



October 24, 2017

Elaine Placido

Director of Cowlitz County Building and Planning

Delivered via Email to: Ron Melin at MelinR@co.cowlitz.wa.us

Subject: Addendum to July 2013 EIS on Cowlitz County Headquarters Landfill, Section 3.3.2.1.1

Ms. Elaine Placido:

The Cowlitz County Landfill site currently utilizes an enclosed flare system as a Landfill Gas (LFG) control device to meet air pollution control regulations established by the Southwest Clean Air Agency (SWCAA) under the county's existing air permit for the site. Due to higher than expected LFG production at the Cowlitz County Landfill, an additional Enclosed Ground Flare Station will be installed to limit additional LFG fugitive emissions from the landfill. In conjunction with this project, ESI worked with the SWCAA to revise the County's existing air permit based on the latest gas generation projections for the landfill. The air permit revisions also necessitate modifications to the July 2013 Environmental Impact Study (EIS) to reflect the changes. The following information details the basics of the project and recommended modifications to the EIS:

The flare expansion project consists of the installation of a new enclosed flare along with mechanical, electrical, and controls integration into the existing system. A site plan drawing is provided in Attachment A that depicts the new flare installation. Work and construction required to install and utilize the proposed flare system will include installation of a concrete pad, extended fence perimeter, wiring modifications, blower skid modifications, and a second fuel train. Other modifications will be made to the three main subsystems associated with the operation of the flare. These include (1) the flare itself, (2) the blower skid system and piping, and (3) the flare control system.

The flare to be installed will be identical to the one presently on site and will stand approximately 40 ft tall with an outside diameter of 9 ft. It will be located approximately 13 ft. north of the existing Blower-skid. The original lies approximately 12 ft. to the West of the blower skid. The new flare is designed to handle LFG with 30-50% methane content at 1000 scfm and 30 MMBtu/hr. Overall flare capacity will be doubled with the addition of the second flare system, resulting in 2000 scfm of 60 MMBtu/hr total LFG destruction capacity; potential maximum annual volumetric discharge of 1,051 MMscf and 525,600 MMBtu LFG destruction capacity. The elevated flow rate will require numerous system changes.

Energynearing Solutions, Inc. (ESI) worked with the SWCAA to revise the existing air permit for the site based on updated background pollutant concentrations, revised landfill fugitive emissions projections, existing flare effects, and additional proposed flare effects. The installation of the additional flare system will duplicate the emissions and pollutants of the original flare system. To ensure that relevant state, local, and federal air quality regulations are met for the system, Kent Norville of Air Sciences Inc. developed an Air Dispersion model (See Attachment B) to evaluate the site's emissions potential. Updated background pollutants were less than those of the original air dispersion model, allowing for a larger emissions envelope in which the flares can operate. With the flares operating at full emissions potential, the model results indicated that the site would meet ambient air quality standards. A draft permit revision was completed earlier this year reflecting results of the air dispersion

model (See ESI summary review of draft permit revision- Attachment C), to be finalized in conjunction with these modifications to the EIS. Updated short and long-term emission limits were made for Nitrogen Oxides, Carbon Monoxide, VOCs, Sulfur Dioxide, and Hydrogen Chloride. See the Air discharge permit prepared by Southwest Clean Air Agency for details.

Based on changes to the air permit and the addition of the new enclosed flare, the existing EIS, particularly section 3.3.2.1.1, should be modified to reflect the new background pollutant concentrations, single, and dual flare operations. Table 8 titled “Criteria Pollutant Impacts” on page 114 of the EIS is to be updated to reflect impacts outlined in Table 8 on page 14 of the 2017 Air Dispersion Model (See Attachment B). Table 9 titled Toxic Air Pollutant (TAP) Impacts on page 115 of the EIS must also be added to reflect results of Table 9 on page 15 of the 2017 Air dispersion model (See Attachment B).

If there are any questions about this project work, feel free to call me at (541) 549-8766 ext. 279.

Regards,

A handwritten signature in black ink, appearing to read 'Kyle Petersen', with a long horizontal flourish extending to the right.

Kyle Petersen
Project Engineer
ENERGYneering Solutions, Inc.

Attachment A- Site Plan/Layout

Attachment B- Air Dispersion Model

Attachment C- ESI Summary Review of Draft Permit Revision