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May 12, 2010

Richard Curtis
Fire Chief, Anacortes Fire Department
1016 13th Street
Anacortes, WA 98221

Re: FIRE DEPARTMENT QUESTIONS RE: PRILLED SULFUR

Dear Chief Curtis:

Attached is a report prepared by an independent licensed Fire Protection Engineer that addresses many of your questions and concerns regarding the Port's proposed prilled sulfur loading operation at Pier 2. In the report, David Gessert of Fire Protection Consulting specifically addresses items 2, 11, and 12 from your memorandum dated 2/3/10. This letter provides responses to Fire Department questions and concerns as numbered in your memo.

1. Although the MSDS classifies prilled sulfur as a "flammable solid", a laboratory test confirmed that it is not a flammable solid in accordance with test method CPSC 16 CFR; Part 1500.44 as described in the International Fire Code (IFC) 2006 Edition. Therefore, prilled sulfur is not defined as a hazardous material under the IFC, nor is it defined as a hazardous material by any other agency, including the Environmental Protection Agency (EPA), State Department of Ecology, or State Department of Transportation. Page 10 of the Report provides more detailed information on the laboratory test and the fact that the MSDS is written for the more easily ignited dry sulfur under occupational guidelines and not for damp sulfur prills such as will be shipped from Pier 2.
2. Please see page 5 of the Fire Protection Considerations Report.
3. A formal plan for ship-board fires is not warranted. The prills will arrive with 2 to 3 percent moisture content and will receive additional wetting at the start and end of the conveyor system. Moist sulfur prills in a ship hold would be extremely difficult to ignite due to the ignition temperature of 445°F and the fact that there are no ignition sources present.
4. In the unlikely event of a fire, Anacortes fire personnel should protect themselves with standard Personal Protective Equipment as they would for any other fire. Again, the MSDS discloses occupational information to employees working with dry sulfur in contained areas. There is a much higher risk of explosion and fire in this setting than with damp sulfur prills outdoors or contained in trucks or ship holds.
5. As mentioned in #1, the MSDS is written for workers chronically exposed to the more easily ignited dry sulfur. There are no available exposure limits for elemental sulfur (which includes sulfur prills) because it is not identified as a toxic or hazardous substance. Sulfur is described as follows in an EPA fact sheet:

“The element sulfur is a ubiquitous, natural component of the environment. Sulfur is known to be of low toxicity, and poses very little if any risk to human health. Short-term studies show that sulfur is of very low acute oral toxicity and does not irritate the skin. However, sulfur can cause some eye irritation, dermal toxicity, and inhalation hazards. Chronic exposure to elemental sulfur at low levels is generally recognized as safe.”

Source: EPA, Pesticides and Toxic Substances, R.E.D. Facts, May 1991.

6. Section 6 of the MSDS under “Large Spills” refers to *dry* sulfur prills, which, if spilled in large amounts, has the potential to form dust, especially if the prills are ground up by vehicles or people walking on them. Sulfur dust can ignite in the presence of a flame and can combust. Therefore, the MSDS recommends not walking through the sulfur and eliminating all ignition sources (smoking, flares, sparks, etc.) in the immediate area. This is likely the reason the MSDS also states “consider initial downwind evacuation for at least 330 feet.” This would prevent the sulfur from being ground up, eliminate sources of ignition, and ensure that people were out of the immediate area if a dust explosion were to occur. A distance of 330 feet from the Pier 2 loading area or ship does not include Randy’s restaurant to the east, the southern portion of the pier, or Dakota Creek Industries shipyard to the west.

In the unlikely event of a large spill of damp sulfur prills on the pier, the following steps would be taken by the Port and the Port’s operator on Pier 2:

- People and vehicles would be routed around the area to prevent grinding of the prills into a fine powder.
- The prills would be misted with water to ensure that no dust is produced; thereby eliminating the risk of fire during the cleanup process.

In the unlikely event of a large spill of damp sulfur prills elsewhere in Anacortes, emergency responders such as the Anacortes Fire Department would be called and would take the same steps as above. Sulfur prills can be cleaned up using shovels and placing the material in drums or other containers.

7. The Port plans to obtain a permit to operate from the Northwest Clean Air Agency. The Agency will have a public comment period prior to issuing the permit and will explain that hydrogen sulfide emissions (source of the sulfur odor) will not exceed the allowable limits. Given that the Port has already received complaints about sulfur odors in the absence of any loading activities, we anticipate receiving complaints and will refer callers to the Northwest Clean Air Agency for additional information.

8. See page 7 of the Fire Protection Considerations Report.

9. Fugitive dust will be eliminated because the sulfur prills contain 2 to 3 percent moisture content upon being loaded into trucks and trailers at the Marsulex Plant and are then misted during the loading process at Pier 2.

10. Detailed plans for emergency response are not required because sulfur prills are not hazardous materials (see page 4 of the Report). The Port and the marine terminal operator each have an Accident Prevention Program & Safety Manual; which also includes a Hot Work Policy and a

Contingency Plan for the Transportation and Maritime Ship Loading of Prilled Sulfur. These documents are available at the Port office and on the Port's website at www.portofanacortes.com.

11. See page 7 of the Report.

12. See page 8 of the Report.

13. A Hazardous Material Inventory Statement and Management Plan is not required because sulfur prills are not classified as hazardous under the International Fire Code.

14. No other chapters of 2006 IFC apply to the project.

Please call me at 360.299.1818 or e-mail me at the address below if you have any questions.

Sincerely,

PORT OF ANACORTES

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Environmental Administrator
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Cc: Bob Hyde, John Hachey, Chris Johnson, Bob Elsner, Port of Anacortes
Dan Harju, Anacortes Fire Department
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