 8: Responsiveness Summary to comments received during public hearings and public notice of ITT Rayonier, Incorporated (Port Angeles) NPDES permit, dated July 3, 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(1) of the Clean Water Act. ITT Rayonier (Port Angeles), discharging to the Strait of Juan de Fuca, was on this list. An Individual Control Strategy (ICS), defined as a water quality-based permit, was required for this facility. Derivation of the TMDL for the Strait of Juan de Fuca for TCDD was part of developing the permit.

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 ITT Rayonier (Port Angeles) showed measurable quantities of dioxin in effluent and sludge. These values showed that existing effluent from this facility would cause violations of the dioxin water quality standard.
- One major point source, ITT Rayonier (Port Angeles) was identified. The plant did not have existing controls for TCDD.

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

TMDL document - Complete (see Document 2)

- States that a loading capacity of 0.19 mg/day has been established for the Strait of Juan de Fuca.
- **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 permit). Clearly references the supporting technical documents.**

Supporting Studies - Complete (see Documents 3 and 4)

- TCDD permit limits for the point source (WLA) were calculated based on compliance with the water quality criteria at the edge of the dilution zone. Three factors in calculating the WLA were: 1) the applicable water quality criterion of 0.014 ppq; 2) the dilution ratio of receiving water to effluent within the dilution zone, estimated at 100:1; and 3) a background TCDD concentration of zero. Based on this analysis, a load capacity of 0.19 mg/day was developed. The allowable load capacity was allocated to the ITT Rayonier plant. The annual average effluent limit for TCDD for the Port Angeles mill is 0.19 mg/day. The daily maximum limit, to account for effluent variability, is 0.36 mg/day.
- ITT Rayonier (Port Angeles) must meet this level by March 8, 1994.
- The ITT Rayonier permit was issued July 3, 1991.
- **Review notes: Documentation gives basis for calculating the TMDL. Estimated receiving water dilution was used for determining the TCDD loading for the Strait of Juan de Fuca. The entire load was allocated to the ITT Rayonier facility. The date for meeting the effluent limits falls within guidelines.**

Public participation - Complete (see Document 5, 7, and 8)

- Public notice of the ITT Rayonier permit and wasteload allocation occurred from August 20, 1990 to September 20, 1990. A public hearing on the permit was on

September 20, 1990.

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

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

- NPDES Permit No. WA-000079-5, ITT Rayonier, Port Angeles
- **Review notes: Valid permit and supporting documentation with applicable conditions**

TMDL effectiveness plan - Complete (see Document 6)

- In permit: effluent and sludge monitoring for dioxins, furans, adsorbable organic halides; ambient bioaccumulation.
- **Review notes: Adequate monitoring to assess compliance with the TMDL.**

Recommendation, approve TMDL.

ALW, 7/2/92

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

WATERBODY SEGMENT: WA-18-0010

Strait of Juan de Fuca (East)

(east WRIA 18-19 boundary and
to west of Angeles Point)

RECEIVING SYSTEM INFORMATION:

Basin: Elwah-Dungeness
County: Clallam

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

<u>Type</u>	<u>Source Description</u>
WLA	ITT Rayonier at Port Angeles

TMDL:

A TMDL for 2,3,7,8 TCDD of 0.19 mg per day to the Strait of Juan de Fuca. This loading rate has been shown to be consistent with the narrative state water quality criterion of 0.014 ppq at the edge of the mixing zone.

Technical Documents:

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

Implementation:

The WLA has been incorporated into the draft permit. The permit has been appealed. Final action on the permit awaits the decision on the appeal.

Monitoring:

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