

**STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY**

In the Matter of Remedial Action by:

**Kaiser Aluminum & Chemical Corporation  
Trentwood Site**

**AMENDMENT NO. 2 TO  
AGREED ORDER**

No. 2692

TO: **Kaiser Aluminum Washington, LLC  
(Formerly Kaiser Aluminum & Chemical Corporation)  
P.O. Box 15108  
15000 East Euclid Avenue  
Spokane Valley, Washington 99215-5108**

**I. AMENDMENT**

Agreed Order (Order) No. 2692 dated August 15, 2005, as amended on September 26, 2012, is hereby amended to incorporate the information and requirements contained in this Amendment. This Amendment is issued pursuant to the MTCA, RCW 70.105D.050 (1) and, except as indicated below, does not replace or change any of the existing requirements of the Order, which shall remain in effect.

**II. FINDINGS OF FACT**

Section V (Findings of Fact) is amended by adding the following facts:

(24) Amended Agreed Order No. 2692 entered into by Ecology and Kaiser on September 26, 2012, required Kaiser to complete several interim remedial actions at the Site, including:

- Determining if natural biodegradation of PCBs is occurring at the Site, as detailed in the report:

Hart Crowser, 2013 (July 9), *PCB Biodegradation Concept Memorandum, Kaiser Trentwood, Spokane Valley, Washington.*

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- Excavation and off-site disposal of contaminated soil in multiple locations throughout the Site, as detailed in the report:

Hart Crowser, 2014 (October 1), *Interim Action Construction Completion Report, Near-Surface Soil Excavation and Off-Site Disposal, Kaiser Trentwood, Spokane Valley, Washington.*

- Remedial actions for petroleum in groundwater in applicable areas of the Site, as detailed in the report:

Hart Crowser, 2015 (February 5), *Petroleum in Groundwater Interim Action, Phase 1, 2014 Summary of Free-Phase Product Monitoring and Bail-Down Testing, Kaiser Trentwood, Spokane Valley, Washington.*

- Capping of contaminated soil in multiple locations throughout the Site, as detailed in the report:

Hart Crowser, 2015 (May 27), *Interim Action Construction Completion Report, Soil Capping, Kaiser Trentwood, Spokane Valley, Washington.*

- Excavation and off-site disposal of soils contaminated with PCBs and petroleum in the West Discharge Ravine, as detailed in the report:

Hart Crowser, 2015 (November 6), *Construction Completion Report, West Discharge Ravine Interim Action, Kaiser Trentwood, Spokane Valley, Washington.*

- Evaluation of the practicability of PCB removal from extracted groundwater using an ex-situ Walnut Shell Filtration treatment system, as detailed in the reports:

Hart Crowser, 2016, *Pilot Study – System Startup and Phase 1A Summary Memo, Kaiser Trentwood Facility, Spokane Valley, Washington.*

Hart Crowser, 2017, *Pilot Study Status Report – Year 1, Kaiser Trentwood Facility, Spokane Valley, Washington.*

Hart Crowser, 2018, *Pilot Study Status Report – Year 2, Kaiser Trentwood Facility, Spokane Valley, Washington.*

## **VI. ECOLOGY DETERMINATIONS**

Section VI (Ecology Determinations) is amended by adding the following:

8. Ecology has determined that it is practicable to remove PCBs from extracted groundwater using an ex-situ Walnut Shell Filtration System and that this system could be expanded into a full-scale treatment system. However, new technologies to remove PCBs from extracted groundwater have been identified since the effective date of Amendment No. 1. Preliminary research indicates these new technologies have the potential to be substantially more effective than using an ex-situ Walnut Shell Filtration System. Therefore, Ecology has determined that additional work in the form of certain interim actions is necessary to provide information needed to select the most appropriate cleanup technology for removing PCBs from groundwater at the Site; and, to implement the full-scale treatment of PCBs in groundwater to improve environmental conditions at the Site. Such circumstances are consistent with WAC 173-340-430.

9. Based on the information learned by conducting interim actions as specified above, Ecology is requiring Kaiser to continue to operate the existing interim action treatment system (Amendment No. 1) and to perform the interim actions described in detail in the Scope of Work and Schedule, attached as Exhibit B-A2.

10. Ecology believes that the additional work to be performed as interim actions is in the public interest.

## **VII. WORK TO BE PERFORMED**

Section VII (Work to Be Performed) is amended by adding the following actions:

7. Kaiser shall furnish all personnel, materials and services necessary for, or incidental to, the planning, initiation, completion, and reporting of the interim actions summarized below and further detailed in the Scope of Work and Schedule, attached as Exhibit B-A2.

- Evaluate and install a groundwater extraction network capable of extracting groundwater at a volume and rate to be measured against screening levels identified in Exhibit B-A2 within a reasonable restoration timeframe
- Evaluate potential treatment technologies for PCBs in groundwater at the Site to determine the most appropriate technology to carry forward for full-scale implementation
- Prepare and submit for Ecology's review and approval a Phase 1 Interim Action Completion Report at the conclusion of the two tasks above. The Report shall identify Kaiser's proposed most appropriate treatment technology for full-scale ex-situ treatment of PCBs in groundwater at the Site.
- Following Ecology's approval of the most appropriate treatment technology for full-scale implementation, implement that technology as a full-scale ex-situ treatment system for PCBs in groundwater at the Site

Exhibit B-A2 is incorporated by reference and is an integral and enforceable part of the Order. The work to be performed is to conduct additional interim actions. Kaiser shall commence work and thereafter complete all tasks in Exhibit B-A2 in the time-frames and frame work indicated unless Ecology grants an extension in accordance with Section VIII.K, or unless provided otherwise in the Order. Each Element of Exhibit B-A2 shall be implemented and completed in accordance with MTCA (Chapter 70.105D RCW) and its implementing regulation (Chapter 173-340 WAC) as amended, and all applicable federal, state, and local laws and regulations.

### **VIII. TERMS AND CONDITIONS OF ORDER**

Section VIII (Terms and Conditions of Order) is amended by replacing the applicable language identified sub-section as follows:

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**A. Public Notices (replace in whole)**

Agreed Order No. 2692, Amendment Nos. 1 and 2 to the Order have been the subject of public notice and comment pursuant to WAC 173-340-600.

**D. Designated Project Coordinators**

The project coordinator for Ecology is:

Jeremy Schmidt  
Department of Ecology  
Eastern Regional Office  
4601 N Monroe  
Spokane, WA 99205-1295


The project coordinator for Kaiser is:

Brent Downey  
Kaiser Aluminum Washington, LLC  
PO Box 15108  
Spokane Valley, WA 99215-5108

Effective date of this Amendment: \_\_\_\_\_

**KAISER ALUMINUM WASHINGTON, LLC**

**STATE OF WASHINGTON,  
DEPARTMENT OF ECOLOGY**

  
\_\_\_\_\_  
**Jason Walsh**  
**Senior Vice President**  
**Flat Rolled Products**  
**Telephone: 509-927-6307**

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**Kathleen L. Falconer**  
**Section Manager**  
**Toxics Cleanup Program**  
**Eastern Regional Office**  
**Telephone: 509-329-3568**

## **EXHIBIT B-A2**

### **SCOPE OF WORK (SOW) AND SCHEDULE**

#### **SCOPE OF WORK**

##### **PURPOSE**

The work under this Amendment No. 2 to Agreed Order No. 2692 (AO) involves conducting Interim Actions at the Kaiser Aluminum & Chemical Corporation Trentwood Site (Site) for the extraction and treatment of groundwater contaminated with polychlorinated biphenyls (PCBs).

A remedial action implemented prior to completing the draft Cleanup Action Plan is an interim action and will be implemented in accordance with WAC 173-340-430 and the AO and its amendments. Interim actions:

- are technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance;
- correct a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed; or
- are needed to provide for completion of the remedial investigation/feasibility study or design of the cleanup action.

The Washington State Department of Ecology (Ecology) has determined that this interim action will be designed and implemented in a manner that does not foreclose any other reasonable alternatives for the final cleanup action that may be required for the Site.

Kaiser shall coordinate with Ecology throughout the development of the deliverables associated with this work and during implementation of the interim actions. Kaiser shall keep Ecology informed of any changes and of any issues or problems as they develop.

Kaiser shall prepare electronic copies of the agency-review draft deliverables and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review. After incorporating Ecology's comments on the agency-review draft deliverable and after Ecology approval, Kaiser shall prepare two hard copies of the final deliverable and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology. Once approved by Ecology, Kaiser will implement the work according to the approved schedule.

## Exhibit B-A2 Scope of Work and Schedule

The SOW is divided into nine major tasks:

- Task 1. Phase 1 Interim Action Work Plan (IAWP)
- Task 2. Phase 1 Permits and Substantive Conditions of Permit-Exempt Laws
- Task 3. Phase 1 Interim Action Implementation
- Task 4. Phase 1 Interim Action Completion Report (IACR)
- Task 5. Phase 2 Full-Scale Pump-and-Treat Interim Action Engineering Design Report (EDR)
- Task 6. Phase 2 Permits and Substantive Conditions of Permit-Exempt Laws
- Task 7. Phase 2 EDR Implementation
- Task 8. Phase 2 Interim Action Completion Report
- Task 9. Phase 2 Interim Action Periodic Performance Reports

### **TASK 1. PHASE 1 INTERIM ACTION WORK PLAN**

Kaiser shall prepare a Phase 1 IAWP that details the work for the following actions:

- **Groundwater Extraction Network**

Conduct field investigations and hydrogeological modeling for the purpose of designing a full scale groundwater extraction network that takes into account seasonal groundwater elevation variability, including extraction wells, pumps and associated electrical and instrumentation systems, extracted groundwater collection and transfer piping, and monitoring and associated infrastructure. The extraction network shall include extraction points beneath the Remelt Building (unless determined technically infeasible by Ecology), where PCB concentrations in groundwater are highest, and in the PCB Plume downgradient from the Remelt Building.

In an effort to expedite extraction of higher-concentration groundwater, some of this work shall be implemented prior to the completion of the field investigations and hydrogeological modeling that will define the full-scale extraction network. The expedited work shall include 1) the conversion of groundwater monitoring well MW-17s into a minimum six-inch diameter groundwater extraction well, 2) the installation of an additional groundwater extraction well (minimum of six-inch diameter) outside of the Remelt building near MW-31s, and 3) the installation of all plumbing, headworks, and electrical connections necessary to connect these new extraction wells to the existing pilot treatment system building.

The extraction network shall be designed to extract groundwater at a volume and rate to be measured against screening levels at the Site within a reasonable restoration timeframe. The screening levels and their applicable monitoring points for PCBs in groundwater at the Site are as follows:

## Exhibit B-A2 Scope of Work and Schedule

- 7 picograms per liter<sup>1</sup>, adjusted for area background PCB concentrations as specified in WAC 173-340-720(7)(c), in the following groundwater monitoring wells: MW-17s, HL-MW-32s, HL-MW-23s, MW-12A, MW-23s, MW-27s, MW-28s
- 44,000 picograms per liter, adjusted for area background PCB concentrations as specified in WAC 173-340-720(7)(c), in all Site groundwater monitoring wells *except* the seven monitoring wells listed above and the four monitoring wells listed below
- The area background PCB concentration shall be determined by the procedure set forth in WAC 173-340-709, utilizing the following groundwater monitoring wells: MW-4, MW-5, MW-10, and MW-11
- **Treated Extracted Groundwater Discharge System**

Increase the capacity of the treated extracted groundwater discharge system components (discharge piping from the Pilot Treatment Testing Building, the discharge infiltration trench, and the discharge pump) such that the system is capable of conveying a reasonable estimate of a full scale active groundwater extraction network flow.
- **Treatment Technology Development – Ultraviolet Light / Hydrogen Peroxide**

Advance the development of Ultraviolet Light / Hydrogen Peroxide (UV/H<sub>2</sub>O<sub>2</sub>) PCB treatment technology (unless technically infeasible) from the current Bench/Laboratory Scale stage of a 5 liter batch reactor that has demonstrated substantial PCB destruction efficiency to the Pilot Scale stage estimated to be in the range of 3 to 5 gallons per minute. If Ecology and Kaiser agree that the results are positive and further development is warranted, then Kaiser shall advance the technology to the Demonstration Scale stage estimated to be in the range of 30 to 50 gallons per minute. If Ecology and Kaiser agree that further development is warranted, then Kaiser shall advance the technology to the Commercial Scale stage which will be compatible with a full scale active groundwater extraction network(s) flow.
- **Treatment Technology Development – Additional Technologies**

Provide a technical assessment of the potential for advancing the development of the utilization of the technologies identified below and if justifiable, their implementation:

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<sup>1</sup> This screening level is based in part on the current PCB human health water quality criterion of 7 picograms per liter. It is not a cleanup level. The cleanup level will be established in a cleanup action plan to be issued by Ecology and may be based on a number of factors, including the applicable PCB human health water quality criterion.



## Exhibit B-A2 Scope of Work and Schedule

- Algae based treatment technology for application in the treatment of Walnut Shell Filtration System (WSFS) backwash water and in the direct treatment of extracted groundwater
- Solvent/Zero Valent Metal technology for application in the treatment of WSFS backwash water and in the direct treatment of extracted groundwater as well as for in-situ passive PCB removal from groundwater utilizing existing monitoring wells
- As agreed to between Kaiser and Ecology, the pilot testing of other treatment technologies discovered during the Phase 1 Interim Action

- **Treatment Technology Development – Walnut Shell Filtration System**

Continue operation of the existing WSFS but with an increased throughput with a target rate of 50 gallons per minute or higher and operating with or without amendments, such as castor oil, mineral oil, and Klaraid. Continue to work to identify minimization and management techniques for backwash water.

- **Infrastructure Expansion**

Expand existing treatment building infrastructure, such as building size, electrical power supply capacity, and any other ancillary systems so that the infrastructure can accommodate the estimated needs for both treatment technology development and full scale treatment system

An agency-review draft Phase 1 IAWP will be submitted for Ecology review and approval. The Phase 1 IAWP will be prepared with detail commensurate with the work to be performed and include, as appropriate:

- Description of the interim action including its purpose, general requirements, and relationship to the (final) cleanup action;
- Summary of relevant information from the Remedial Investigation and Feasibility Study (RI/FS), including at a minimum existing site conditions relative to PCB in groundwater and alternative interim actions considered, if any, and contaminants of concern and screening levels applicable to the interim action;
- Applicable engineering design and construction information, as specified in WAC 173-340-400, including a proposed schedule and personnel roles and responsibilities;
- Identification of potential treatment byproducts from the various pilot systems, their potential concentrations, any regulations that apply to potential treatment byproducts, and any necessary management requirements;
- Health and Safety Plan (HASP) that meets WAC 173-340-810 requirements;
- Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP) that meet WAC 173-340-820 requirements;
- Permits required or the substantive requirements;

## Exhibit B-A2 Scope of Work and Schedule

- Actions proposed for determining the feasibility of groundwater extraction beneath the Remelt building; and,
- Implementation schedule for the IAWP.

### **TASK 2. PHASE 1 PERMITS AND SUBSTANTIVE CONDITIONS OF PERMIT-EXEMPT LAWS**

Kaiser must obtain any necessary permits prior to construction of the Phase 1 Interim Action, or identify substantive requirements of laws for which MTCA creates a permit exemption.

### **TASK 3. PHASE 1 INTERIM ACTION IMPLEMENTATION**

As detailed in the approved Phase 1 IAWP, Kaiser will implement the Phase 1 Interim Action according to the schedule contained in this Exhibit. The schedule may be amended as needed in accordance with Agreed Order Section VIII.K to adapt to developments during the IAWP evaluation of potential treatment technologies.

### **TASK 4. PHASE 1 INTERIM ACTION COMPLETION REPORT**

Upon successful completion of the Phase 1 Interim Action work, an agency-review draft Phase 1 IACR will be prepared as a separate deliverable. The Phase 1 IACR shall include, but not be limited to:

- A summary of the completed work;
- Identifications of any deviations from the IAWP;
- An evaluation of the pilot study results;
- A proposal of the most appropriate treatment technology for PCB removal that can be implemented as a full-scale system in the Phase 2 interim action; and,
- A proposed schedule for full-scale system implementation.

Parameters that shall be evaluated when determining the most appropriate treatment technology shall include achieving screening levels throughout groundwater at the Site within a reasonable restoration timeframe, minimization of the quantity and toxicity of treatment byproducts/waste streams, and the practicability of long-term operation and maintenance of a full-scale treatment system.

### **TASK 5. PHASE 2 FULL-SCALE PUMP-AND-TREAT INTERIM ACTION ENGINEERING DESIGN REPORT**

Kaiser shall prepare a full-scale pump-and-treat Interim Action Engineering Design Report (EDR) for the design, installation, and operation of a full-scale pump-and-treat

## Exhibit B-A2 Scope of Work and Schedule

remediation system that operates at an extraction and treatment rate capable of achieving screening levels throughout groundwater at the Site within a reasonable restoration timeframe when operated continuously.

An agency-review draft EDR will be prepared and submitted for Ecology review and approval. The EDR will be prepared with detail commensurate with the work to be performed and include, as appropriate:

- Treatment system description and specifications, including intake and discharge sizing and characteristics;
- Groundwater extraction rates and operating strategy;
- Estimated treatment efficiency and treatment system inlet and outlet concentrations;
- Identification of treatment system reagents to be used and estimated consumption;
- Identification of generated waste streams and waste management processes;
- Identification of treatment byproducts, their concentrations, any regulatory requirements applicable to the byproducts, and any necessary management requirements;
- Description of the interim action including its purpose, general requirements, and relationship to the (final) cleanup action;
- Applicable engineering design and construction information, as specified in WAC 173-340-400, including a proposed schedule and personnel roles and responsibilities;
- An updated CMP, as necessary;
- An updated HASP and SAP/QAPP, as necessary;
- Permits required or the substantive requirements; and,
- Implementation schedule for the EDR.

### **TASK 6. PHASE 2 PERMITS AND SUBSTANTIVE CONDITIONS OF PERMIT-EXEMPT LAWS**

Kaiser must obtain any necessary permits prior to constructing the Phase 2 Interim Action, or identify substantive requirements of laws for which MTCA creates a permit exemption.

### **TASK 7. PHASE 2 INTERIM ACTION EDR IMPLEMENTATION**

As detailed in the EDR, Kaiser will implement this interim action according to the schedule contained in this Exhibit.

### **TASK 8. PHASE 2 INTERIM ACTION COMPLETION REPORT**

## Exhibit B-A2 Scope of Work and Schedule

Upon successful completion of Tasks 1-7, an agency-review draft Phase 2 IACR will be prepared as a separate deliverable. The Phase 2 IACR shall include, but not be limited to: a summary of the work completed, any deviations from the work plan, and a full-scale pump-and-treat Operations and Maintenance Manual (O&M Manual).

### **TASK 9. PHASE 2 INTERIM ACTION PERIODIC PERFORMANCE REPORTS**

Beginning six months after initiating the full-scale pump-and-treat system and on six-month intervals thereafter, Kaiser shall submit Periodic Performance Reports to Ecology that detail:

- System performance metrics and statistics;
- Extraction network metrics and statistics;
- Evaluation of system operation with respect to groundwater monitoring data;
- PCB mass removed from groundwater; and,
- Operation and maintenance reporting as required by the O&M Manual.

## **SCHEDULE OF DELIVERABLES AND ACTIONS**

The schedule for deliverables and actions described in Amendment No. 2 to the Agreed Order and Scope of Work is presented below. If the submission date of any item or notification required by this schedule occurs on a weekend, state or federal holiday, the date for submission of that item or notification is extended to the next business day following the weekend or holiday. Where a deliverable due date is triggered by Ecology notification, comments, or approval, the starting date for the period shown is the date Kaiser received such notification, comments, or approval by certified mail, return receipt requested, unless otherwise noted below. Where triggered by Ecology receipt of a deliverable, the starting date for the period shown is the date Ecology receives the deliverable by certified mail, return receipt requested, or the date of Ecology signature on a hand-delivery form.

<b>Task</b>	<b>Deliverables/Actions</b>	<b>Completion Times</b>
1	Submittal of Agency-review draft Phase 1 IAWP	45 calendar days following the effective date of Amendment No. 2 to AO 2692
	Submittal of Final (revised) Phase 1 IAWP	30 calendar days following receipt of Ecology comments on agency-review draft Phase I IAWP

Exhibit B-A2 Scope of Work and Schedule

3	Initiate Phase I IAWP field work	60 calendar days following Ecology approval of final Phase 1 IAWP
	Deadline for completing the work outlined in the IAWP	18 months following initiation of interim action field work or February 28, 2022, whichever is earlier
4	Submittal of Agency-review draft Phase 1 IACR	45 calendar days following completion of Phase 1 IAWP field work
	Submittal of Revised (final) Phase 1 IACR	30 calendar days following receipt of Ecology comments on agency-review draft Phase 1 IACR
5	Submittal of Agency-review draft EDR	45 calendar days following Ecology approval of the final Phase 1 IACR
	Submittal of Revised (final) EDR	30 calendar days following receipt of Ecology comments on agency-review draft EDR
7	Initiation of EDR field work	30 calendar days following Ecology approval of final EDR
	Deadline for initiating operation of the full-scale pump-and-treat system	270 calendar days following initiation of EDR Field Work
8	Submittal of Agency-review draft Phase 2 IACR	60 calendar days after initial operation of the full-scale pump-and-treat system
	Submittal of Revised (final) Phase 2 IACR	30 calendar days following receipt of Ecology comments on agency-review draft Phase 2 IACR
9	Submittal of Phase 2 Interim Action Periodic Performance Reports	As described in Task 9

# **SEPA ENVIRONMENTAL CHECKLIST**

## ***Purpose of checklist:***

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

## ***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

## ***Instructions for Lead Agencies:***

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

## ***Use of checklist for nonproject proposals:***

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

## ***A. Background*** [\[HELP\]](#)

1. Name of proposed project, if applicable:

***Additional Interim Actions for Groundwater PCB cleanup***

2. Name of applicant:  
**Kaiser Aluminum Washington, LLC**
3. Address and phone number of applicant and contact person:  
**Brent Downey  
Kaiser Aluminum  
15000 E Euclid Ave  
PO Box 15108  
Spokane Valley, WA 99215  
(509) 927-6219**
4. Date checklist prepared:  
**January 20, 2020**
5. Agency requesting checklist:  
**Department of Ecology**
6. Proposed timing or schedule (including phasing, if applicable):  
**Interim Actions will be implemented under a Second Amendment to Agreed Order No. 2692 with the Department of Ecology. The Scope of Work and Schedule contained in the Amended Agreed Order identifies two phases of work to be performed through a series of nine tasks. Implementation of the Scope of Work commences on the effective date of the Second Amendment to Agreed Order No. 2692 and spans an approximately three year time period.**
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.  
**The completion of Interim Actions is expected to eventually result in the preparation of a Cleanup Action Plan for the implementation of a final remedy for cleanup.**
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.  
**Under Agreed Order No. 2692 and Amendment No.1 to that Order, numerous study documents (Remedial Investigation/Feasibility Study) and Interim Action Completions Reports have been prepared.**
9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.  
**NPDES Permit No. WA0000892 Variance Application submitted to Department of Ecology on April 30, 2019.**
10. List any government approvals or permits that will be needed for your proposal, if known.  
**Interim Actions will be performed under Amendment No. 2 to Agreed Order No. 2692 once the Amendment becomes effective.**
11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this

page. (Lead agencies may modify this form to include additional specific information on project description.)

***Interim Actions to be taken are divided into two phases.***

***The first phase includes the following actions:***

- ***Following the necessary field investigations and hydrogeological modeling, expansion of the existing pilot scale level groundwater extraction system into a full scale groundwater extraction network***
- ***A capacity expansion of the treated extracted groundwater discharge system from existing pilot scale capacity to full scale capacity based upon the estimated capacity required for the full scale groundwater extraction network***
- ***Advancement of Ultraviolet Light/Hydrogen Peroxide PCB treatment technology from the current laboratory scale level that has demonstrated substantial PCB destruction efficiency to treatment capacity that is compatible with a full scale groundwater extraction network capacity***
- ***Continue with the assessment of additional potential alternative technologies (Algae Based Treatment Technology and Solvent/Zero Valent Metal Technology) and their potential applicability***
- ***Continue the operation and optimization of the existing pilot treatment system (Walnut Shell Filtration System) while increasing the system target capacity of 50 gallons per minute or higher***
- ***Expand the existing treatment building infrastructure so that it can support the estimated requirements for both treatment technology development and full scale treatment systems***

***The second phase includes the following actions:***

- ***Preparation of an Interim Action Engineering Design Report for the design, installation, and operation of a full scale pump and treat remediation system***
- ***Upon approval, implementation of the Interim Action Engineering Design Report***
- ***Submittal of Interim Action Performance Reports***

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

***Interim Actions to be performed will be on the existing Kaiser Trentwood site at 15000 E Euclid Ave, Spokane Valley. A map showing the approximate area involved in the Interim Actions is attached.***

## **B. Environmental Elements** [\[HELP\]](#)

### **1. Earth** [\[help\]](#)

a. General description of the site:



(circle one): Flat, rolling, hilly, steep slopes, mountainous, other \_\_\_\_\_

b. What is the steepest slope on the site (approximate percent slope)?

***Existing treatment testing building is generally on ~0% sloping ground. Additional Interim Actions for treatment will be immediately adjacent to this existing area.***

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

***Sand and gravel***

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

***No***

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

***Project will involve installation of underground piping within the current 512 acre facility (~3,500 feet of piping) and minor finish grading for treatment system building. The total estimated area of ground disturbed by these activities is approximately 20,000 square feet. All construction related stormwater (if any) will be infiltrated on-site.***

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

***No clearing is required for implementation and other infrastructure is within existing stormwater management areas.***

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

***Less than 4,000 to 6,000 square feet of additional building will likely be added to the site.***

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

***Treatment building will be within existing stormwater management areas.***

## **2. Air** [\[help\]](#)

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

***Pipeline trenching and minor finish grading may generate minor amounts of localized dust.***

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

***No.***

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

***None. Activities within existing facility infrastructure areas.***

### 3. Water [\[help\]](#)

- a. Surface Water: [\[help\]](#)

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

***The Spokane River is several hundred yard west. No drainage pathways from the treatment building to the river.***

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

***No.***

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

***None.***

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

***No.***

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

***No.***

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

***No.***

- b. Ground Water: [\[help\]](#)

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

***Groundwater will be extracted, treated, and re-infiltrated upgradient of the area of groundwater extraction. Groundwater will be extracted from a network of wells located at multiple locations within the PCB impacted groundwater area at the Site and conveyed to a single location for treatment. While final extraction volumes have yet to be determined, the extraction network will be designed to extract groundwater at a rate to be measured against screening levels at the Site***

***within a reasonable restoration timeframe. The current pilot level extraction rate is approximately 50 gallons per minute. The pump and treat option contained in the Site's Feasibility Study identified an extraction rate of 200 gallons per minute.***

***After treatment, the extracted groundwater will be re-infiltrated upgradient of the area of groundwater extraction at the Site.***

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

***Groundwater treated for PCB will be reinfiltrated upgradient from the extraction area. Since none of the technologies evaluated or currently in use at the pilot level result in non-detectable levels of PCB, any re-infiltrated groundwater will contain some level of PCB. Additional residuals in the treated groundwater will be technology dependent.***

***Residuals from Walnut Shell Filtration are potentially low concentrations (milligrams per liter levels) of castor oil which is used to absorb PCB from the groundwater and subsequently removed through the walnut shell filtration process. It is assumed that castor oil will be the only additive used for this technology. Castor oil is a non-petroleum oil that is derived from castor beans.***

***Based upon technical literature searches, residuals from Ultraviolet Light / Hydrogen Peroxide advanced oxidation destruction process for PCB are expected to be chloride ions (nanograms per liter levels) and PCB degradation products (nanogram per liter levels).***

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

***Rainfall from the treatment building area infiltrates into the surrounding soil.***

- 2) Could waste materials enter ground or surface waters? If so, generally describe.  
***No. Only treated groundwater is reinfiltrated.***

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

***No.***

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

***None. Within existing facility infrastructure.***

#### 4. **Plants** [\[help\]](#)

- a. Check the types of vegetation found on the site:

**Areas involved in this project are not currently vegetated.**

- ☐ deciduous tree: alder, maple, aspen, other
- ☐ evergreen tree: fir, cedar, pine, other
- ☐ shrubs
- ☐ grass
- ☐ pasture
- ☐ crop or grain
- ☐ Orchards, vineyards or other permanent crops.
- ☐ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- ☐ water plants: water lily, eelgrass, milfoil, other
- ☐ other types of vegetation

- b. What kind and amount of vegetation will be removed or altered?

**Areas involved in this project are not currently vegetated.**

- c. List threatened and endangered species known to be on or near the site.

**None are known of.**

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

**None. Areas involved in this project are not currently vegetated.**

- e. List all noxious weeds and invasive species known to be on or near the site.

**None are known of.**

#### 5. **Animals** [\[help\]](#)

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other \_\_\_\_\_

**Project location is within the existing operational areas of the facility.**

- b. List any threatened and endangered species known to be on or near the site.

**None known of.**

- c. Is the site part of a migration route? If so, explain.

**Unknown.**

- d. Proposed measures to preserve or enhance wildlife, if any:

**None.**

- e. List any invasive animal species known to be on or near the site.

***None known of.***

## **6. Energy and Natural Resources** [\[help\]](#)

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

***Electrical energy for operation of treatment systems and building heating.***

- b. Would your project affect the potential use of solar energy by adjacent properties?

If so, generally describe.

***No.***

- c. What kinds of energy conservation features are included in the plans of this proposal?

List other proposed measures to reduce or control energy impacts, if any:

***None.***

## **7. Environmental Health** [\[help\]](#)

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

***Treatment system testing will include the use of hydrogen peroxide.***

- 1) Describe any known or possible contamination at the site from present or past uses.

***Treatment system is related to the cleanup of PCB in site groundwater.***

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

***None.***

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

***Treatment system testing will include the use of hydrogen peroxide.***

- 4) Describe special emergency services that might be required.

***None. Project covered by existing emergency services.***

- 5) Proposed measures to reduce or control environmental health hazards, if any:

***Current pilot level treatment operations have an existing Safety and Health Plan in place. As necessary and based on any changes in operation or the operation of additional technologies, the current Safety and Health Plan will be revised.***

- b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

***None. Project location is within the existing industrial operating area.***

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

***None, other than some initial heavy equipment operation during construction.***

- 3) Proposed measures to reduce or control noise impacts, if any:

***Treatment system operations will be located indoors.***

## **8. Land and Shoreline Use** [\[help\]](#)

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

***Heavy industrial. No impacts.***

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

***No.***

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

***No.***

- c. Describe any structures on the site.

***Project location is within the existing industrial infrastructure area.***

- d. Will any structures be demolished? If so, what?

***No.***

- e. What is the current zoning classification of the site?

***Heavy industrial.***

- f. What is the current comprehensive plan designation of the site?

***Unknown.***

- g. If applicable, what is the current shoreline master program designation of the site?

***Not applicable.***

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

***Unknown.***

- i. Approximately how many people would reside or work in the completed project?

**No additional.**

j. Approximately how many people would the completed project displace?

**None.**

k. Proposed measures to avoid or reduce displacement impacts, if any:

**Not applicable.**

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

**None. Within existing industrial facility infrastructure.**

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

**Not applicable.**

## **9. Housing** [\[help\]](#)

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

**Not applicable.**

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

**Not applicable.**

c. Proposed measures to reduce or control housing impacts, if any:

**Not applicable.**

## **10. Aesthetics** [\[help\]](#)

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

**Approximately 20 feet. Steel exterior industrial building.**

b. What views in the immediate vicinity would be altered or obstructed?

**None. Within existing industrial facility infrastructure area.**

b. Proposed measures to reduce or control aesthetic impacts, if any:

**None.**

## **11. Light and Glare** [\[help\]](#)

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

**None beyond exterior door safety lighting.**

b. Could light or glare from the finished project be a safety hazard or interfere with views?

**No.**

- c. What existing off-site sources of light or glare may affect your proposal?

**None.**

- d. Proposed measures to reduce or control light and glare impacts, if any:

**None.**

**12. Recreation** [\[help\]](#)

- a. What designated and informal recreational opportunities are in the immediate vicinity?

**None, project activity within existing industrial facility infrastructure area.**

- b. Would the proposed project displace any existing recreational uses? If so, describe.

**No.**

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

**None.**

**13. Historic and cultural preservation** [\[help\]](#)

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

**Unknown.**

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

**None.**

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

**None, location is within the existing industrial facility infrastructure area.**

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

**None.**

**14. Transportation** [\[help\]](#)

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

**Existing site is accessed from Euclid and Sullivan.**



- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

**No. Six blocks to nearest transit stop.**

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

**None.**

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

**No.**

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

**No.**

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

**No additional.**

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

**Not applicable.**

- h. Proposed measures to reduce or control transportation impacts, if any:

**None.**

## **15. Public Services** [\[help\]](#)

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

**No.**

- b. Proposed measures to reduce or control direct impacts on public services, if any.

**Not applicable.**

## **16. Utilities** [\[help\]](#)

- a. Circle utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system,  
other \_\_\_\_\_

**Electricity and water.**

- c. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

***Project will utilize existing utilities infrastructure at the facility.***

**C. Signature** [\[HELP\]](#)

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:



Name of signee: Brent Downey

Position and Agency/Organization: Manager – Environmental Affairs

Date Submitted: January 20, 2020

**D. Supplemental sheet for nonproject actions** [\[HELP\]](#)

(IT IS NOT NECESSARY to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY  
4601 N Monroe Street • Spokane, WA 99205-1295 • 509-329-3400

STATE ENVIRONMENTAL POLICY ACT

**Determination of Non Significance**

February 11, 2020

Lead agency: *Washington State Department of Ecology*

Agency Contact:     Jeremy Schmidt  
                              4601 N Monroe  
                              Spokane, WA 99205  
                              (509) 329-3484  
                              jesc461@ecy.wa.gov

Description of proposal – *The Kaiser Trentwood facility produces aluminum sheet, plate, and coil for aerospace and general engineering applications. Materials used in past aluminum production included PCB oil that is now found in soil and groundwater at the site. Kaiser has completed many interim cleanup actions, including removing petroleum on groundwater and excavating or capping contaminated soil. PCB contamination in groundwater is the primary remaining issue. A pilot pump-and-treat system has been and is currently operating to test its ability to remove PCBs from groundwater. Treated water is conveyed to the upgradient end of the plume and infiltrated. Based on the pump-and-treat test results, PCBs can be removed from groundwater using a walnut-shell filtration system, and this system could be expanded into a full-scale treatment system. However, new technologies to remove PCBs from groundwater have been identified and research shows these new technologies could be more effective and result in a shorter cleanup timeframe.*

*This proposal includes the installation of a full-scale groundwater extraction network and a larger treated-water conveyance pipe(s) to the existing infiltration area, and the testing of additional technologies to remove PCBs from groundwater. Once the most appropriate cleanup technology for removing PCBs from groundwater at the site is determined, a full-scale treatment system will be installed and operated in an manner designed to achieve defined screening levels within a reasonable timeframe.*

Location of proposal - *The site is generally located at 15000 East Euclid Avenue in Spokane Valley, Spokane County, Washington.*



Applicant/Proponent –

*Brent Downey, Kaiser Aluminum Washington, LLC  
PO Box 15108 – Mail Stop 32  
Spokane Valley, WA 99215-5108  
Phone: 509-927-6219  
Brent.Downey@kaisertwd.com*

The Washington State Department of Ecology has determined that this proposal will not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). We have reviewed the attached Environmental Checklist. This information is available at:

<http://cs.ecology.commentinput.com/?id=aTuF8>

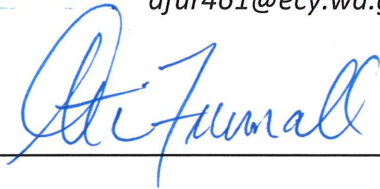
This determination is based on the following findings and conclusions:

No environmental impacts are expected.

This DNS is issued under WAC 197-11-340(2) and the comment period will end on March 24, 2020.

Responsible Official: *Ali Furmall*  
*4601 N Monroe*  
*Spokane, WA 99205*  
*(509) 329-3436*  
*afur461@ecy.wa.gov*

Signature



Date

*2/11/2020*