Removed SRU Changes to Chapter 173-400 WAC (11-29-2017)

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:

((~~(87)~~)) (93) **"Sulfur recovery unit"** or **"SRU"** means a process unit that recovers elemental sulfur from gases that contain reduced sulfur compounds and other pollutants, usually by a vapor-phase catalytic reaction of sulfur dioxide and hydrogen sulfide. A typical SRU is comprised of 3 components; a Claus unit, a tail gas unit, 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 LOCAT II process.

Commented [GE(1]: Added a definition to clarify a new term in the rule.

WAC 173-400-040 General standards for maximum emissions. (1) **General requirements.**

(7) **Sulfur dioxide.**

(a) 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) Sulfur recovery alternative emission standard. This provision takes effect on the effective date of EPA's approval in the SIP.

(i) For a planned shutdown and startup of a sulfur recovery unit in operation before January 24, 2018 to perform maintenance or a required pressure vessel inspection, the owner or operator shall:

(A) Notify the permitting authority at least twenty-four hours before the shutdown or startup;

(B) Follow written procedures to minimize sulfur dioxide emissions during startup and shutdown periods while considering the need for personnel and equipment safety;

(C) Maintain a log showing that written procedures were followed;

(D) If the written procedures were not followed, document in the log:

(I) Each deviation and the reason for that deviation; and

(II) An evaluation of the impact on sulfur dioxide emissions from each deviation.

(E) Sulfur dioxide emissions shall not exceed the limit in (a) of this subsection, except for three ~~clock-~~one hour periods when sulfur

Commented [GE(2]: We included an alternative emission limit for a sulfur recovery unit during startup and shutdown because we recognize that there are times when the unit cannot meet the existing standard.

Commented [GE(3]: A planned event, for this provision, means an event that the operator notifies their permitting authority of at least 24 hours in advance, as reflected in provision (A).

Commented [DD(4]: The question of whether to apply this provision to an existing unit was raised in the Oct 2017 stakeholder meeting. I suggest this alternative limit to be applicable only to existing SRUs. New units should be able to meet the 1000 ppm, as some of the existing SRUs are meeting this requirement.

Commented [GE(5]: These are both mentioned because refineries think that they are separate items.

Commented [NA(6]: This to set the time as 3 distinct 60 minute periods, not continuous or rolling.

dioxide emissions from the SRU incinerator stack must not exceed a one hour average of 2500 ppmdv corrected to seven percent oxygen, as measured using a continuous ~~opacity~~emission monitor. A fourth one hour average higher than 1000 ppmdv corrected to seven percent oxygen is a violation.

(F) Emissions concentration may be determined by:

(I) Sulfur dioxide continuous emissions monitoring system; or

(II) An engineering calculation methodology. Before using the methodology to determine compliance, it must be:

• Developed by the owner or operator;

• Approved by the permitting authority. The public must have the opportunity to comment on the draft methodology during ecology's public hearing on the request to include the methodology in the SIP; and

• Approved by EPA as a SIP amendment.

(ii) A planned shutdown is not a shutdown resulting from an upset or malfunction condition.

(iii) A shutdown starts when sulfur rich feed is stopped and ends at the completion of the written shutdown procedures.

(iv) A startup begins when refinery gas or natural gas is ignited in the sulfur recovery unit for heating and ends when sulfur rich feed

Commented [SC(7]: Correction

Commented [GE(8]: Added 1-25-2018

Commented [GE(9]: EPA commented that our proposed approach to allow a permitting authority to approve an engineering methodology relies on an impermissible director's discretion. EPA said they must approve the methodology before it can be used to comply with the higher limit. Therefore, remove the engineering calculation option.

Commented [GE(10]: Clarifies scope.

Commented [GE(11]: Clarifies applicability period.

Commented [GE(12]: This may be inadequate because each of the five oil refineries use different shutdown procedures.

Commented [NA(13]: You are probably right, though we could float the idea to the refineries that the end of shutdown occurs when the equipment is safe:(1) for human entry or (2) to perform the required maintenance? Or ??

Commented [GE(14]: Clarifies applicability period.

is routed to the sulfur recovery unit, and when the unit has stable operation producing on-test product.