WAC 173-400-025 Adoption of federal rules. Federal rules mentioned in this rule are adopted as they exist on ~~January 24, 2018~~September 25, 2019. Adopted or adopted by reference means the federal rule applies as if it was copied into this rule. [Statutory Authority: RCW 70.94.152, 70.94.331, 70.94.860. WSR 16-12-099 (Order 16-01), § 173-400-025, filed 5/31/16, effective 7/1/16.]

WAC 173-400-030 Definitions. The definitions in this section apply statewide except where a permitting authority has redefined a specific term. Except as provided elsewhere in this chapter, the definitions in this section apply throughout the chapter:

(93) "Sulfur recovery unit" or "SRU" means a process unit that recovers elemental sulfur from gases that contain reduced sulfur compounds and other pollutants, by a vapor-phase catalytic reaction of sulfur dioxide and hydrogen sulfide. An SRU is typically comprised of a Claus unit, a tail gas unit (TGU), and an incinerator. This definition does not include a

unit where the modified reaction is carried out in a water solution which contains a metal ion capable of oxidizing the sulfide ion to sulfur, e.g., the LO-CAT II process.

WAC 173-400-040 General standards for maximum emissions.

(1) **General requirements.**

(7) **Sulfur dioxide.**

(a) Except as allowed by (b) of this subsection, ~~No~~ no person shall cause or allow the emission of a gas containing sulfur dioxide from any emissions unit in excess of one thousand ppm of sulfur dioxide on a dry basis, corrected to seven percent oxygen for combustion sources, and based on the average of any period of sixty consecutive minutes.

(b) **Alternative sulfur dioxide emission limitation for SRUs in operation before September 25, 2019.** This provision:

(i) Takes effect on the effective date of EPA's approval in the SIP;

(ii) Requires that all possible steps are taken to minimize the impact of emissions on ambient air quality during SRU shutdown;

(iii) Applies when the TGU is bypassed during a planned SRU shutdown that ends in a cold state;

(A) A planned shutdown means that the owner or operator of an SRU notifies the permitting authority in writing at least twenty-four hours before the TGU bypass begins as part of SRU shutdown.

(B) A planned SRU shutdown starts when sulfur rich sour gas feed to the SRU stops.

(C) A planned SRU shutdown ends when all gas feed (natural gas, hydrogen, nitrogen, air, and oxygen) to the catalytic reactor, TGU and incinerator of the SRU stops.

(iv) Does not apply during:

(A) Malfunctions or upsets;

(B) Hot standby of the SRU, when the SRU is not receiving sulfur rich sour gas but is maintained at elevated temperatures usually burning natural gas or hydrogen in Claus reactor; and

(C) A hot sweep to remove residual sulfur. This occurs after the acid gas feed to the unit has been stopped. Hot sweep means that natural gas or hydrogen gas are burned in

the Claus unit to remove residual sulfur from the SRU. Hot sweep gases from the Claus process equipment must be routed through the TGU until sulfur production has ceased.

(v) Applies during TGU bypass after a hot sweep occurs and sulfur production has ceased indicated by:

(A) The process ratio monitor analyzer for hydrogen sulfide and sulfur dioxide ratio concentrations shows adequate low sulfur levels; or

(B)Any of these visual observations that indicate low sulfur levels in the Claus system:

(I) The sulfur level in the sulfur tank or pit is not appreciably increasing;

(II) No liquid sulfur is dripping from the condensers;

(III) Sulfur traps stop drooling; and/or

(IV) Liquid sulfur appears yellow, not dark.

(vi) Limits on frequency, duration, and emissions during TGU bypass phase of shutdown.

(A) Frequency. The number of SRU planned shutdowns that exceed 1000 ppm during TGU bypass shall not be more

than one every three years on a rolling average for each SRU.

(B) Duration. The duration of exceedance of the 1000 ppm during TGU bypass shall not be more than three separate one-hour periods during a planned shutdown.

(C) Sulfur dioxide emissions. The sulfur dioxide emission rate during TGU bypass during a planned shutdown shall not exceed 1.35 pounds per hour (lb/hr) on a daily long ton sulfur production capacity for each SRU. This emission rate shall be established based on SRU long ton capacity of each facility’s permit as of January 2018.

(vi) Monitoring and Recordkeeping:

(A) Monitoring: Measure and record sulfur dioxide mass emission rates for the entire planned shutdown using a sulfur dioxide continuous emission rate monitoring system (CERMS).

(I)The span of the CERMS must encompass the lowest rates observed and 1.25 times the highest rates expected during planned shutdowns.

(II)The CERMS must document compliance with 40 C.F.R. Part 60, Appendices B and F for the span in (I)for at least three months immediately prior to the start date of a planned shutdown including performing a cylinder gas audit.

(B) Recordkeeping: Maintain a log on-site for a minimum of five years documenting for each planned shutdown:

(I) The date and time of SRU shutdown notification;

(II) The beginning and end dates and times of TGU bypass; and

(III) Emissions in appropriate units to demonstrate compliance with this alternative emission limitation.

(IV) Ambient SO2 monitoring data for the duration of the planned SRU shutdown.

(C)Reporting: