

GAS QUALITY SPECIFICATIONS

Proposed Tariff Changes

August 12, 2021



SOUTHERN STAR

CENTRAL GAS PIPELINE



VISUAL



Keep your eyes on the road.

Pull over to read directions.

Put your phone in "Do Not Disturb" mode.



MANUAL



Keep your phone out of reach.

Make all adjustments before driving.

Don't reach for items while driving.



COGNITIVE



Avoid phone calls, even hands-free.

Stay focused on the road.

Keep your emotions in check.

<https://classroomlaw.org/resources/distracted-driving/>

"One community working together to be the leading provider of clean, safe and reliable energy for tomorrow."



SOUTHERN STAR

CENTRAL GAS PIPELINE

CURRENT TIMELINE

- ✓ • June 10, 2021 – Customer Kick-off Call [*\(Link to slides\)*](#)
- ✓ • July 2, 2021 – Feedback requested
- ✓ • July 30, 2021 – Additional feedback requested
- Aug 12, 2021 – Customer Follow-Up Call
- Aug 27, 2021 – Final feedback requested
- Sept 16, 2021 – Customer Follow-Up Call (if needed)
- Oct 1, 2021 – File with FERC (usually an immediate notice)
- April 1, 2022 – FERC Order (within 180 days from filing)



SOUTHERN STAR

CENTRAL GAS PIPELINE

Component	Current Spec	Proposed Spec	Notes
Carbon Dioxide (CO ₂)	≤ 1% by volume	≤ 2% by volume	Adjusting spec
Nitrogen (N ₂)	-	-	
Oxygen (O ₂)	≤ 2,000 ppm (0.2%)	≤ 10 ppm	Matching current spec for Line Segments 315, 340, & 385
Total Inerts	-	≤ 4% by volume	New spec
Water/vapor Content (H ₂ O)	* ≤ 7 lbs/mmcft	* ≤ 7 lbs/mmcft	*5 lbs/mmcft in WY/CO (no change)
Hydrocarbon Dewpoint (HCDP)	≤ 40 °F	≤ 25 °F	Adjusting spec
Heat Content (BTUs)	≥ 950 BTU/scf	≥ 950 BTU/scf ≤ 1100 BTU/scf	Adding a max spec
Hydrogen Sulfide (H ₂ S)	≤ 0.25 grains/100cf	≤ 0.25 grains/100cf	
Sulphur (S)	≤ 20 grains/100cf	≤ 20 grains/100cf	
Wobbe Index (Interchangeability)	- -	1250 BTU/scf 1400 BTU/scf	New spec
Temperature	≤ 120 °F	≤ 120 °F	
RNG Specs	-	See Details	New specs

"One community working together to be the leading provider of clean, safe and reliable energy for tomorrow."



SOUTHERN STAR

CENTRAL GAS PIPELINE

Southern Star Central Gas Pipeline Renewable Natural Gas (RNG) Quality Specifications

Component	Current Spec	Notes
Ammonia	< 10 ppmv	Includes Ammonia and Ammonia-based byproducts
Total Bacteria	≤ 0.2 microns	
Mercury	< 0.01 µg/m ³	Includes Mercury and Mercury-based derivatives
Volatile Metals	< 20 µg/m ³	Includes, but not limited to : lead, zinc, copper, chromium, manganese, and arsenic
VOCs and Semi-VOCs	≤ 350 ppmv	Includes, but not limited to : BTEX, phthalates, N-nitroso-di-n-propylamine, and benzyl alcohols
Siloxanes	≤ 0.1 mg of Si/Nm ³	
Halocarbons	< 0.1 ppmv	Includes, but not limited to: freons, chloroethane, and vinyl chloride
Aldehydes and Ketones	<10 ppbv	

QUESTIONS / FEEDBACK

- Would SSC consider lowering the Sulfur spec down to 0.5 grains?
 - To assist in maintaining low emissions for various end users
 - **SSC expects to remain at 20 grains, in line with interconnects. Can coordinate with shippers interested in gas sampling.**
- How would SSC work with a supply point that has an occurrence of gas quality outside of tariff limit?
 - Would a point be shut in immediately if O₂, N₂, BTU, HCDP, etc was outside of tariff limits?
 - **SSC expects to continue flexibility with point operators when such upsets occur. Each occurrence will be evaluated to ensure system and end user integrity is maintained.**

QUESTIONS / FEEDBACK

- How much time will be allowed for operators to make adjustments and meet any tariff changes?
 - Depending on the necessary changes, funding and installation of needed equipment could take months.
 - **SSC expects the FERC to issue a decision on the proposed specs within 6 months from the filing date.**
- How is the Wobbe Index calculated?
 - Not familiar with this value and how it is determined.
 - **Wobbe = BTU ÷ √(Specific Gravity).**

WRAP-UP