Focus on: Environmental Cleanup at Ultra Yield Micronutrients

Ultra Yield Micronutrients Facility, Moxee, WA

More information on our website:

https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=4444

Contact information

Tom Mackie, Site Manager
Phone: 509-575-2803
Email: tmac461@ecy.wa.gov

Comments online by June 25, 2018:
cs.ecology.commentinput.com/?id=9sEYU

Special accommodations

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-6700 or visit ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

Cleanup documents ready for review

Several draft documents are available for your review and comment. These documents provide a path forward to address contamination at a fertilizer plant in Moxee.

Draft documents for review include:

- A legal agreement, called an Agreed Order (AO) that provides an overview of the site and the cleanup work to be done.
    - The AO names Ultra Yield Micronutrients, Inc. (Ultra Yield) and Richard J. Camp, Jr. as permittees and potentially liable parties.
- A plan outlining what steps the permittees will take to address contamination (2018 Corrective Action Plan).
- A dangerous waste permit for corrective action.
- A public participation plan that outlines how Ecology will inform the public about this site.

Site background

Ultra Yield currently operates a micronutrient fertilizer production facility (facility) at 213 West Moxee Avenue in Moxee, Washington. The facility was formerly owned and operated by Bay Zinc Company, Inc. (Bay Zinc) and then by Kronos Micronutrients, L.P. (Kronos). Ultra Yield purchased the assets of Kronos in March of 2017. Ultra Yield then leased the property where the facility is located from Richard J. Camp, Jr., the property owner and former president of Kronos,

In 1971, Bay Zinc purchased the facility from American Excelsior Company. In the fall of 1972, they modified the plant and began producing zinc soil amendments.

Between 1980 and 1987, the facility began the permitting process that allowed them to store hazardous waste on their property. In their application to the United States Environmental Protection Agency (EPA) and Ecology, Bay Zinc identified itself as storing steel mill flue dust, incinerator ash from the combustion of tires, and filter cake that contains lead and cadmium.

The facility received a permit to store these hazardous wastes from November 1988 to November 1998. These wastes were stored in a waste pile, tanks, and railroad cars. Since November 4, 1998, the facility has been operating under an expired permit. By 1999, Bay Zinc stopped receiving hazardous waste.

In November 2000, the EPA published a report that identified areas where hazardous substances may have been released. This report is called a RCRA Facility Assessment (RFA) Report. It is similar to Washington State's cleanup law (Model Toxics Control Act (MTCA)) Remedial Investigation.

Legal requirements

This facility is subject to the Resource Conservation and Recovery Act (RCRA) that ensures safe management and disposal of municipal and industrial waste. The goals of RCRA are to:

- Protect human health and the environment.
- Reduce waste and conserve energy and natural resources.
- Reduce or eliminate generation of hazardous waste as quickly as possible.

Subtitle C of RCRA established a program to handle hazardous wastes from "cradle to grave." Owners and operators of waste treatment, storage, and disposal facilities are required to submit a permit application covering all aspects of design, operation, maintenance, and closure of the facility. RCRA requires owners and operators of these facilities to clean up contamination resulting from *past* and *present* practices. This includes practices of previous owners.

These cleanup activities are known as corrective action.

Since the facility no longer stores hazardous waste and because residual contamination remains, Ecology is replacing the expired permit to store dangerous waste with a Permit for Corrective Action. The new Permit for Corrective Action addresses how the contamination currently remaining at the site will be addressed.

Cleanup of the site will meet the standards outlined in the state's cleanup law, the Model Toxics Control Act (MTCA).[1] MTCA began as a grassroots citizen's initiative in 1988, and started the process of systematically cleaning up contaminated sites in Washington. Under MTCA, a current or past property owner or operator may be held responsible for cleaning up contamination on, or coming from, their property to standards that are safe for human health and the environment.

Soil contamination and past cleanup actions

Soil contamination

In August 2002, Ecology and Bay Zinc entered into a legal agreement to address contaminated soil and groundwater at the facility. Soils on- and off-property are contaminated with:

- Lead
- Cadmium
- Zinc

[1] ecology.wa.gov/programs/tcp/MTCA/index.html

- Dioxins

Between October 2002 and June 2005, Bay Zinc excavated and disposed of over 12,320 tons of contaminated soils.

In all but three areas that were under buildings or pavement, the excavation met the cleanup levels. Ecology allowed contaminated soils to remain in these areas because they pose no immediate risk to people or the environment. However, the soil in these areas cannot be disturbed without consulting with and receiving permission from Ecology in accordance with an environmental covenant.[2]

Groundwater contamination

Groundwater on- and off-property is contaminated with:

- Cadmium
- Zinc
- Sulfate
- Chloride
- Manganese

Groundwater remediation and monitoring has occurred at the facility since 1985. Between 2003 and 2006, Bay Zinc performed groundwater remediation using a pump-and-treat system. Current groundwater monitoring results indicate that the groundwater beneath the facility remains contaminated above cleanup levels.

What about risk?

The public is not at risk from contamination

Chemicals can enter the body through touching, breathing, and drinking. There is no risk to the public because the contaminated soils are beneath pavement or buildings and the groundwater does not reach any surface water. There are no drinking water wells near the contamination and drinking water wells are much deeper than where the contamination is located.

Animals are not at risk from contamination

The facility is completely fenced and is an active manufacturing operation. Facility workers are on site and there is frequent semi-truck, forklift, and railcar movement. Over half of the facility (60%) is covered by buildings and pavement. In addition, large portions of the unpaved areas are covered with fill materials. The facility does not appear to provide quality habitat to attract or sustain wildlife. However, the cleanup standard and options applied to this site will be protective of any wildlife on the property.

Determining cleanup standards

There are two primary components that determine cleanup standards: cleanup levels, and points of compliance.

Cleanup levels identify at what concentration a hazardous substance does not threaten human health or the environment. The goal is to address all areas with concentrations above those levels with a remedy that prevents exposure. Points of compliance are the location(s) at the facility where cleanup levels must be met.

Cleanup levels

Groundwater cleanup levels are based on protecting people and the environment now and into the future. While there are no drinking water wells near the contamination, this site must meet drinking water cleanup levels. Cleanup levels set for drinking water are also protective of all other uses.

[2] https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=604

Remedial action objectives

The facility remedial action objectives protect human health and the environment by eliminating, reducing, or controlling risks from exposure. They are developed using the characteristics of the contaminated material and the hazardous substances present, migration and exposure pathways, and potential receptor points.

Our state's cleanup law states that the selected cleanup action must use permanent solutions to the maximum extent practicable, provide for a reasonable restoration time frame, and consider public concerns.

The remedial action objectives for this facility are:

- Prevent exposure to contaminated soils and groundwater.
- Minimize leaching of contaminants from soils into groundwater.
- Prevent contaminated groundwater from migrating beyond the property boundaries.
- Recover, treat, and properly dispose of contaminated groundwater.

Potential cleanup alternatives

Remedial technologies that were potentially applicable to soils and groundwater were presented in the *Remedial Investigation Report and Voluntary Cleanup Plan*.[3] The physical and chemical nature of the facility contaminants limits the options for cleanup. In general, the contaminants of concern do not readily break down in the environment. They tend to bind to soil particles, do not volatilize, and have low water solubility. We considered the nature of the contaminants and the logistics of facility operations such as ongoing processing at the plant. Below are the potential cleanup options for the facility:

Soil Remediation Alternatives

- Excavation and off-site disposal
- Engineered control with asphalt cover
- On-site treatment
- Construction of buildings or other permanent structures over contaminated soil to reduce exposure pathways

Groundwater Remediation Alternatives

- Monitored natural attenuation
- Slurry wall to contain groundwater
- Groundwater recovery and discharge to publicly owned treatment works
- Groundwater recovery and discharge to infiltration gallery
- Groundwater recovery and discharge to spray field
- Groundwater pump-and-treat

Selected cleanup action

The selected cleanup actions for the Ultra Yield Facility are:

For soil

Ultra Yield and Mr. Camp will comply with the institutional control requirements listed in the facility's environmental covenant. The soil in these areas cannot be disturbed without consulting with and receiving

[3] https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=57964

permission from Ecology in accordance with the environmental covenant.[2] If contaminated soil is excavated, such soil will be properly managed and disposed of at facilities authorized to receive the material. Replacement fill for excavated areas will come from uncontaminated areas on the property or off site.

This work will be overseen by a field professional. They will document the work performed, ensure that material is properly managed, and will monitor health and safety procedures to assure compliance with a Health and Safety Plan. Testing for cadmium, lead, and zinc will be conducted in the excavated area(s) to document that the soil cleanup levels have been met.

For groundwater

Ultra Yield and Mr. Camp will use monitored natural attenuation. To ensure that natural attenuation is an effective remediation measure, groundwater will be on a semi-annual basis. MNA uses natural biological and chemical processes to break down chemicals into non-toxic chemicals that do not pose a risk to human health and the environment. Ultra Yield will monitor the progress regularly and report back to Ecology. If we believe that MNA is not working as planned, we may require Ultra Yield and Mr. Camp to do more to clean up groundwater.

How to learn more and comment

We are accepting comments on the draft documents beginning June 25, 2018. You can submit comments using our online comment form.[4] You can also submit comments by mail to:

Tom Mackie, Site Manager
Dept. of Ecology Central Regional Office
1250 W Alder St
Union Gap, WA 98903-0009

You can learn more about the site and view the draft documents on our website[5] or at the following locations:

Ecology's Central Regional Office[6]
1250 W Alder St
Union Gap, WA 98903-0009

Phone: 509-575-2490
Hours: Monday-Friday 8 a.m. -5 p.m.

The Moxee Library[7]
255 W Seattle
Moxee, WA 98936
Phone: 509-575-8854
Visit their website or call for up-to-date hours.

[4] cs.ecology.commentinput.com/?id=9sEYU
[5] https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=4444
[6] ecology.wa.gov/About-us/Get-to-know-us/Contact-us#CRO
[7] yvl.org/branch/moxee-library/