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***Submitted Via Email***

**RE: Public Comment on Draft Remedial Investigation and Feasibility Study and Agreed Order Amendment No. 8940 for the Former Reynolds Aluminum Plant, Longview, WA.**

Dear Ms. Toteff, Mr. Schrieve, and Mr. Barrett,

Columbia Riverkeeper, Sierra Club, and Landowners and Citizens for a Safe Community (collectively "Riverkeeper") submit the following comments on the Washington Department of Ecology's (Ecology) Draft Remedial Investigation and Feasibility Study (draft RI/FS) for the former Reynolds Metals Reduction Plant in Longview, Washington (the Site). Anchor Environmental QEA, LLC submitted the draft RI/FS on behalf of Northwest Alloys, a subsidiary of Alcoa (collectively "Alcoa") and Millennium Bulk Terminals, LLC, a subsidiary of Ambre Energy (collectively "Ambre"). Riverkeeper's comments also address draft Agreed Order Amendment No. 8940, which proposes a rapid response action to address contaminated river sediment near an outfall, Outfall 002A, which discharges to the Columbia River.

The Site is heavily contaminated by decades of aluminum smelting operations and, most recently, years of mismanagement by Chinook Ventures, Inc. (Chinook Ventures). The Site is currently a hazardous waste site under Washington State's Model Toxics Control Act (MTCA), Cleanup Site ID No. 2497. Known pollution at the Site includes soil, water, and above-ground

building contamination. The major chemicals of concern (COCs) identified to date include cyanide, fluoride, polycyclic aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPHs). Draft RI/FS at 45. Fluoride is the principal COC for groundwater. *Id.* at 209.

Groundwater contamination is well-documented at the Site. For most of the Site, groundwater flows from the Columbia River north to the Consolidated Diking Improvement District (CDID) ditches. As the groundwater flows from the river, it passes through soil contamination, moving pollution toward the CDID ditches. The CDID ditches discharge directly to the Columbia River through a pump system. In addition, the CDID ditches are not enclosed, and therefore wildlife and fish have direct contact with this man-made tributary to the Columbia. In the southernmost portions of the Site, groundwater gradients are at times toward the Columbia River. Draft RI/FS at 211.

### **Commenters Interest in Protective Cleanup**

Columbia Riverkeeper, Sierra Club, and Landowners and Citizens for a Safe Community have a significant interest in a protective, timely cleanup of the Site.

Columbia Riverkeeper is a 501(c)(3) non-profit organization incorporated in Washington State. Riverkeeper's mission is to protect and restore the water quality and habitat of the Columbia River, from its headwaters to the Pacific Ocean. Riverkeeper has over 7,000 members and volunteers who reside in Washington and Oregon. Many of Riverkeeper's members live, work, and/or recreate near and downstream of the Site.

Sierra Club is a nonprofit corporation incorporated in California, with more than 600,000 members nationwide, nearly 23,000 of whom reside in Washington. The Sierra Club is dedicated to exploring, enjoying, and protecting the wild places of the Earth; to practicing and promoting the responsible use of the Earth's resources and ecosystems; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives.

Landowners and Citizens for a Safe Community is a Washington State non-profit corporation based in Cowlitz County. The mission of Landowners and Citizens for a Safe Community is to strengthen the environmental, social and economic health of our community. The organization currently has 2,000 members. Columbia Riverkeeper, Sierra Club, and Landowners and Citizens for a Safe Community have a strong interest in Ecology's oversight of the Site based on concerns about pollution at the Site and its potential impacts on public health, fish and wildlife, and the Columbia River.

Commenters join other organizations and citizens in urging Ecology to adopt the most protective cleanup alternative for the Site. Ecology's July 16, 2014, public hearing on the draft RI/FS drew a large crowd of concerned citizens. At the hearing, the public delivered a consistent message: Alternative 4, which leaves behind groundwater and soil pollution, is not adequate to protect the citizens of Longview and people who use the Columbia River. For the reasons

explained below, Riverkeeper requests that Ecology scrutinize the draft RI/FS, reject Alcoa and Ambre's assumptions and conclusions about the costs and benefits of cleanup alternatives, and select Alternative 6, which calls for the most comprehensive cleanup.

### **Background on Site Ownership & Management**

Decades of aluminum smelting left a legacy of heavily contaminated groundwater and soil at the Site. For nearly sixty years, the Reynolds Metals Company operated an aluminum smelter on the 436 acre property. The Site contained two aluminum plants: one constructed during World War II, and a second constructed in the 1960s. Alcoa purchased Reynolds Metals in 2000.<sup>1</sup> In January 2001, Alcoa sold most of the fixed assets and improvements to Longview Aluminum, LLC. Reynolds retained ownership of the real estate.

Since 2003, property ownership and management has been in flux. In March 2003, Longview Aluminum, LLC declared bankruptcy. Shortly thereafter in December 2004, Chinook Ventures purchased Longview Aluminum's assets during bankruptcy proceedings. In September 2005, Alcoa transferred its interest in the property to Northwest Alloys, a subsidiary of Alcoa.

Chinook Ventures operated the site from 2004 to January 2011. During its tenure, Chinook Ventures violated federal and state laws and faced government and citizen enforcement actions, including Clean Water Act citizen suits by Columbia Riverkeeper and Landowners and Citizens for a Safe Community. Chinook Ventures operated a dry storage and bulk import/export terminal, which included unpermitted outdoor storage of petroleum coke. Chinook Ventures also engaged in demolition actions, including demolishing portions of the smelter buildings, removing spent potliner, and shipping spent potliner off-site. Among other actions, Chinook Ventures discovered, but failed to report promptly, a previously undocumented black mud deposit located within a forested wetland.

Overall, the draft RI/FS contains a very limited discussion of Chinook Ventures' tenure at the site and associated record of mismanagement and pollution. This is discussed in greater detail below.

In January 2011, Millennium—an Australian company owned by Ambre Energy—purchased the facility with plans to operate one of the largest coal export terminals in the nation. Ambre's plans were quickly stymied by its untruthful representations to state officials and the public about the size of its highly controversial coal export terminal. Since that time, Ambre launched a public relations campaign to paint itself as the "white knight" of cleanup. In truth, Ambre has **no experience** cleaning up hazardous waste sites, let alone one of the most contaminated sites on the Lower Columbia River.

Today, the future of the Site is unclear. Alcoa continues to import alumina through the site, which is then transported to its Wenatchee, Washington, smelter. Ambre also imports coal

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<sup>1</sup> See Agreed Order NO. DE 4263.

that is transferred to a neighboring site. In late 2010, Ambre applied for county land use permits to operate a 5 million ton per year coal export terminal. Ambre later withdrew its permit application following revelations that Ambre failed to provide accurate information to state and county officials about the coal terminal's size. Documents disclosed during legal proceedings revealed that Ambre planned to operate a 20 to 60 million ton per year coal export terminal. As Ecology is well aware, Ambre's coal export proposal faces unprecedented opposition from political leaders, Tribes, non-governmental organizations, and citizens across the Pacific Northwest.

### **Ecology Should Hire an Independent Contractor to Review and/or Develop an Alternative RI/FS**

In a letter dated January 31, 2012, Columbia Riverkeeper urged Ecology to hire an independent contractor to develop a draft RI/FS. Columbia Riverkeeper's letter stated:

Under the 2007 Agreed Order, Ecology had the option of hiring a contractor, with Northwest Alloys and Chinook Ventures footing the bill. The department never took advantage of this provision. The 2012 Agreed Order also allows for contractor reimbursements. Moving forward, Ecology should hire a contractor, based at the cleanup site, to ensure that Millennium—a recently formed Limited Liability Company with absolutely no cleanup experience—does not become another Chinook Ventures. By hiring a contractor, Ecology can also ensure the timely review, revision, and approval of future sampling actions, the RI/FS, and cleanup action plan.

Although the Ecology's Agreed Order provides for Alcoa and Ambre to pay for an independent contractor, Ecology did not do so. It is unclear why Ecology made this decision. Reading the draft RI/FS, the consequence of Ecology's decision is crystal clear: the absence of an independent contractor-prepared draft RI/FS undercuts the efficacy of the cleanup process.

**Question:** How does it benefit the public and long-term cleanup to have the Potentially Liable Parties (PLPs), who stand to benefit financially by recommending less stringent cleanup requirements, develop the RI/FS?

**Question:** Why did Ecology choose not to hire an independent contractor with expertise in aluminum smelter cleanups to develop the RI/FS and bill Ambre and Alcoa for this expense?

**Question:** Was the contractor hired by the Ambre and Alcoa, Anchor QEA, also a contractor to Chinook Ventures, which was fined multiple times and sued in federal court for environmental infractions?

Ecology's threshold decision not to hire an independent contractor calls into question many of the findings and recommendations in the draft RI/FS. This is discussed in greater detail below.

By failing to hire an independent contractor to develop or review the RI/FS, Ecology has shifted the cost from the corporate entities responsible for pollution cleanup to the general public. This is bad public policy. The state's environmental regulators should not expect individual citizens in Longview to pay for a third-party contractor to review a draft RI/FS of this scope and complexity. Similarly, non-profit organizations should not bear the cost of hiring independent contractors to review over a thousand pages of analytical reports and technical documents when Ecology had the legal right to require that PLPs pay for an independent contractor answerable to Ecology.

Riverkeeper urges Ecology to reconsider its decision not to hire a third-party contractor to develop a new and/or analyze scrupulously the draft RI/FS.

### **The RI/FS Fails to Incorporate Lessons Learned from Aluminum Cleanup Sites**

The Site is one of the last decommissioned aluminum smelters in the Northwest to undergo a comprehensive cleanup process. The unfortunate delay in developing an RI/FS for the Site, however, can result in an improved final remedy: Ecology can use lessons learned from other aluminum smelters in the region to develop and select the most protective alternative.

Alcoa and Ambre acknowledge the importance of learning from other aluminum smelter cleanups while, at the same time, failing to analyze other cleanup actions in the draft RI/FS. The only discussion of so-called "lessons learned" is contained in the following passage from the draft RI/FS:

Many former aluminum smelter sites have been cleaned up in the United States and worldwide; Alcoa has performed similar cleanups at two former aluminum smelters in Washington and Oregon, as well as a facility still in operation in Ferndale and various cleanup in the United States, some currently in progress. Therefore, there is a wealth of experience from similar facilities that can be applied to determine the best cleanup approach at this site. Because the COCs are similar at aluminum smelter sites and because byproducts from the manufacturing process were typically deposited on site in large volumes, remedial technologies applied to the cleanup of former aluminum smelters are well understood. On-site containment of residual carbon, spent lime, and construction debris is typically a component of cleanup at these sites because the materials are not very toxic, and containment technologies are effective in eliminating exposure to potential receptors and preventing migration of COCs. However, there are site-specific factors that must be considered in the cleanup of any site, including hydrogeology, geochemistry, physical setting, potential exposures, and receptors.

Draft RI/FS at 241. Alcoa and Ambre's passing reference to the value of learning from other aluminum plant cleanup actions—absent any additional discussion or technical analysis—is a significant shortcoming in the draft RI/FS.

At a minimum, Riverkeeper urges Ecology to evaluate other aluminum smelter cleanup actions on the Columbia River, which include the former Evergreen site in Vancouver, Washington, the former Martin Marietta site in The Dalles, Oregon, and the former Reynolds site in Troutdale, Oregon. These aluminum smelter cleanup sites offer invaluable information that can inform the final RI/FS and Cleanup Action Plan for the Site.

Of particular value to Ecology are the EPA Five Year Reviews and other cleanup action reviews assessing the effectiveness of selected remedies at other cleanup sites. For example, in 2012 EPA released the Fourth Five Year Review for the former Martin Marietta site in The Dalles, Oregon. The Review states that “EPA cannot make a determination that the remedy is functioning as intended,” describes EPA’s concerns groundwater conditions, questions the effectiveness of the biological treatment of cyanide, and expresses concern about whether the engineering controls (including constructed soil covers and access-restrictive fencing) are protective. EPA notes that, as described in previous five-year review reports for the site, diminished quantities of leachate and diminished levels of hazardous constituents were not observed as anticipated. *See* Lockheed Martin Fourth Five Year Review at 9 (2012). In 2013 EPA completed the Second Five Year Review for the former Reynolds aluminum smelter in Troutdale, Oregon. Like the aluminum smelter cleanup in The Dalles, the Troutdale smelter cleanup involves many of the same COCs as the former Longview smelter. *See* Second Five Year Review at 11 (2013) (“Contaminants included fluoride, PAHs, cyanide, metals and PCBs.”). Unlike the draft RI/FS, which does not evaluate groundwater pump-and-treat as part of the alternatives analysis, the Troutdale site operates pump-and-treat systems to remove fluoride. The use of pump-and-treat at a former aluminum smelter located along the Columbia River calls into question Alcoa and Ambre’s decision to remove pump-and-treat technologies from the alternatives analysis early in the RI/FS. *See* Draft RI/FS at 257.

Riverkeeper urges Ecology to review other aluminum smelter cleanup actions and incorporate applicable lessons learned into the draft RI/FS.

### **Riverkeeper Supports Alternative 6**

Alternative 6 offers the most comprehensive approach to soil and groundwater contamination at the site. Alternative 6 requires aggressive removal and offsite disposal of contaminated soils, sediment removal, some reliance on natural attenuation, and institutional controls. In particular, Alternative 6 expands the use of removal and off-site disposal to soils and fill materials from SU1 and SU2 (Fill Deposit B-3 and Landfill #2), SU6 (Fill Deposit B-1), and SU7 (Fill Deposit A). This alternative also calls for adding a permeable reactive barrier to the northwest corner of the site to reduce that area’s groundwater restoration timeframe. Under Alternative 6, Alcoa and Ambre must manage the sediments removed from the area around Outfall 002A (SU-12) by off-site disposal. Alternative 6 also calls for the same long-term monitoring and institutional controls called for under less protective alternatives.

Under MTCA, Ecology must consider public concerns as it evaluates cleanup alternatives. Based on the testimony at the July 16<sup>th</sup> public hearing and comments on the draft

RI/FS, Riverkeeper urges Ecology to select Alternative 6. The public support for Alternative 6 is overwhelming. Moreover, Alcoa and Ambre's draft RI/FS presents a flawed Disproportionate Cost Analysis that stacks the decks against Alternative 6. These flaws are discussed in detail below.

### **Remedial Alternative Disproportionate Cost Analysis**

Ecology has the authority under WAC 173-340-360(3)(e)(ii)(C) to use its best professional judgment in comparing the benefits and costs of cleanup alternatives. Riverkeeper urges Ecology to scrutinize the quantitative values Alcoa and Ambre assign in their Disproportionate Cost Analysis and exercise best professional judgment. Based on this analysis, Riverkeeper urges Ecology to reject Alcoa and Ambre's recommendation of Alternative 4.

Overall, the lack of a third-party author or reviewer calls into question the quantitative scoring and qualitative analysis disclosed in Alcoa and Ambre's Disproportionate Cost Analysis. The draft RI/FS concludes that the disproportionate cost of Alternative 6 does not outweigh its disproportionate benefit. Alcoa and Ambre reach this conclusion based on a series of qualitative conclusions and quantitative assumptions. Riverkeeper urges Ecology to develop an independent Disproportionate Cost Analysis to inform its final decision. Riverkeeper provides comments on the five components of the Disproportionate Cost Analysis below.

***Protectiveness.*** Riverkeeper questions the protectiveness values Alcoa and Ambre assign to Alternatives 2, 3, and 4, for the following reasons: (1) these values—5, 6, and 7.5, respectively—are not supported by the draft RI/FS narrative description of protectiveness, (2) the values are based on Alcoa and Ambre's conclusion that contamination will not migrate which should—at a minimum—be reviewed by a third-party, and (3) the values fail to account for lessons learned from other aluminum smelter cleanup sites. For example, Alcoa and Ambre assign a protectiveness value of 2 to Alternative 1. For Alternative 2, the protectiveness value jumps to 5. This four point increase is not warranted given Alcoa and Ambre's statement that “[w]ith respect to groundwater and surface water, Alternative 2 provides a similar level of protectiveness to Alternative 1.” Draft RI/FS at 285. Because all values are relative to other alternatives, the initial leap from 2 to 5 skews the protectiveness values assigned to later alternatives, including the recommended alternative, Alternative 4.

***Permanence.*** The quantitative rankings Alcoa and Ambre's assign to the permanence of each cleanup alternative, *see* Plate 11-1, are not supported by the narrative description contained in the draft RI/FS at pages 289 – 90. Specifically, Alcoa and Ambre assign a quantitative value of 8 to Alternative 4 and a quantitative value of 9 to Alternative 6. It is entirely unclear how Alcoa and Ambre can claim a one-point difference between the permanence afforded by Alternative 4—keeping waste on-site—in comparison to Alternative 6—moving waste off-site to a Subtitle C landfill. In particular, a permanence value of 8 for Alternative 4 is not supported by the narrative description of Alternative 4, which retains waste onsite in close proximity to the Columbia River and the CDID ditches.

**Long-Term Effectiveness.** The quantitative rankings Alcoa and Ambre’s assign to the long-term effectiveness of each cleanup alternative, *see* Plate 11-1, is not supported by the narrative description contained in the draft RI/FS at page 290. The draft RI/FS states: “Based on the fate and transport modeling that demonstrates suitable conditions exist to essentially arrest the elevated fluoride concentrations in time and space for hundreds, if not thousands of years, long-term effectiveness of each alternative will not be a concern.” Draft RI/FS at 290. This statement is not supported by earlier statements on the long-term effectiveness of Alternative 6 in comparison to other alternatives. In particular, the draft RI/FS states:

This alternative [Alternative 6] provides a high degree of long-term effectiveness through the removal of all impacted soil and fill deposit and landfill materials from the site and increased residual groundwater treatment in SU2 (Fill Deposit B-3). Low residual risk is expected to remain on site after construction; however, natural attenuation of site groundwater will likely still be required to achieve cleanup levels at the standard POC since fluorite that has precipitated in groundwater beneath sources [sic] areas will buffer dissolved fluoride concentrations for a very long time.

Draft RI/FS at 292. Alcoa and Ambre’s narrative description of the long-term effectiveness of Alternative 6 does not square with the close ranking it assigns to Alternative 4 (a long-term effectiveness ranking of 7.5) in Plate 11-1.

**Short-Term Risk Management.** Alcoa and Ambre’s Disproportionate Cost Analysis also provides an unsupported quantitative ranking of 4 to the Short Term Risk Management under Alternative 6. Plate 11-1 states:

This alternative has the greatest risks to human health and the environment relative to other alternatives due to the largest volume of material to be excavated and transported off-site. In addition, groundwater treatment (primarily backfill and reactive agent) will be the most wide spread under this alternative. As such, the assigned value is lower than the previous alternative.

At no point in the draft RI/FS is the marked drop in the Short Term Risk Management value explained adequately.

**Question:** Does Ecology agree with Alcoa and Ambre’s short-term risk management value of 4 for Alternative 6 given the information provided in the RI/FS regarding risks from excavating contaminated soils?

**Question:** Is a Short Term Risk Management value of 4 consistent with short term risk management values associated with excavating materials from former aluminum plant sites?



**Question:** Did Ecology verify independently that there is not a hazardous waste disposal landfill capable of accepting waste from the Site that is in closer proximity than the proposed landfill?

**Technical and Administrative Implementability.** Alcoa and Ambre's Disproportionate Cost Analysis assigns a numeric value of 5 to the "Technical and Administrative Implementability" of Alternative 6, stating:

This alternative relies on excavating and hauling source material off-site and, as such is a relatively simple alternative. However, the greatest schedule and logistical challenges exist for this alternative to minimize impacts to current operations. This alternative would also require several months to construct.

Draft RI/FS at Plate 11-1. Alcoa and Ambre's quantitative value is not supported by the facts on the ground: (1) Ambre has not started operating a coal export terminal, (2) if Ambre is able to obtain state and federal authorizations to operate a coal export terminal, those authorizations are likely years away, and (3) in the interim, Ambre's current operations at the site (aside from its much touted cleanup work) are minimal (*i.e.*, alumina and coal import).

#### **Comments on Agreed Order Amendment No. 8940**

Riverkeeper supports Ecology's proposal to require that Alcoa and Ambre remove contaminated sediments in a small area of the Columbia River near Outfall 002A. Chemical analysis of sediments at the site revealed one location near Outfall 002A where PAHs exceeded screening levels. Near Outfall 002A, a localized area of sediments represented by sample Station SS-09 exceeded bioassay performance standards. Draft Agreed Order Amendment No. 9040 requires dredging of up to 5,000 cubic yards of contaminated sediments. The draft Agreed Order Amendment does not address disposal of the contaminated sediments.

**Question:** Why did Ecology elect not to specify the disposal location in the proposed Agreed Order Amendment?

The draft RI/FS contains limited explanation for the transport pathway of contaminated sediments near Outfall 002. During the public meeting and in a phone conversations with Riverkeeper's Staff Attorney, Ecology explained its belief that operations during the Chinook Ventures era caused the contaminated sediment at Outfall 002A.

**Question:** Is Ecology considering adding Chinook Ventures as a PLP in an amended Agreed Order?

**Question:** Has Ecology investigated what actions it could have taken to prevent sediment contamination or discover sediment contamination sooner?

## Conclusion

Riverkeeper appreciates the opportunity to comment on the draft RI/FS and Agreed Order amendment. Riverkeeper also appreciates Ecology's efforts to respond to public calls to jumpstart the cleanup process after years of delay. Ecology's recent actions, including setting new deadlines for the parties to submit work plans, proposing a new Agreed Order adding the new site operator as a party, the RI/FS timeline, and updating the website with the most current information on cleanup developments, reflects a new commitment by the agency to address historic contamination at the Site. Riverkeeper encourages Ecology to hold Alcoa and Ambre accountable for meeting cleanup milestones and complying with the Agreed Order.

Riverkeeper looks forward to continued opportunities for public understanding and input about this important and complex Lower Columbia River cleanup. Please direct any questions to the undersigned at (541) 965 – 0985 or [lauren@columbiariverkeeper.org](mailto:lauren@columbiariverkeeper.org).

Sincerely,

A handwritten signature in cursive script that reads "Lauren Goldberg".

Lauren Goldberg  
Staff Attorney  
Columbia Riverkeeper

cc:

Matt Niles, Washington Department of Natural Resources  
Shayne Cothorn, Washington Department of Natural Resources