

batch front-end process vent provisions if front-end operations at an elastomer production process unit consist of a combination of continuous and batch unit operations. The continuous provisions would be applied to those vents from continuous unit operations, and the batch provisions to vents from batch unit operations.

a. *Continuous Front-End Process Vents.* The provisions in the proposed rule for continuous front-end process vents are the same as the HON process vent provisions in subpart G. Continuous front-end process vents are gas streams that originate from continuously operated units in the front-end of an elastomer process, and include gas streams discharged directly to the atmosphere and gas streams discharged to the atmosphere after diversion through a product recovery device. The continuous front-end process vent provisions apply only to vents that emit gas streams containing more than 0.005 weight-percent HAP.

A Group 1 continuous front-end process vent is defined as a continuous front-end process vent with a flow rate greater than or equal to 0.005 scmm, an organic HAP concentration greater than or equal to 50 ppmv, and a total resource effectiveness (TRE) index value less than or equal to 1.0. The continuous front-end process vent provisions require the owner or operator of a Group 1 continuous front-end process vent stream to: (1) Reduce the emissions of organic HAP using a flare; (2) reduce emissions of organic HAP by 98 weight-percent or to a concentration of 20 ppmv or less; or (3) achieve and maintain a TRE index above 1. Performance test provisions are included for Group 1 continuous front-end process vents to verify that the control device achieves the required performance.

The organic HAP reduction is based on the level of control achieved by the reference control technology. Group 2 continuous front-end process vent streams with TRE index values between 1.0 and 4.0 are required to monitor those process vent streams to ensure those streams do not become Group 1, which require control.

The owner or operator can calculate a TRE index value to determine whether each process vent is a Group 1 or Group 2 continuous front-end process vent, or the owner or operator can elect to comply directly with the control requirements without calculating the TRE index. The TRE index value is determined after the final recovery device in the process or prior to venting to the atmosphere. The TRE calculation involves an emissions test or

engineering assessment and use of the TRE equations in § 63.115 of subpart G.

The rule encourages pollution prevention through product recovery because an owner or operator of a Group 1 continuous front-end process vent may add recovery devices or otherwise reduce emissions to the extent that the TRE becomes greater than 1.0 and the Group 1 continuous front-end process vent becomes a Group 2 continuous front-end process vent.

Group 1 halogenated streams controlled using a combustion device must vent the emissions from the combustor to an acid gas scrubber or other device to limit emissions of halogens prior to venting to the atmosphere. The control device must reduce the overall emissions of hydrogen halides and halogens by 99 percent or reduce the outlet mass emission rate of total hydrogen halides and halogens to less than 0.45 kg/hr.

The proposed rule exempts certain halogenated process vent streams from the requirement to control the halogens at the exit from a combustion device. Specifically, halogenated continuous front-end process vents at affected sources producing butyl or halobutyl rubber are exempt from the requirements to control hydrogen halides and halogens from the outlet of combustion devices. However, the proposed rule requires that these vent streams be controlled in accordance with the other Group 1 requirements for continuous front-end process vents.

Monitoring, reporting, and recordkeeping provisions necessary to demonstrate compliance are also included in the continuous front-end process vent provisions. Compliance with the monitoring provisions is based on a comparison of daily average monitored values to enforceable parameter "levels" established by the owner or operator. A difference in the proposed rule and the HON is that the procedure for determining the enforceable parameter monitoring level for continuous process vents is both more specific and restrictive than that in subpart G. Subpart G allows the use of engineering assessments and manufacturers' recommendations in establishing the enforceable level, while the proposed rule would require that the level be established entirely based on the monitoring conducted during the compliance test. The level is established as the average of the maximum (or minimum) monitored point values for the three test runs. That is, if the operating parameter to be established is a maximum, the value of the parameter shall be the average of the maximum values from each of the three test runs.

Likewise, if the operating parameter to be established is a minimum, the value of the parameter shall be the average of the minimum values from each of the three test runs.

b. *Batch Front-End Process Vents.* Process vents that include gas streams originating from batch unit operations in the front-end of an elastomer product process unit are subject to the batch front-end process vent provisions of the proposed rule. Consistent with provisions in the proposed rule for other emission source types, batch front-end process vents are classified as Group 1 or Group 2, with control being required for Group 1 batch front-end process vents.

An important aspect of the batch front-end process vent provisions is that applicability is on an individual vent basis. All batch emission episodes that are emitted to the atmosphere through the vent are to be considered in the group determination. The proposed rule does not require that emissions from similar batch unit operations emitted from different vents be combined for applicability determinations. In other words, if a process included four batch reactors, and each reactor had a dedicated vent to the atmosphere, applicability would be determined for each reactor.

The applicability criteria of the batch front-end process vent provisions are from the Batch Processes ACT, and are based on volatility and annual emissions of the HAP emitted from the vent, and the average flow rate of the vent stream. The vent stream characteristics are determined at the exit from the batch unit operation before any emission control or recovery device. The proposed rule specifies that reflux condensers, condensers recovering monomer or solvent from a batch stripping operation, and condensers recovering monomer or solvent from a batch distillation operation are considered part of the unit operation. Therefore, the batch front-end process vent applicability criteria would be applied after these condensers.

The first step in the applicability determination is to calculate the annual HAP emissions. Annual HAP emissions may be calculated using equations contained in the regulation (which are from the Batch Processes ACT) and/or testing. Engineering assessment may also be used if the equations are not appropriate and testing is not feasible. Batch front-end process vents with annual HAP emissions less than 225 kilograms per year are exempt from all batch front-end process vent requirements, other than the