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DEPARTMENT OF ECOLOGY

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Alcoa Vancouver
site -
Crowley OH

January 10, 2008

Mr. Stephen Wilson
Crowley Maritime Corporation
P. O. Box 2287
Seattle, WA 98111-2287

Re: Review of Proposed Cleanup Action Plan – Former
Columbia Marine Lines Site.

Dear Mr. Wilson:

Ecology received the Proposed Cleanup Action Plan for the Former Columbia Marine Lines Site (SLR International Corp. November 2007) located on Alcoa property at 6305 Lower River Road in Vancouver, WA. I have reviewed the document and have several comments concerning the conclusions.

The site consists of a set of infiltrations ponds which were used for periodic disposal of contaminated wastewater from prior to 1963 to 1984. Waste oil was placed in the ponds for disposal. Contamination from the waste oil is found in a smear zone approximately ten to fifteen feet below ground level on the site. The smear zone contamination appears to be located at the boundary of the first two subsurface sedimentary units found at the site. These are the shallow zone (dredge sand) and the intermediate zone (silt with sand and clay). During the last 25 years the site has had two treatment system scenarios, one using a traditional ground water pump and treat system and one using a dual phase extraction system. The traditional pump and treat system was directed by Ecology Order DE 85-180 and operated intermittently until approximately 2000. The dual phase system operated for approximately one year in the early 2000's. Both of these systems involved pumping water and free product from the contaminated aquifer.

Soil contamination still exists on the site at levels that range from less than 25 mg/kg to over 12,000 mg/kg TPH (total petroleum hydrocarbons). In the latest round (2007) of ground water sampling, TPH-Dx values range from non-detection to greater than 30 mg/l. No free product was found during the latest monitoring well sampling event. Gasoline range organics are no longer found on the site. The majority of the contamination is found in soil as diesel and lower range organic compounds. Soil contamination is located approximately ten to fifteen feet below ground surface and approximately 200 feet from the Columbia River. The property has no buildings or structures. No formal pump tests were completed on the water bearing zones on the site.



In October of 1991, Alcoa completed a formal pump test on the intermediate water bearing zone on the eastern portion of their Vancouver smelter site approximately 200 feet from the Columbia River. The intermediate zone pump test indicated flow rates greater than the 5 gallons per minute. Under MTCA (Model Toxic Control Act) WAC 173-340-720(2)(i) this zone meets the definition of a potable aquifer. Because of the proximity to the Alcoa pump test, Ecology believes that the water bearing zone below the Crowley site will produce water at a rate greater than 5 gallons per minute. The Site does not meet the non-potable ground water definition.

The Crowley recommended cleanup action for this site consists of no further cleanup action and an institutional control placed on the property. The data Crowley used to support this conclusion is a combination of soil samples analyzed using the Ecology four phase partitioning model and risk assessment. The major assumption made in the modeling scenario is that ground water is non-potable at the site.

The site has soil contamination above TPH method A soil cleanup levels (TPH 2000 mg/kg) and the Method B four phase model results for the protection ground water and direct human contact (approximately TPH 2,500 mg/kg). The site has TPH ground water contamination greater than the TPH water saturation level of approximately 5 mg/l and greater than the MTCA Method A diesel range organic cleanup level of 500 ug/l. As state above, the aquifer below the site is a potable water source.

Ecology believes further remediation on the site is necessary because of: 1) the location of the TPH contamination less than 200 feet from the Columbia River and ten to fifteen feet below ground surface, 2) diesel range contamination above saturation levels in groundwater, and 3) the high levels of TPH still found in site soils. The no further action proposal is not acceptable at the site when TPH levels are above 10,000 mg/kg and groundwater contamination indicates saturation of oil in the ground water of the site aquifer.

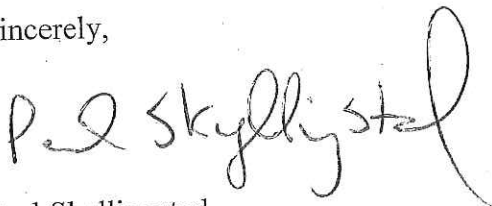
During our recent conversations regarding the site, I indicated that I would send you examples of cleanups involving weathered diesel in soil and water. Two comparable sites to the Columbia Marine Lines Site are the Tidewater Barge Site located in Vancouver at 6 Beach Drive and the BNSF Skykomish Site located in Skykomish, WA. The Tidewater Barge Site has minimum groundwater contamination. This fact controlled the soil cleanup level of 4000 mg/kg that was developed for the cleanup. The BNSF Skykomish is a major cleanup that involves weathered petroleum soil and water contamination. The cleanup levels developed for the BNSF Skykomish Site are for the protection of groundwater and human health. The cleanup level at the Skykomish Site ranges between 22 mg/kg to 3,400 mg/kg TPH. The variation in the levels is due to different risk pathways which are protective of surface water, ground water and human health. Two other comparable petroleum cleanups have been completed at the Evergreen/Alcoa smelter complex. These cleanups were complete removals and were done in the early 1990s prior to the EPH and VPH methodology. Soil cleanup levels at those sites were 200 mg/kg.

Ecology would like to know what Crowley plans are for the site. Crowley needs to complete an RI/FS for the site that recognizes that groundwater contamination still exists and this fact needs to be addressed in any cleanup proposals. The FS should present cleanup actions that use permanent solutions to the maximum extent possible and use a disproportionate cost analysis to determine the preferred cleanup method.

The clean up of the Evergreen/Alcoa smelter complex is a high priority for Ecology. Ecology is currently working with both of the land owners (Evergreen and Alcoa) and the cleanup is proceeding with the removal of the smelter buildings, residual fluoride, PAH and metals contamination on the smelter site and dredging of the Columbia River to remove PCB contamination. The majority of the upland clean up will be finished in 2008. Ecology considers the Crowley TPH lagoons part of that site. It is anticipated that with the completion of a site wide consent decree occurring during the spring of 2008, the site should be cleaned up by the winter of 2008/9.

If you have any questions regarding the review of the Proposed Cleanup Action Plan – Former Columbia Marine Lines Site please contact me at Ecology (360) 407-6949 or psky461@ecy.wa.gov.

Sincerely,

A handwritten signature in black ink that reads "Paul Skyllingstad". The signature is written in a cursive, flowing style.

Paul Skyllingstad
Industrial Section

PES:

Cc: M. Stiffler – Alcoa

