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AUG 13 1992

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Kaiser Mead
Enforcement

In the Matter of Remedial Action by;)
Kaiser Aluminum & Chemical Corp.) Agreed Order
East 2111 Hawthorne Road) 92TCI100
Mead, Washington 99021)

TO: Mr. David J. Kjos
Kaiser Aluminum & Chemical Corp.
East 2111 Hawthorne Road
Mead, Washington 99021

I.

JURISDICTION

This Agreed Order ("Order") is issued pursuant to the authority of RCW 70.105D.050(1).

II.

FINDINGS OF FACT

Ecology makes the following Findings of Fact without admission of any such facts by the Kaiser Aluminum & Chemical Corporation (Kaiser).

1. Kaiser presently owns property at East 2111 Hawthorne Road; Mead, Washington; 99021. The property is a primary aluminum reduction smelter that was established in 1942 by the U. S. Government. In 1946, the plant was purchased by Kaiser Aluminum. Kaiser has owned and operated the property since 1946.
2. Studies conducted at the facility have found cyanide and fluoride in groundwater, surface soils, and subsurface soils on the site. The major source of the cyanide and fluoride contamination is spent potlining material located in a large disposal pile. Spent potliner is also found in the adjacent solid waste rubble pile. The two large piles are located directly northwest of the smelter. The potlining disposal pile is covered with asphalt and sealing materials and currently contains approximately 94,000 cubic yards of spent potliner with a weight of approximately 128,000 tons.
3. Investigations conducted at the facility have found contamination in soils and groundwater beneath the potliner pile. Levels of total cyanide range as high as 945 milligrams per kilogram in soils beneath the potliner pile and 89.2 milligrams per liter in groundwater near the pile. Levels of fluoride in groundwater are

as high as 91.0 milligrams per liter. The average level of total cyanide northwest of the pile has decreased from 262.7 milligrams per liter (1982) to 88.1 milligrams per liter (1991) as measured in monitoring well TH-8. Contamination is documented in an Engineering Assessment Report by CH2M Hill, December 1988.

4. The cyanide and fluoride contamination is found in a subsurface plume that is 800 to 1500 feet wide and travels approximately 2.5 miles from the aluminum smelter to the Little Spokane River, where it discharges as a series of springs. The pollutants in the plume have contaminated a portion of the Spokane-Rathdrum Prairie aquifer and the Little Spokane River. The Spokane-Rathdrum Prairie aquifer has been designated a sole source aquifer by the Environmental Protection Agency and requires the protection necessitated by that designation. Total cyanide contamination found in the Spokane-Rathdrum aquifer ranges 89.2 milligrams per liter at the aluminum smelter to 0.88 milligrams per liter in the Van Gelder spring adjacent to the Little Spokane River. Total cyanide concentrations in the contaminated springs found along the Little Spokane River range between 0.18 and 0.88 milligrams per liter (1991 mean annual average), while the Little Spokane River has consistently had concentrations that range between 0.008 and 0.054 milligrams per liter total cyanide. Contamination in the plume is documented in an Engineering Assessment Report by CH2M Hill, December 1988 and semi-annual groundwater monitoring summaries by Hart Crowser since 1983.

III.

ECOLOGY DETERMINATIONS

1. The Kaiser Mead smelter is a "facility" as defined in RCW 70.105D.020(3).
2. Kaiser is an "owner or operator" of the Site as defined in RCW 70.105D.020(6).
3. Cyanide and fluoride are "hazardous substances" as defined in RCW 70.105D.020(5).
4. The presence of cyanide and fluoride in the ground water and soils at the Site constitutes a "release" as defined in RCW 70.105D.020(10).
5. By letters of March 28, 1989 and January 29, 1990 Ecology notified Kaiser of its status as a "potentially liable person" under RCW 70.105D.040. after notice and opportunity to comment.

6. Pursuant to RCW 70.105D.030(1) and .050, Ecology may require potentially liable persons to investigate or conduct remedial actions with respect to the release or threatened release of hazardous substances, whenever it believes such action to be in the public interest.
7. Based on the foregoing facts, Ecology believes the remedial action required by this Order is in the public interest.

IV.

WORK TO BE PERFORMED

Based on the foregoing Facts and Determinations, it is hereby Ordered and Agreed that Kaiser perform the remedial action set forth below and that these actions be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein. Within 150 calendar days of the effective date of this Order, Kaiser shall submit to Ecology for approval a final feasibility study describing options for implementing cleanup actions at the Kaiser - Mead NPL Site. The feasibility study shall include compliance with WAC 173-340-350, entitled State Remedial Investigation and Feasibility Study and use WAC 173-340-360, entitled Selection of Cleanup Actions as one of the cleanup alternative screening factors. The feasibility study shall be a stand alone document and shall include the following information as appropriate:

1. General facility information. Site description including facility location, contaminants present, and contaminant transport routes.
2. Description of existing contamination and conditions. The feasibility study shall include a brief description of field investigations and site conditions to date.
3. Cleanup Action Alternatives. The feasibility study shall include an evaluation of cleanup alternatives that will protect human health and the environment at the site. In the feasibility study, Kaiser shall identify the various cleanup technologies and combinations of technologies, and assess whether they can achieve the state cleanup standards. The alternatives examined shall consider in descending preference: reuse (recycling); destruction/detoxification; separation or volume reduction followed by reuse recycling, destruction or detoxification; immobilization of hazardous substances; on or off site disposal; isolation or containment with attendant engineering controls; and institutional controls and monitoring. Preference shall be given to permanent solutions to the maximum extent practicable. Possible alternatives shall be screened to reduce the number considered and Kaiser's preferred alternative shall be identified. The reason(s) for not considering the alternatives eliminated in the screening process shall be identified in the study.

TERMS AND CONDITIONS OF ORDER

1. Definitions. Unless otherwise specified, the definitions set forth in ch. 70.105D RCW and ch. 173-340 WAC shall control the meanings of the terms used in this Order.

2. Public Notice. WAC 173-340-600(10)(c) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that the Order is inadequate or improper in any respect.

3. Remedial Action Costs. Kaiser agrees to pay to Ecology costs incurred by Ecology pursuant to this Agreed Order. These costs shall include work performed by Ecology or its contractors for investigations, remedial actions, and Order preparation, negotiations, oversight and administration. Ecology costs shall include costs of direct activities; e.g., employee salary, laboratory costs, contractor fees, and employee benefit packages; and agency indirect costs of direct activities. Kaiser agrees to pay the required amount within 90 days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general description of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Failure to pay Ecology's costs within 90 days of receipt of the itemized statement of costs will result in interest charges.

4. Designated Project Coordinators. The Project coordinator for Ecology is:

Mr. Paul Skyllingstad
Department of Ecology
Industrial Section
Post Office Box 47706
Olympia, WA 98504-7706

The project coordinator for Kaiser is:

Mr. Michael Sawatzky
Kaiser Aluminum
East 2111 Hawthorne Road
Mead, Washington 99021

The project coordinators shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communications between Ecology and Kaiser, and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the

terms and conditions of this Order, shall be directed through the project coordinators. Should Ecology or Kaiser change project coordinators, written notification shall be provided to Ecology or Kaiser at least ten (10) calendar days prior to the change.

5. Performance. All work performed pursuant to this Order shall be under the direction and supervision, as necessary, of a professional engineer or hydrogeologist, or similar expert, with appropriate training, experience and expertise in hazardous waste site investigation and cleanup. Kaiser shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors and subcontractors to be used in carrying out the terms of this Order, in advance of their involvement at the Site. Kaiser shall provide a copy of this Order to all agents, contractors and subcontractors retained to perform work required by this Order and shall ensure that all work undertaken by such agents, contractors and subcontractors will be in compliance with this Order.

Except when necessary to abate an emergency situation, Kaiser shall not perform any remedial actions at the areas of the Site addressed in the December 1988 Engineering Assessment Report, outside that required by this Order unless Ecology concurs, in writing, with such additional remedial actions. If prior to completion of the feasibility study referenced in Section IV, Kaiser determines that removal of spent potliner material from either the spent potliner pile or the rubble pile to an approved RCRA facility is necessary, nothing in this Order shall prevent such removal and disposal provided that such removal and disposal is conducted in accordance with RCRA and the Washington State Dangerous Regulations (Chapter 173-303 WAC).

6. Access. Ecology or any Ecology authorized representative shall have the authority to enter and freely move about the Site at all reasonable times for the purposes of, inter alia: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting samples as Ecology or the project coordinator may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by Kaiser. By signing this Agreed Order, Kaiser agrees that this Order constitutes reasonable notice of access, and agrees to allow access to the Site at all reasonable times for purposes of overseeing work performed under this Order. Ecology shall provide Kaiser an opportunity to split any samples taken during an inspection unless doing so interferes with Ecology's sampling. Kaiser shall allow split or replicate samples to be taken by Ecology and shall provide Ecology seven (7) days notice before any sampling activity pursuant to this Order.

7. Public Participation. Ecology shall maintain the responsibility for public participation at the site. Ecology shall assist Kaiser in preparing a public participation plan for the site. Kaiser shall help coordinate and implement public participation for the site.

8. Retention of Records. Kaiser shall preserve in a readily retrievable fashion, during the pendency of this Order and for ten (10) years from the

date of completion of the work performed pursuant to this Order, all records, reports, documents, and underlying data in its possession relevant to this Order. Should any portion of the work performed hereunder be undertaken through contractors or agents of Kaiser, then Kaiser agrees to include in their contract with such contractors or agents a record retention requirement meeting the terms of this paragraph.

9. Reservation of Rights/No Settlement. This Agreed Order is not a settlement under the Chapter 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any Ecology rights or authority. Ecology will not, however, bring an action against Kaiser to recover remedial action costs paid to and received by Ecology under this Agreed Order. In addition, Ecology will not take additional enforcement actions against Kaiser to require those remedial actions required by this Agreed Order, provided Kaiser complies with this Agreed Order.

Ecology reserves the right, however, to require additional remedial action at the Site should it deem such actions necessary.

Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the releases or threatened releases of hazardous substances from the Kaiser - Mead NPL Site.

In the event Ecology determines that conditions at the Site are creating or have the potential to create a danger to the health or welfare of the people on the Site or in the surrounding area or to the condition of the environment, Ecology may Order Kaiser to stop further implementation of this Order for such period of time as needed to abate the danger.

10. Transference of Property No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the site shall be consummated by Kaiser without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to transfer of any legal or equitable interest Kaiser may have in the site or portions thereof, Kaiser shall serve a copy of this Order upon any prospective purchaser, lessee, transferee, assignee, or other successor in such interest. At least thirty (30) days prior to finalization of any transfer, Kaiser shall notify Ecology of the contemplated transfer.

11. Compliance with Other Applicable Laws. All actions carried out by Kaiser pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements.

12. Modification. Ecology and Kaiser may modify this Order by mutual written agreement.

VI.

SATISFACTION OF THIS ORDER

The provisions of this Order shall be deemed satisfied upon Kaiser's receipt of written notification from Ecology that Kaiser has completed the remedial activity required by this Order, as amended by any modifications, and that all other provisions of this Agreed Order have been complied with.

VII.

ENFORCEMENT

Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

1. The Attorney General may bring an action to enforce this Order in a state or federal court.
2. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the site
3. In the event Kaiser refuses, without sufficient cause, to comply with any term of this Order, Kaiser will be liable for:
 - a. up to three times the amount of any costs incurred by the state of Washington as a result of its refusal to comply; and
 - b. civil penalties of up to \$ 25,000 per day for each day it refuses to comply.
4. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70.105D.060.

Effective date of this Order: September 22, 1992

KAISER ALUMINUM & CHEMICAL CORP.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

By David J. Kjos by J.W. Franklin
David J. Kjos
Plant Manager
8/17/92

By Merley F. McCall
Merley F. McCall
Acting Supervisor
Industrial Section
8/18/92