

DRAFT Work Practice Standard (WPS) for SRU to Apply During Startup and Shutdown

WSPA is proposing a Work Practice Standard (WPS) to address concerns related to Ecology's proposed amendments to WAC ch. 173-400 to remove the unavoidable excess emissions provision, which allows excusing of civil penalties for exceedances during periods of Startup, Shutdown, and Malfunction (SSM) that could not reasonably be avoided. Specifically, we are submitting the following points and proposed language to address compliance concerns related to the 1000 ppm SO₂ limit applied during the startup and shutdown of a Sulfur Recovery Unit (SRU). Our proposed WPS is both consistent with EPA's guidance on SSM emission limitations, and ensures compliance with the national ambient air quality standards (NAAQS).

First, EPA expressly endorsed implementation of "alternative emission limitations", including work practice standards, in lieu of numerical limits during startup and shutdown in its response to a petition for rulemaking on states' SSM provisions. *See* 80 FR 33976-33982 (June 12 2015).

Second, the WPS ensures protection of the NAAQS for SO₂ due to the infrequency of SRU startups and shutdowns and the limited durations. Ambient SO₂ concentrations that are attributable to emissions from SRU shutdown events have been modeled for each of the Washington State refineries using conservative assumptions, e.g. shutdown occurring every hour for the entire year, etc. Results from these models show that these shutdown emissions do not cause NAAQS violations. Start-up emissions are generally not a significant concern or comparable with shutdowns at most facilities and are similarly not anticipated to exceed emission limits. Where those procedures have differed, the refinery has also modeled startup emissions that do not cause NAAQS violations.

Like our facilities' procedures that apply during SRU startups/shutdowns, our proposed WPS is designed to ensure worker safety, environmental protection, and equipment protection considerations. Compliance with NESHAP requirements offers a collateral benefit for accomplishing safe and competent operation of SRU's.

We propose that the agency consider adopting a straightforward and customizable framework for the WPS; one that achieves Ecology's goals and regulatory criteria, while acknowledging the differences in SRU equipment and allows each facility to choose the safest and most efficient practice for their specific SRU unit at their specific location.

We propose that Ecology adopt the following elements as the WPS in WAC 173-400-070(7) for SRU SO₂ emissions. No additional elements are necessary or practical to achieve the intended purposes of the WPS:

- For a planned shutdown, notify the agency before the event.
- Each facility will develop written procedures describing SRU shutdown and startup that best addresses worker safety, equipment protection, emission minimization consistent with good air pollution control practices."

- The facility is to maintain records documenting that written procedures were followed with each planned shutdown.
- If written procedures were not followed, the facility is to document this as a deviation, provide reasons, and quantify/evaluate the impact of associated SO₂ emissions.
- Shutdown starts when sulfur rich feed is stopped and there is no acid gas-sour gas sent to the SRU. Shutdown ends at the completion of the facility's shutdown steps. Startup begins when refinery gas or natural gas is introduced in the SRU. Startup ends when the unit has stable operation producing specification product.

DRAFT RECOMMENDATIONS FOR WPS's THAT MAY BE INCLUDED IN A FACILITY'S WRITTEN PROCEDURES

The following list represents draft recommended WPS's that could be included in a facility's written procedures to determine when an SRU shutdown ends. To ensure worker safety and protection of equipment, a safe shutdown of an SRU occurs when residual sulfur generation in the SRU is at a minimal rate. SRU systems vary between facilities, not all of the WPS's listed below are practical for use on all SRU's or at all facilities.

A facility would be allowed to use one or more of any of the options listed below to determine when an SRU shutdown has ended:

1. Visible observations that indicate sulfur rundown has ceased (e.g. no sulfur is dripping from the condensers, sulfur traps stop drooling during the heat soaking/hot sweep phase, liquid sulfur does not appear dark, etc.); and/or
2. The level in the Sulfur Tank has stopped showing any appreciable increase indicating there is no longer a significant amount of sulfur left in the system; and/or
3. The ratio monitor analyzer for H₂S and SO₂ ratio concentrations show adequate low sulfur levels.