

**REGIONAL HAZE FOUR-FACTOR ANALYSIS
SSM FLARING ADDENDUM**
Targa Midstream Services LLC - Monument Gas Plant



SSM FLARING ADDENDUM

Targa appends the Four-Factor Analysis for Monument Gas Plant with the following additional information on process and SSM flaring at Monument Gas Plant as requested in Liz Bisbey-Kuehn’s November 14, 2019 emailed letter titled “Submittal Requirements for Process Flaring and Startup, Shutdown, and Maintenance (SSM) Flaring as part of the Regional Haze Four-Factor Analyses”.

In Targa’s original Four-Factor Analysis report submitted on October 31, 2019, flaring associated with F-03, Acid Gas Flare, was discussed in Section 1.1.2. As such, we do not intend to include additional information about this flaring. Targa maintains that the redundant compression unit to be installed by December 30, 2020 constitutes effective emission control technology to meet emission reductions required under the Settlement Agreement and therefore, does not require additional review.

Table 1A below shows the flare emission rates permitted in the current NSR permit for Monument Gas Plant.

Table 1A. Summary of Flaring Emissions at Monument Gas Plant.

Unit	Equipment	NO _x (lb/hr)	NO _x (tpy)	SO ₂ (lb/hr)	SO ₂ (tpy)
F-01	Plant Flare (Allowable Emissions)	0.083	0.36	0.004	0.018
F-01	Plant Flare (Allowable SSM Emissions)	522.4	5.1	0.004	0.02
F-02	Emergency Flare (Allowable Emissions)	0.083	0.36	0.004	0.018
F-02	Emergency Flare (Allowable SSM Emissions)	631.0	2.0	6,865.3	17.5
F-03	Acid Gas Flare (Allowable Emissions)	0.083	0.36	0.004	0.018
F-03	Acid Gas Flare (Allowable SSM Emissions)	68.4	10.7	5,817.5	899.1 ¹

Targa does not have process streams that vent to flare during normal operations. Targa’s authorized flaring is associated with startup, shutdown, and maintenance (SSM) events. As required under 20.2.7.14, Targa developed and implemented a plan to minimize emissions during routine and predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. Targa has followed these requirements while continuing to look for ways to reduce and minimize emissions at the Monument Gas Plant.

Targa minimizes emissions during startups, shutdowns, and maintenance activities through the use of industry standards and/or manufacturer recommended operating practices. In addition, equipment at the facility is equipped with safety devices that will aid in minimizing excess emissions during non-routine operating conditions. The following summarizes Targa’s operational plans for minimizing excess emissions.

¹ Permit amendment for redundant AGI compressor has not been submitted and will lower annual PTE for SSM emissions significantly from EPN F-03. See Section 1.1.2 of Monument’s Four-Factor Analysis Report submitted 10/31/2019.

After reviewing options for minimizing emissions associated with flaring at Targa's Monument Gas Plant, Targa has not identified any new options to lower flared emission rates beyond what it is already doing. Below is a more detailed explanation of what Targa already does to minimize emissions at the gas plant.

1.1. MAINTENANCE

Targa takes a pro-active approach to facility and equipment maintenance. Operations personnel are aware of the importance of proper and efficient operation of equipment. Moreover, Targa recognizes the economic incentives to maintain and operate equipment efficiently. Malfunctioning equipment wastes resources and costs money.

Equipment at the facility is maintained in accordance with manufacturers' recommendations, industry best operating practices, and Targa's own practices designed to minimize downtime and non-routine operations. Procedures exist for maintenance of each major piece of equipment; personnel are trained in proper procedures; and Targa's own internal review processes ensure that procedures are followed. As a result, non-routine operational events and consequent excess emissions are minimized.

1.2. STARTUP AND SHUTDOWN

Targa's Monument Gas Plant is shutdown annually, in conjunction with required third party pipeline maintenance outages. During this downtime, Targa conducts annual inspections and maintenance of its equipment to minimize downtime. However, due to the nature of oil and natural gas production, natural gas production rates cannot be easily turned on and off when a gas plant needs to be offline for maintenance activities. When natural gas cannot be processed, the gas must be vented or combusted.

During startup of the gas plant some flaring is necessary and cannot be avoided. The first processing step at the plant involves removal of carbon dioxide (CO₂) and hydrogen sulfide (H₂S) followed by the removal of water from the gas. This processing is necessary because Monument utilizes a cryogenic process to split out methane from the heavier hydrocarbons found in raw natural gas. The cryogenic process operates at approximately -150°F. Due to this very cold temperature, the gas must meet very low specifications for water, CO₂ and H₂S content. Additionally, the natural gas, methane, produced from the cryogenic process must meet several specifications for BTU value as well as ethane content prior to the pipeline accepting the gas.

During startup, the gas will not initially meet the specifications required to go onto the next step in the process. Therefore, there is a period of time flaring of the gas prior to being able to introduce it into the next step of the process. Therefore, the gas must be flared initially until the stream reaches the specifications and can be routed to the next step in the process.

1.3. MINIMIZING EMISSIONS

To reduce emissions during equipment shutdowns for maintenance or operational outages, procedures are designed to minimize the duration of events. Such procedures include the following:

- Compression and other operational loads may be shifted to other units.
- Maintenance may be scheduled for periods of low load.
- Use of spare equipment to maintain operating rates during routine maintenance downtime of certain equipment, like natural gas fired engines.
- Multiple maintenance activities may be scheduled to occur simultaneously.
- Gas may be routed to other nearby gas plants.

- Producers may be asked to shut-in production to minimize gas flow to the plant.
- Startup is conducted with lower H₂S gas streams. Higher H₂S streams are not introduced to the gas plant inlet until the plant is operating normally.
- Compressors are first blown down to lower pressure process equipment prior to venting to reduce volume of process gas emitted (for example blowdown higher stage compressors to first stage suction at approximately 5 psig rather than venting from operating pressure that can be over 100 psig).
- Startup procedures for the turbines and engine are normally completed in less than five minutes, and shutdown procedures are normally completed in less than two minutes.

Targa believes the Monument Gas Plant already utilizes efficient processes and mitigation strategies to reduce flaring emissions through the use of an acid gas injection system as well as by the techniques explained in this addendum. Targa is not aware of control technology that could further reduce emissions from the gas plant.