California Regional Water Quality Control Board
North Coast Region

CLEANUP AND ABATEMENT ORDER NO. R1-2001-0200

FOR

SIERRA-PACIFIC INDUSTRIES
ARCATA DIVISION SAWMILL
2293 SAMOA ROAD
ARCATA, CALIFORNIA

Humboldt County

The California Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board) finds that:

1. The Sierra-Pacific Industries, Arcata Division Sawmill site (Site) is located at 2293 Samoa Road, Arcata. The Site was developed into a sawmill around 1950 and has been an active Sierra-Pacific Industries' sawmill to the present day. The Mad River Slough borders the eastern side of the Site and construction of the sawmill included filling a portion of the slough.

2. Sierra-Pacific Industries (hereinafter the Discharger) began using wood preservatives containing pentachlorophenol (PCP) and/or tetrachlorophenol at the Site in the 1960s to prevent staining on milled lumber. A dip tank was located in the middle of the former green chain and was used for the storage and application of wood preserving chemicals. In 1985 the use of wood treatment chemicals containing pentachlorophenol and/or tetrachlorophenol was discontinued on the green chain and wood treatment operations were relocated inside a new dip facility building. In 1987, the old wood treatment chemicals remaining under the green chain were recycled through the new dip facility and the area under the green chain was cemented. A wood treatment product called Brightwood S is currently being used at the site to control staining on some of the milled lumber.

3. After the use of pentachlorophenol and tetrachlorophenol containing wood treatment chemicals was discontinued on the green chain in 1985, pentachlorophenol and tetrachlorophenol continued to be detected in stormwater runoff from the Site. On December 19, 2000, Regional Water Board staff required the Discharger to conduct a soil and groundwater investigation to determine the source of pentachlorophenol and tetrachlorophenol affecting stormwater runoff.

4. The Discharger conducted a subsurface investigation at the site in July 2001. The investigation included installation of approximately 40 borings for the collection of soil and groundwater samples. Analytical results of groundwater samples revealed concentrations of pentachlorophenol and tetrachlorophenol as high as 100,000 parts-per-billion (ppb).

5. Polychlorinated dibenzodioxins and polychlorinated dibenzofurans are contaminants in pentachlorophenol and are carcinogenic and teratogenic substances. The primary Maximum Contaminant Level (MCL) for 2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin) in drinking water issued by the U.S. Environmental Protection Agency and the California Department of Health Services is 0.00003 ppb. Proposition 65's Drinking Water Level for this contaminant is 0.0000025 ppb. The U.S. Environmental Protection Agency's National Recommended Ambient Water Quality Criteria for Fresh Water Aquatic Life Protection (Lowest Observed Effect Level of Chronic Toxicity) is less than 0.00001 ppb.

6. The California Water Code and regulations and policies developed thereunder require cleanup and abatement of discharges and threatened discharges of waste to the extent feasible. Cleanup and abatement activities are to provide attainment of background levels of water quality or the highest level of water quality that is reasonable if background levels of water quality cannot be restored. Alternative cleanup levels less than background are

required to be consistent with maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial use of water, and not result in water quality less than that prescribed in the Water Quality Control Plans and Policies adopted by the State and Regional Water Boards.

7. Background groundwater levels for the constituents of concern at the Site are established by considering the background quality of groundwater and surface water (i.e., water that has not been affected by waste constituents). For the contaminants PCP, tetrachlorophenol, polychlorinated dibenzodioxins, polychlorinated dibenzofurans, and petroleum hydrocarbons which are not naturally occurring in groundwater or surface water, background water quality is considered to be at levels below the lowest practical analytical detection limits.

8. The Water Quality Control Plan for the North Coast Region (Basin Plan) establishes beneficial uses of water, and various water quality objectives that exist to ensure protection of those beneficial uses. The most stringent criteria for a waste constituent that is protective of all of the beneficial uses should be selected in determining appropriate cleanup levels. Alternative cleanup and abatement actions need to be considered that evaluate the feasibility of, at a minimum: (1) cleanup to background levels, (2) cleanup to levels attainable through application of best practicable technology, and (3) cleanup to protective water quality criteria levels.

9. The Site is located in the Eureka Plain Hydrologic Unit. The Site overlies shallow groundwater less than 5 feet below ground surface. The beneficial uses of groundwater in the Eureka Plain Hydrologic Unit include:

    a. municipal supply
    b. agricultural supply
    c. industrial service supply

10. The Site is located over natural and man made drainage courses tributary to the Mad River Slough, which is tributary to Arcata Bay and Humboldt Bay. The beneficial uses of Humboldt Bay as established in the Basin Plan include:

    a. agricultural supply
    b. industrial service supply
    c. navigation
    d. water contact recreation
    e. non-contact water recreation
    f. commercial and sport fishing
    g. cold freshwater habitat
    h. wildlife habitat
    i. rare, threatened or endangered species
    j. marine habitat
    k. migration of aquatic organisms
    l. spawning, reproduction, and/or early development
    m. shellfish harvesting
    n. estuarine habitat
    o. aquaculture

11. Cleanup to background levels is the presumptive standard. Any proposed alternative that will not achieve cleanup to background levels must be supported with evidence that it is technologically or economically infeasible to achieve background levels, and that the pollutant will not pose a substantial present or potential hazard to human health or the

environment for the duration of the exceedence of background levels. (SWRCB Res. 68-16 and 92-49, 23 CCR section 2550.4, subds. (c), and (d).)

12. Water quality objectives exist to ensure the beneficial uses of water. Numerous beneficial uses of water exist, and the most stringent objective for protection of all beneficial uses is selected as protective for water quality. The following tables set out water quality objectives for this Site:

Groundwater
Water Quality Objectives

Constituent of Concern	*Background Level (ug/l)*	*Water Quality Objective (ug/l)*	*Citation*
Pentachlorophenol	< 0.2	0.43	Cal/EPA Cancer Potency Factor applied to TOXICITY water quality objective in the Basin Plan.
Tetrachlorophenol	< 0.2	1.0	Taste and Odor Threshold per USEPA Red Book applied to the TASTE AND ODOR water quality objective in the Basin Plan
Furan	< 0.0001	7.0	US EPA Integrated Risk Information System (IRIS) Reference Dose applied to TOXICITY water quality objective in the Basin Plan
2,3,7,8-TCDD (dioxin)[1]	< 0.0001	1.3 E-8	USEPA National Ambient Water Quality Criteria Human Health and Welfare Protection Cancer Risk, Sources of Drinking Water; Basin Plan Resolution No. 90-27

[1] Toxicity equivalency factors (TEF) are used to determine the relative toxicity of chlorinated dibenzodioxin (CDD) and chlorinated dibenzofuran (CDF) congeners. The following table represents applicable isomer groups and their associated TEF.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDD	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDF	0.1
2,3,7,8 hepta CDF	0.01
octa CDF	0.001

Surface Water
Water Quality Objectives

Constituent of Concern	*Background Level (ug/l)*	*Water Quality Objective (ug/l)*	*Citation*
Pentachlorophenol	Not naturally occurring, but variable and site specific data required;	2.4 to 18 dependent on pH	California Toxic Rule, Continuous 4-day average for aquatic life protection, applied to the narrative TOXICITY objective in the Basin Plan
Tetrachlorophenol	< 0.2	1.0	Taste and Odor Threshold per USEPA Red Book applied to the TASTE AND ODOR water quality objective in the Basin Plan
Furan	< 0.0001	7.0	US EPA Integrated Risk Information System (IRIS) Reference Dose applied to TOXICITY water quality objective in the Basin Plan
2,3,7,8-TCDD (dioxin)[2]	< 0.0001	1.4 E-8	California Toxic Rule Inland Surface Waters, Human Health 30-day average, aquatic consumption only, applied to the narrative TOXICITY objective in the Basin Plan

13. Discharges of petroleum hydrocarbons, pentachlorophenol, tetrachlorophenol, and their associated impurities are a violation of the basin plan. The discharge and threatened discharge of wood treatment chemicals and other wastes have unreasonably affected water quality in that the wastes are deleterious to the above described beneficial uses and have created or may create a condition of pollution and/or nuisance, which threatens to continue unless the discharge or threatened discharge is permanently abated or cleaned up.

14. Reasonable costs incurred by Regional Water Board staff in overseeing cleanup or abatement activities are reimbursable under Section 13304 of the California Water Code. In addition, reasonable oversight costs resulting from a leak or spill from and aboveground tank are reimbursable under Section 25270.9 of Chapter 6.67 of the California Health and Safety Code.

[2] Toxicity equivalency factors (TEF) are used to determine the relative toxicity of chlorinated dibenzodioxin (CDD) and chlorinated dibenzofuran (CDF) congeners. The following table represents applicable isomer groups and their associated TEF.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDD	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDF	0.1
2,3,7,8 hepta CDF	0.01
octa CDF	0.001

15. This enforcement action is being taken for the protection of the environment and therefore, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.) in accordance with Section 15308, Chapter 3, Title 14, of the California Code of Regulations.

THEREFORE, IT IS HEREBY ORDERED that pursuant to California Water Code Section 13267(b) and 13304, the Discharger shall cleanup and abate the discharge and threatened discharge of wastes described above and shall comply with the provisions of this Order:

1. The Discharger shall abate the discharges of petroleum hydrocarbons, pentachlorophenol, tetrachlorophenol, and any other toxic compounds to Mad River Slough and groundwater.

2. The Discharger shall comply with any future Waste Discharge Requirements Order and Monitoring and Reporting Program issued in connection with the investigation and cleanup of contamination at the Site.

3. The Discharger shall conduct the investigation and cleanup tasks under the direction of a California registered geologist or registered civil engineer experienced in the area of groundwater pollution cleanup and pentachlorophenol cleanup.

4. The Discharger shall take no action that causes or permits or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be discharged into waters of the state and create, or threaten to create, a condition of pollution or nuisance.

5. On or before February 1, 2002, the Discharger shall submit to the Regional Water Board a workplan for a feasibility study to address cleanup and abatement of the discharges to soil, groundwater and surface water. This workplan shall be prepared by and bear the stamp of a California registered geologist or registered civil engineer.

6. Within 60 days of concurrence by the Executive Officer with the workplan submitted under No. 5 above, the Discharger shall submit a report of plan completion. The report shall include a time schedule to complete the remedial investigation, feasibility study, and remedial action plan, and all associated elements, including a public participation plan.

7. All future monitoring reports submitted pursuant to a Monitoring and Reporting Program shall be complete, accurate, timely, and be in the format specified in the Monitoring and Reporting Program. Any variations from the Monitoring and Reporting Program, including the sampling of additional points, failure to sample at any point, failure to test for any analytes specified, testing for analytes not specified, or any unusual conditions which may have a bearing on the interpretation of the data collected, shall be explained in detail in the monitoring report including the reason for the variance. These monitoring reports shall bear the stamp and signature of a California registered geologist or civil engineer.

8. Any excavation of contaminated material shall not be performed unless done so in accordance with a workplan that has been approved by Regional Water Board staff, in writing. Any excavated materials must be properly contained so that there is no possibility of contamination being released from the soil pile.

9. The Discharger shall promptly pay invoices for reimbursing Regional Water Board oversight costs in accordance with the terms specified on the billing invoice.

10. If for any reason, the Discharger is unable to perform any activity or are unable to submit any document in compliance with the schedule to set forth herein or in compliance with any work schedule submitted pursuant to this Order and approved by the Executive Officer, the Discharger may request, in writing, an extension of the time specified. The extension request must be submitted ten days in advance of the due date in question and shall include justification for any delay including a description of the good faith effort performed to achieve compliance with the due date. The extension request shall also include a proposed time schedule with new performance dates for the due date in question and all dependent dates. An extension may be granted for good cause, as determined by the Executive Officer in his or her sole discretion, in which this Order will be accordingly revised.

Ordered by _____
Susan A. Warner
Executive Officer

October 31, 2001

(DLP:dc\SPICAO082201.doc)