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Kaiser Mead

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by:

Kaiser Aluminum & Chemical
Corporation
2111 E. Hawthorne Road
Mead, Washington 99021

AGREED ORDER

No. DE 01-TCPIS-2075

TO: Mr. James L. Chapman
President, Primary Products Business Unit
Kaiser Aluminum
534 E. Trent, Suite 300
Spokane, Washington 99202

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 such facts by Kaiser Aluminum & Chemical Corporation.

1. Kaiser presently owns property at 2111 E. 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, Kaiser Aluminum purchased the plant. 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 (SPL Pile). Spent potliner is also found in the adjacent solid waste rubble pile (Rubble Pile). The two large piles are located directly northwest of the smelter. The SPL 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 SPL Pile. Levels of total cyanide range as high as 945 milligrams per kilogram in soils beneath the SPL Pile and 89.2 milligrams per liter in groundwater near the SPL Pile. Levels of fluoride in groundwater are as high as 91.0 milligrams per liter. The average level of total cyanide northwest of the SPL Pile has decreased from 262.7 milligrams per liter (1982) to 88.1 milligrams per liter (1991) as measured in monitoring well TH-8. CH2M Hill documents contamination in an Engineering Assessment Report, December 1988.

4. 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 into 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 Prairie Aquifer ranges from 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 maintained concentrations that range between 0.008 and 0.054 milligrams per liter. In 1999 the levels of cyanide and fluoride measured at springs flowing into the Little Spokane River have risen to concentrations that range from 0.382 to 1.303 milligrams per liter (1999 mean annual average). The contamination in the plume is documented in an Engineering Assessment Report by CH2M Hill, December 1988, as well as semi-annual groundwater monitoring summaries by Hart Crowser.

III. Ecology Determinations

1. Kaiser Aluminum & Chemical Corporation is an "owner or operator" as defined at RCW 70.105D.020(11) of a "facility" as defined in RCW 70.105D.020(4).

2. The facility is known as the Kaiser Mead smelter and is located at 2111 E. Hawthorne Road, Mead, Washington and includes all areas where hazardous substances from the facility have come to be located.

3. The cyanide and fluoride found at the facility as described above are "hazardous substances" as defined at RCW 70.105D.020(7).

4. Based on the presence of cyanide and fluoride at the facility and all factors known to the Department, there is a release or threatened release of hazardous substances from the facility, as defined at RCW 70.105D.020(19).

5. By letters dated March 28, 1989 and January 29, 1990, Ecology notified Kaiser Aluminum & Chemical Corporation of its status as a "potentially liable person" under RCW 70.105D.040 after notice and opportunity for comment.

6. Pursuant to RCW 70.105D.030(1) and 70.105D.050, the Department may require potentially liable persons to investigate or conduct other 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 that Kaiser Aluminum & Chemical Corporation take the following remedial actions and that these actions be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein. Specifically, this Order requires Kaiser Aluminum and Chemical Corporation to undertake the following remedial action(s), as more fully set forth in the December, 2000 Final Engineering Design Report which is attached hereto as Exhibit A and is hereby incorporated by reference. In the case of any inconsistency or conflict between this Order and the attached Engineering Design Report, the provisions of the Engineering Design Report shall govern. Within 90 days of the effective date of this Order, Kaiser Aluminum & Chemical Corporation shall begin the remedial action described below.

1. Scope of work. The scope of work for the Kaiser Mead NPL Site interim action consists of the following. Kaiser, through its contractor and subcontractors as necessary, shall accomplish the following work:

- A. Obtain any and all state, federal, or local permits required by law except as provided in Section V.12.B of this Order before work on-Site can begin.
- B. Prepare a Site Health and Safety Plan in accordance with OSHA and WISHA, and their implementing regulations.
- C. Grade the site to prepare for the construction of the cover. Grade the butt tailings pile, Rubble Pile, and asphalt covered potlining pile into one consolidated pile. The consolidated pile shall have minimum slopes of three percent and

maximum slopes of 3 horizontal to 1 vertical. Prepare the consolidated pile for placement of the cover cap components.

D. Grade the temporary potlining storage area, concrete sumps north of Building 32H, and the gravel area west of the consolidated pile. In the temporary potlining storage area the asphalt, drainage system, and approximately two feet of soil shall be removed and placed in the consolidated pile. The concrete sumps shall be removed and incorporated into the consolidated pile. Clean fill shall be used to fill excavations up to grade around the consolidated pile.

E. Construct a multi-layered cover on the consolidated pile. The cover shall consist of a foundation layer, a geosynthetic clay liner, a geomembrane liner, a drainage layer, geotextile, and an armor layer of rock riprap. Each of the components is described in the December, 2000 Final SPL Remediation Engineering Design Report.

F. Kaiser Aluminum & Chemical Corporation shall, in compliance with the construction documentation requirements of WAC 173-340-400(7)(b), prepare a project completion report documenting all phases of the construction. This report shall be certified by a professional engineer.

2. Schedule. The schedule for the performance of the work identified above is as follows:

A. Permits. Apply within 90 days of the effective date of this Order.

B. Grading. Begin grading project by May 31, 2001, or if Ecology has not approved the Project CQA Plan by May 31, 2001 then grading must begin within 30 days after receipt of Ecology's approval of the Project CQA Plan or earlier if

the construction season allows. Grading project shall be complete by September 30, 2002.

C. Multi-layered Cover. Begin cover construction immediately after grading is complete or no later than 30 days after completion of final grading, subject to the provisions of Section IV.3. *infra*. Cover shall be complete by September 30, 2002.

D. Project completion report. Complete report by December 31, 2002.

3. Extension of Schedule. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least 15 days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify the reason(s) the extension is needed.

Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give Kaiser written notification in a timely manner of any extensions granted pursuant to this Decree. Approval of an extension shall not be unreasonably withheld by Ecology.

An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. The burden shall be on Kaiser to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Neither increased costs of performance of the terms of the Order nor changed economic circumstances shall be considered good cause for granting an extension.

V. 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 Notices WAC 173-340-600(10)(c) requires a 30-day public comment period before this agreed order on a state interim action becomes effective. 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 Aluminum & Chemical Corporation shall pay to Ecology costs incurred by Ecology pursuant to this Order. These costs shall include work performed by Ecology or its contractors for investigations, remedial actions, and Order preparation, oversight and administration. Ecology costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). Kaiser Aluminum & Chemical Corporation shall 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 with each itemized statement. 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:

Name: Paul Skyllingstad
Address: Department of Ecology
Industrial Section
Post Office Box 47706
Olympia, WA 98504-7706

The project coordinator for Kaiser Aluminum & Chemical Corporation is:

Name: Mr. Michael Sawatzky
Address: Environmental Manager
Kaiser Aluminum & Chemical Corp.
2111 E. Hawthorne Road
Mead, WA 99021

The project coordinator(s) shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communications between Ecology and Kaiser Aluminum & Chemical Corporation, 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 coordinator(s). The project coordinators may agree to minor modifications to the work to be performed without formal amendments to this Order. Minor modifications will be documented in writing by Kaiser to Ecology. Should Ecology or Kaiser Aluminum & Chemical Corporation change project coordinator(s), written notification shall be provided to Ecology or Kaiser Aluminum & Chemical Corporation 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 Aluminum & Chemical Corporation 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 Aluminum & Chemical Corporation 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 where necessary to abate an emergency situation, Kaiser Aluminum & Chemical Corporation shall not perform any remedial actions at Kaiser Mead NPL Site outside that

required by this Order unless Ecology concurs, in writing, with such additional remedial actions. WAC 173-340-400(7)(b)(i) requires that "construction" performed on the Site must be under the supervision of a professional engineer registered in Washington.

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 in connection with this Order; 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 Aluminum & Chemical Corporation. By signing this Agreed Order, Kaiser Aluminum & Chemical Corporation 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 allow split or replicate samples to be taken by Kaiser Aluminum & Chemical Corporation during an inspection unless doing so interferes with Ecology's sampling. Kaiser Aluminum & Chemical Corporation shall allow split or replicate samples to be taken by Ecology and shall provide seven (7) days notice before any sampling activity. The foregoing seven (7) day notice requirement shall be deemed satisfied upon submittal by Kaiser Aluminum & Chemical Corporation to Ecology of a proposed sampling schedule.

7. Public Participation Kaiser Aluminum & Chemical Corporation shall prepare and/or update a public participation plan for the site. Ecology shall maintain the responsibility for public participation at the site. Kaiser Aluminum & Chemical Corporation shall help coordinate and implement public participation for the site.

8. Retention of Records Kaiser Aluminum & Chemical Corporation shall preserve in a reasonably 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 Aluminum & Chemical Corporation, then Kaiser Aluminum & Chemical Corporation agrees to include in their contract with such contractors or agents a record retention requirement meeting the terms of this paragraph.

9. Dispute Resolution Kaiser Aluminum & Chemical Corporation may request Ecology to resolve disputes, which may arise during the implementation of this Order. Such request shall be in writing and directed to Ecology's signatory, or his/her successor(s), to this Order who shall review the written request and issue a written decision within 15 days. Ecology resolution of the dispute shall be binding and final. Kaiser Aluminum & Chemical Corporation is not relieved of any requirement of this Order during the pendency of the dispute and remains responsible for timely compliance with the terms of the Order unless otherwise provided by Ecology in writing

10. Reservation of Rights/No Settlement This Agreed Order is not a settlement under ch. 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 Aluminum & Chemical Corporation 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 Aluminum & Chemical Corporation to require those remedial actions required by this Agreed Order, provided Kaiser Aluminum & Chemical

Corporation complies with this Agreed Order. Ecology reserves the right, however, to require additional remedial actions 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 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 environment, Ecology may order Kaiser Aluminum & Chemical Corporation to stop further implementation of this Order for such period of time as needed to abate the danger.

11. 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 Aluminum & Chemical Corporation 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 Aluminum & Chemical Corporation may have in the site or any portions thereof, Kaiser Aluminum & Chemical Corporation 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 Aluminum & Chemical Corporation shall notify Ecology of the contemplated transfer.

12. Compliance with Other Applicable Laws

A. All actions carried out by Kaiser Aluminum & Chemical Corporation pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements,

including requirements to obtain necessary permits, except as provided in paragraph B of this section.

B. Pursuant to RCW 70.105D.090(1), the substantive requirements of chapters 70.94, 70.95, 70.105, 75.20, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals for the remedial action under this Order that are known to be applicable at the time of issuance of the Order have been included in Section IV, the Work to be Performed/Attachment, and are binding and enforceable requirements of the Order.

Kaiser Aluminum & Chemical Corporation has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order. In the event Kaiser Aluminum & Chemical Corporation determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Order, it shall promptly notify Ecology of this determination. Ecology shall determine whether Ecology or Kaiser Aluminum & Chemical Corporation shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, Kaiser Aluminum & Chemical Corporation shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by Kaiser Aluminum & Chemical Corporation and on how Kaiser Aluminum & Chemical Corporation must meet those requirements. Ecology shall inform Kaiser Aluminum & Chemical Corporation in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Order. Kaiser Aluminum & Chemical Corporation shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

Ecology shall ensure that notice and opportunity for comment is provided to the public and appropriate agencies prior to establishing the substantive requirements under this section.

C. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency which is necessary for the State to administer any federal law, the exemption shall not apply and Kaiser Aluminum & Chemical Corporation shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

VI. Satisfaction of this Order

The provisions of this Order shall be deemed satisfied upon Kaiser Aluminum & Chemical Corporation's receipt of written notification from Ecology that Kaiser Aluminum & Chemical Corporation 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, which written notification shall be transmitted by Ecology within sixty (60) days after acceptance and approval by Ecology of the project completion report prepared and submitted by Kaiser Aluminum & Chemical Corporation under this Order.

VII. Enforcement

1. Pursuant to RCW 70.105D.050, this Order may be enforced as follows:
 - A. The Attorney General may bring an action to enforce this Order in a state or federal court.
 - B. 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.

C. In the event Kaiser Aluminum & Chemical Corporation refuses, without sufficient cause, to comply with any term of this Order, Kaiser Aluminum & Chemical Corporation will be liable for:

- (1) up to three times the amount of any costs incurred by the state of Washington as a result of its refusal to comply; and
- (2) civil penalties of up to \$25,000 per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under Section 6 of ch. 70.105D RCW.

Effective date of this Order: March 19, 2001

KAISER ALUMINUM & CHEMICAL CORPORATION

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

By: _____

By: Kraege