



PERMIT APPLICATION FOR NATURAL GAS PROCESSING PLANTS

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
 DIVISION OF AIR QUALITY
 SFN 11408 (9-2021)

NOTE: READ INSTRUCTIONS BEFORE COMPLETING THIS FORM.
 - **Must include SFN 8516 or SFN 52858**

SECTION A – GENERAL INFORMATION

| | |
|------------------------------|---------------|
| Name of Firm or Organization | Facility Name |
|------------------------------|---------------|

SECTION B - SWEETENING OPERATIONS

| | |
|--|--|
| Chemical Process (Amine, Selexol, Stretford, Etc.) | Inlet Gas Capacity (10 ⁶ SCF/day) |
| Inlet Gas Composition (Mol %) | |
| Hydrogen Sulfide, H ₂ S | Methane, C ₁ |
| Carbon Dioxide, CO ₂ | Ethane, C ₂ |
| Water, H ₂ O | Propane Plus, C ₃ + |
| Nitrogen, N ₂ | Greenhouse Gasses (as CO ₂ e) |
| Other – Specify: | |

SECTION C – ACID GAS FLARE (STACK DATA)

| | | |
|-------------------------------------|-------------------------------|--------|
| Height Above Grade (ft) | Inside Diameter at Exit (ft) | |
| Average Acid Gas Flow Rate to Flare | (SCFM) | (ACFM) |
| Maximum Acid Gas Flow Rate to Flare | (SCFM) | (ACFM) |
| H ₂ S Content (%) | Heat Content of Gas (Btu/ACF) | |

SECTION D – ACID GAS FLARE (AIR CONTAMINANTS EMITTED)

| Pollutant | Maximum Pounds Per Hour | Tons Per Year | Basis and Calculations for Quantities: |
|---|-------------------------|---------------|--|
| Particulate (PM, PM ₁₀ , PM _{2.5}) | | | |
| Sulfur Dioxide (SO ₂) | | | |
| Nitrogen Oxides (NO _x) | | | |
| Carbon Monoxide (CO) | | | |
| Greenhouse Gases (as CO ₂ e) | | | |
| HAPS | | | |
| Other – Specify: | | | |

SECTION E – SULFUR RECOVERY OPERATIONS

| | | | |
|---|-----------------------|--|--------------------|
| Chemical Process (Klaus, Amoco, MRCR, etc.) | | Acid Gas Flow Rate (10 ⁶ SCF/day) | |
| Stack Diameter (feet at top) | Gas Discharged (SCFM) | Exit Temp (°F) | Gas Velocity (FPS) |
| Acid Gas Composition (Mol %) | | | |
| Hydrogen Sulfide, H ₂ S | | Methane, C ₁ | |
| Carbon Dioxide, CO ₂ | | Ethane, C ₂ | |
| Water, H ₂ O | | Propane Plus, C ₃ + | |
| Greenhouse Gasses (as CO ₂ e) | | | |
| Other – Specify: | | | |
| Is a tail gas cleanup process used for reducing SO ₂ emissions? <input type="checkbox"/> Yes <input type="checkbox"/> No | | Tail Gas Cleanup Process (CBA, Dulfreen, SCOT, etc.) | |
| Overall Recovery Efficiency (%) | | Elemental Sulfur Recovered (LT/Day) | |

SECTION F – TAIL GAS INCINERATOR (OPERATIONS)

| | |
|------------------------------------|-------------------------|
| Name of Incinerator Manufacturer | |
| Model Number | Heat Release (Btu/hr) |
| Inlet Gas Composition (Mol %) | |
| Hydrogen Sulfide, H ₂ S | Nitrogen, N |
| Carbon Dioxide, CO ₂ | Water, H ₂ O |
| Other – Specify: | |

SECTION G – TAIL GAS INCINERATOR (STACK DATA)

| | | |
|--------------------------------------|------------------------------------|--------|
| Height Above Grade (ft) | Inside Diameter at Exit (ft) | |
| Gas Temperature at Exit (Average °F) | Gas Velocity at Exit (Average FPS) | |
| Average Acid Gas Flow Rate to Flare | (SCFM) | (ACFM) |
| Maximum Acid Gas Flow Rate to Flare | (SCFM) | (ACFM) |

SECTION H – TAIL GAS INCINERATOR (AIR CONTAMINANTS EMITTED)

| Pollutant | Maximum Pounds Per Hour | Tons Per Hour | Basis and Calculations for Quantities: |
|---|-------------------------|---------------|--|
| Particulate (PM, PM ₁₀ , PM _{2.5}) | | | |
| Sulfur Dioxide (SO ₂) | | | |
| Nitrogen Dioxide (NO ₂) | | | |
| Carbon Monoxide (CO) | | | |
| Greenhouse Gases (as CO ₂ e) | | | |
| HAPS | | | |
| Other – Specify: | | | |

SECTION I – EMERGENCY FLARE (STACK DATA)

| | | |
|-------------------------------------|-------------------------------|--------|
| Height Above Grade (ft) | Inside Diameter at Exit (ft) | |
| Average Acid Gas Flow Rate to Flare | (SCFM) | (ACFM) |
| Maximum Acid Gas Flow Rate to Flare | (SCFM) | (ACFM) |
| H ₂ S Content (%) | Heat Content of Gas (Btu/ACF) | |

SECTION J – EMERGENCY FLARE (AIR CONTAMINANTS EMITTED)

| Pollutant | Maximum Pounds Per Hour | Tons Per Hour | Basis and Calculations for Quantities: |
|---|-------------------------|---------------|--|
| Particulate (PM, PM ₁₀ , PM _{2.5}) | | | |
| Sulfur Dioxide (SO ₂) | | | |
| Nitrogen Oxides (NO _x) | | | |
| Carbon Monoxide (CO) | | | |
| Greenhouse Gases (as CO ₂ e) | | | |
| HAPS | | | |
| Other – Specify: | | | |

Attach and label separate sheet(s) if you need more space to explain any system or answers or to provide complete listings of Emissions, Contaminants, or other items.

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Environmental Quality
 Division of Air Quality
 4201 Normandy Street, 2nd Floor
 Bismarck, ND 58503-1324
 (701) 328-5188