

DETERMINATION OF NONSIGNIFICANCE (DNS)

Description of proposal:

The proposed action is a MTCA¹ Interim Action² to reduce the concentrations of chlorinated solvents (tetrachloroethylene and trichloroethylene) and their breakdown products that exist in high concentrations in both the soil above the water table and in the aquifer. The concentrations are highest at and near the contaminant release area within an industrial facility which is adjacent to the Columbia River. The one-half acre Interim Action treatment area will be approximately 250 feet from the river. It will consist of soil vapor extraction in the vadose zone³ combined with *in situ* enhanced bioremediation in the saturated zone⁴ down to 40-50 feet below the ground surface (bgs). The nominal water table depth is 25 feet bgs.

The two processes are described briefly in the SEPA checklist (accessible via Ecology's website and the document repositories referenced below) and in more detail in a May 8, 2007 report prepared by Ash Creek Associates (consultant to ST Services, the proponent): *Release Area Interim Action Design—Support Terminal Services Vancouver Facility*. The report is available at each of the document repositories designated for the public comment period (Ecology's Southwest Regional Office in Lacey, WA and the Vancouver Library Reference desk). Brief process descriptions follow:

Soil Vapor Extraction (SVE). This process will remove contaminant-containing soil gas (the air surrounding soil particles) from the vadose zone by creating a vacuum in a below-ground manifold system connected to 18 extraction wells spaced 30-ft apart. The well screens (zone of soil gas intake) will extend from 5 to 20 feet below grade. A 600-cfm⁵ blower will be used as the soil gas mover. Vaporous contaminants in the extracted soil gas will be removed in an activated carbon absorption system.

Enhanced Bioremediation. Nearly 20,000 pounds of CAP18-ME (DBI Remediation Products), a product derived from food-grade vegetable oil, will be introduced into the saturated zone at depths from 25 to 50 feet bgs using push-probe equipment at 38 injection points spaced 15 feet apart. The above-mentioned contaminants (which are in the general category of halogenated volatile organic compounds) will be degraded by bacteria-facilitated reductive dechlorination. Under anaerobic conditions (maintained by the CAP-19-ME substrate) biochemical electron transfer occurs, resulting in chlorine atoms being removed from the contaminant molecules.

Note: An Ecology memorandum providing the justification and rationale for a determination of nonsignificance is attached to this DNS form.

¹ Washington Model Toxics Control Act—173-340 WAC

² A MTCA *Interim Action* is a remediation effort implemented prior to the final site cleanup action, and generally only partially addresses cleanup of the site. Interim Actions are employed to reduce the degree and extent of contamination, contain contaminants within an area, and reduce threats to human health or the environment by reducing exposure pathways.

³ The vadose zone consists of the subsurface geological material above the water table (the top of the saturated zone).

⁴ The saturated zone is a subsurface zone in which all the interspatial geological pores are filled with water (aquifer).

⁵ cubic feet per minute (a unit of volumetric flow).

Proponent: Support Terminals Services, Inc. (d/b/a NuStar Energy L.P.) -- a/k/a ST Services

Location of proposal, including street address, if any:

2565 NW Harborside Drive
Vancouver, WA 98660 (Located at Terminal 2 in the Port of Vancouver)

Lead agency: Washington Department of Ecology

The lead agency for this proposal has determined that it does 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). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

(continued)

- There is no comment period for this DNS.
- This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.
- This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 30 days from the October 1, 2007. Comments must be submitted before October 31, 2007.

Responsible official: Rebecca S. Lawson

Position/title: Section Manager, Toxics Cleanup Program Phone: (360) 407-6241
Southwest Regional Office
Washington Department of Ecology

Address: 300 Desmond Drive // Lacey, WA 98503

Date ~~Rebecca S. Lawson~~ Signature Rebecca S. Lawson
10/5/2007

(OPTIONAL)

- You may appeal this determination to (name) Responsible Official (see above)
- at (location): (see above)
- no later than (date): October 30, 2007
- by (method): U.S. Mail

You should be prepared to make specific factual objections.

Contact Patty Betts, Ecology HQ (360) 407-6925 to read or ask about the procedures for SEPA appeals.

- There is no agency appeal.

Attachment: 9/27/07 Ecology memorandum providing justification and rationale for a DNS

[Statutory Authority: 1995 c 347 (ESHB 1724) and RCW 43.21C.110, 97-21-030 (Order 95-16), § 197-11-970, filed 10/10/97, effective 11/10/97. Statutory Authority: RCW 43.21C.110, 84-05-020 (Order DE 83-39), § 197-11-970, filed 2/10/84, effective 4/4/84.]

(Attached memorandum follows)

MEMORANDUM



VANCOUVER FIELD OFFICE

Phone: 360 / 690-7171
FAX: 360 / 690-7166

2108 Grand Blvd
Vancouver, WA 98661-46222

To: Rebecca Lawson, TCP Section Manager **Date:** September 27, 2007
cc: Dick Wallace, Director / Southwest Regional Office
Dan Alexanian, Tech Support Unit Mgr
Iloba Odum, Director / Vancouver Field Office

From: Rod Schmall, VFO **Subject:** SEPA – Determination of Non Significance
Interim Action Project for Reduction of
Chlorinated Solvent Contamination
ST Services // Vancouver, WA

Synopsis

This memorandum presents Washington State Department of Ecology's analysis to support a Determination of Nonsignificance (DNS) for a planned Interim Action project at ST Services (Vancouver, WA – Port of Vancouver). The purpose of the proposed project is to reduce a threat to human health and the environment by lowering soil and groundwater contaminant concentrations. An Interim Action is one the requirements of a new Agreed Order between Ecology and ST Services developed to ensure completion of a Remedial Action and a cleanup approach Feasibility Study. The public comment periods for the interim-action SEPA review and the Agreed Order are concurrent and begin October 1, 2007.

Decision Basis

I have reviewed the 9/25/07 *Interim Cleanup Action SEPA Checklist--ST Services* report prepared by Ash Creek Associates on behalf of ST Services. I have also examined previously submitted reports¹ addressing the planned interim action in terms of technology selection, site characteristic suitability for bioremediation, and process design. The satisfactory checklist responses, the data and conclusions presented in the earlier reports, and my situational familiarity as Ecology's site manager provide an adequate basis for recommending a Determination of Nonsignificance.

Background

During the last part of the previous century, chlorinated hydrocarbons were handled—but not consumed—as part of the site facility receiving, storing, and shipping operations. Unintentional releases in the past caused contamination of soil and groundwater. The primary contaminants are tetrachloroethylene (*syn*: Perchloroethylene, PERC) and trichloroethylene (TCE). Dichloroethylene (DCE)—a breakdown product of PERC and TC—also exists. The groundwater contamination plume extends beyond the facility property boundaries.

¹ - *Interim Action Analysis – Support Terminals Services – Vancouver Facility – Vancouver, WA – November 28, 2006*
- *Suitability of Facility for Enhanced Bioremediation – ST Services – Vancouver Facility – January 11, 2007 (memo report)*
- *Release Area Interim Action Design – Support Terminals Services – Vancouver Facility – May 8, 2007*

ST Services (Support Terminals Services, Inc.) purchased the site facility after the contaminant releases, but has assumed responsibility for site remediation. ST Services is doing business as (d/b/a) NuStar Energy L.P., its parent company. NuStar was previously called Valero L.P. Valero purchased ST Services' previous parent (Kaneb, Inc.) in 2005.

The Agreed Order mentioned above is a replacement for an agreed order issued to ST Services in 1998. As the Potentially Liable Person, ST Services conducted site investigations to determine the nature and extent of contamination and—relevant to the current SEPA review—previously implemented an interim action at and near the same small release area planned for the currently proposed Interim Action. The new Agreed Order requires continued investigations and the implementation of more interim actions.

The previously conducted interim action (in situ oxidation via potassium permanganate) was successful in reducing contaminant concentrations, but was plagued with plugging problems due to precipitated solids. This problem was considered by NuStar in its evaluation of potentially applicable and effective technologies.

NuStar/ST Services made its technology choice based on a selection process that included expanded parameter-specific investigations of subsurface conditions, cost analyses, and compatibility with potential technologies which could be employed in the eventual final cleanup approach. NuStar has proposed a combination of soil vapor extraction (SVE) and enhanced bioremediation. SVE will be used in the vadose zone (upper, unsaturated soil); enhanced bioremediation will be used in the upper saturated zone (i.e., aquifer down to approximately 45 feet)—both in a half-acre area encompassing the spatial zone of maximum contamination.

Soil vapor extraction is a common and proven technology. Enhanced bioremediation has been employed less for remediation and its potential success is greatly affected by subsurface conditions. NuStar has determined that conditions are suitable (e.g., existence of adequate natural bacteria colonies, acceptable pH levels, anaerobic conditions, soil permeability, and limited chemical "competitors" that could inhibit the required biochemical electron transfer required for success). Ecology believes NuStar has adequately supported its choice of enhanced bioremediation with site-specific empirical findings and application experiences at other locations.

Potential Adverse Impacts

There is a potential for some minor, temporary negative impacts. However, these effects would only exist in and near the area of treatment and would return to pre-treatment conditions at completion.

- Injection of organic material to create the necessary chemically-reducing conditions increases total organic carbon (TOC), a minor concern.
- The reducing conditions can increase the dissolution of metals, which could be somewhat undesirable.

Because the half-acre area activity is totally within an existing industrial facility, which in turn is surrounded by other industrial operations, it is not surprising that the checklist responses indicated virtually no incremental impacts on wildlife, noise, and similar resources in the natural environment.

Clarifying Comments on the SEPA Environmental Checklist

- The four figures in "Attachment A" of ST Services' SEPA checklist report utilized existing figures which delineated areas of geologic hazards, wetlands, water resources, and biological resources. The figures show a red boundary line surrounding an area to the north of the ST Services facility along with some blue utility lines. The colored lines do NOT represent the location of the planned interim action, which is a much smaller area approximately 600 feet to the west by southwest, embedded in the ST Services facility. Figure No. 2 in the "Figures" section of the report clearly shows the interim action location.

- A legal description of the property that ST Services leases from the Port of Vancouver was not included in the SEPA checklist report. However, it is an attachment to the Agreed Order which will share the document repositories during the 30-day¹ public comment period for the Agreed Order.

¹Because the concurrent comment periods (agreed order and SEPA), the normal two-week comment period for the SEPA review is extended to be commensurate with the 30-day agreed order period.

(end)

