

Michele Nettlefold

Subject: FW: 1995 - SSD 6617 hazard review for PHA and the additional information

From: Doris Yau
Sent: Wednesday, 13 April 2016 10:37 AM
To: Michele Nettlefold
Subject: 1995 - SSD 6617 hazard review for PHA and the additional information

Hi Michele

I have done an analysis based on the information provided in the Air Quality Analysis. The flammable and toxic materials that may be released from the stack (in-situ method) are listed in Table 23.

Toxic	Assumed Concentration in Process Gas (ug/m3)	AEGL-2 (ppm) 10min exposure*	LEL (ppm)*
n-Propane ¹	20,000 ~11ppm	17000	23000
Benzene	35424 ~11ppm	2000	14000
Ethyl Benzene	48259 ~11ppm	2900	12000
Toluene	41882 ~11ppm	1400	14000
Xylene	48255 ~11ppm	2500	9000
Naphthalene	58259 ~11ppm	no information	9000

*information found on <https://cameochemicals.noaa.gov/>

AEGL-2 is the airborne concentration (expressed as ppm or mg/m³) of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape. For the particular interested chemicals as listed above, it is also noted that the assumed concentration in the process gas is outside of flammable limit. As such, it is concluded that the concentration of the process gas before entering the filtration process is already below the toxic limit as well as the flammable limit. The potential releases of these substances is unlikely result in offsite impact.

Notwithstanding that the storage of dangerous goods on site and the potential in-situ remediation process is unlikely to result in off-site impact, the proposed development is recommended to be approved subject to the following consent conditions:

Pre-construction

1. The Applicant shall prepare the studies set out under subsections 1(a) to 1(b) (the pre-construction studies). Construction, other than of preliminary works that are outside the scope of the hazard studies, shall not commence until study recommendations have been considered and, where appropriate, acted upon. The Applicant shall submit the studies to the Secretary no later than one month prior to the commencement of construction of the proposed development (other than preliminary works), or within such further period as the Secretary may agree.
 - (a) HAZARD AND OPERABILITY STUDY
A Hazard and Operability Study for the in-situ remediation process (if selected) and the water treatment plant for the proposed development, chaired by a qualified person, independent of the development. The study shall be consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 8, 'HAZOP Guidelines'.
 - (b) FINAL HAZARD ANALYSIS
A Final Hazard Analysis of the proposed development, consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'. The FHA shall include the assessment of hazards and risk posed by the remediation process and any process that may take place in the water treatment work. In addition to the safeguards and mitigations for handling and storage of Dangerous goods, all the preventative safeguards and safety measures involved in the remediation and water treatment processes shall also be detailed in the analysis.

Pre-commissioning

2. Prior to commissioning, the Applicant shall develop and implement the plans and systems set out under subsections 2(a) to 2(b). The Applicant shall submit to the Secretary documentation describing the plans and systems no later than two months prior to the commencement of commissioning of the proposed development, or within such further period as the Secretary may agree.

(a) EMERGENCY PLAN

A comprehensive Emergency Plan and detailed emergency procedures for the proposed development. This plan shall include detailed procedures for the safety of all people outside of the development who may be at risk from the development. The plan shall be consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'.

(b) SAFETY MANAGEMENT SYSTEM

A document setting out a comprehensive Safety Management System, covering all on-site operations and associated transport activities involving hazardous materials. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. The Safety Management System shall be consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management'. Records shall be kept on-site and shall be available for inspection by the Secretary upon request.

Should you have further question, please do not hesitate to contact me.

Doris Yau

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