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April 20, 2021

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Shell may face penalty for 2020 odor incident

Shell's Puget Sound Refinery in Anacortes faces a possible penalty because of incidents in fall 2020 that impacted the community around the March Point facility.

The [Northwest Clean Air Agency](#) has issued a Notice of Violation stemming from two refinery flaring events of regulated materials that exceeded allowable visible emissions. The first event was on Aug. 19, 2020. The second event on Sept. 29 released odors near the refinery, La Conner, and the Swinomish Indian Tribal Community. NWCAA received 12 complaints and verified the presence of odors in the area.

Shell has until April 28 to respond to the alleged violations. NWCAA will then consider appropriate action regarding the violations, including a determination of a penalty.

NWCAA's investigation found that in both events, visible emissions persisted for more than 5 minutes in two consecutive hours at one or more flares in excess of regulatory limits.

The Sept. 29 event resulted from sudden loss of a key piece of equipment in the fluidized catalytic cracking (FCC) unit. The FCC unit "cracks" or breaks apart low-value hydrocarbons to make high-value products like gasoline-range hydrocarbons.

When the "cracking" reaction occurs, some small pieces of hydrocarbon break off, and carry with them sulfur and other materials from the reactions. As a result of the equipment failure on Sept. 29, these materials entered the flare system where they were combusted before release to the air.

There were periods when the flare combustion was "smoky" in excess of the regulatory limit of 5 minutes of visible emissions in any consecutive 2 hours.

Flare combustion is not 100 percent efficient. Based on the data provided and knowledge of the systems, the flare gas contained sulfur species, including mercaptans and hydrogen sulfide that people can easily smell at very low amounts. On Sept. 29, odors were detected at ground level for several miles downwind of the refinery.

Photographs submitted to NWCAA showed black smoke from the flares traveling as a plume just above the trees on Swinomish Indian Tribal Community lands.

Descriptions of the odors and location of impacts reported by area residents on Sept. 29 were similar to those received by NWCAA following a Shell flare release in February 2015. NWCAA cited Shell for the 2015 incident and collected a \$133,000 penalty.

The Northwest Clean Air Agency is responsible for enforcing federal, state and local air

quality regulations in Island, Skagit, and Whatcom counties. In addition to permitting and regulating industrial sources of air pollution, the agency provides services and information related to asbestos, indoor air quality, outdoor burning, woodstoves, and fireplaces. More information about the agency is available at <https://nwcleanairwa.gov/>.